Docket:	I.19-06-016
Exhibit Number	
Commissioner	Rechtschaffen
Admin. Law Judge	Kenney/Poirier
SED Project Mgr.	
SED Witnesses	

SAFETY AND ENFORCEMENT DIVISION
California Public Utilities Commission

OPENING TESTIMONY

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon storage facility and the release of natural gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from its Aliso Canyon Storage Facility

SUPPORTING ATTACHMENTS

PUBLIC

San Francisco, California
November 22, 2019

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Agreement: 5660044243

SoCalGas

A Sempra Energy utility

12/1/2015

To: HALLIBURTON ENERGY SERVICES, INC.
P O BOX 301341
DALLAS, TX, 75303-1341

AMENDMENT NO. 1 TO HAZARDOUS WORK CONTRACT (AGREEMENT 5660044243)

The following is Amendment No. 1 ("Amendment") to a Hazardous Work Contract (Agreement No. 5660044243), dated October 25, 2015 ("Agreement"), between Southern California Gas Company ("Company") and HALLIBURTON ENERGY SERVICES, INC. This Amendment has an effective date of 12/1/2015 ("Amendment Effective Date").

The parties agree to amend the Agreement as follows:

- Increase funding by $[redacted] for a new not-to-exceed funding limitation of $[redacted]

THE SATISFACTORY COMPLETION OF THE SERVICES/WORK PERFORMED UNDER THIS AMENDMENT REFLECTS THE FOLLOWING CHANGE IN THE TOTAL AMOUNT DUE UNDER THE AGREEMENT.

PREVIOUS AGREEMENT AMOUNT:	$[redacted]
AMENDMENT AMOUNT:	$[redacted]
REVISED AGREEMENT AMOUNT:	$[redacted]

Other than as specifically modified above, the Agreement shall remain in full force and effect and is hereby ratified, approved and confirmed. This Amendment shall be subject to all of the terms and conditions of the Agreement as amended, as if it were a part thereof, including, without limitation, any provision with respect to choice of law, venue, and/or jurisdiction.

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

APPROVALS

IN WITNESS WHEREOF, the parties have executed this Amendment as of Amendment Effective Date.

Southern California Gas Company		HALLIBURTON ENERGY SERVICES, INC.	
By:	Denita Willoughby	**By:**	Randy Yeager
Name:	Denita Willoughby	**Name:**	RANDY YEAGER
Title:	VP Supply Management & Logistics	**Title:**	AREA VICE PRESIDENT ROCKIES

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Requisition Summary

Requisition Nbr 3140003177 Halliburton - SS25 Work

Created on	Dec 3, 2015	Originator	Carla Brandy	Company	Southern California Gas
Requestor	Todd Van De Putte	Total Amt	[redacted]	Contingency	0
Comments	This change order is requested to increase the amount of funding for this agreement due to the length of the work being performed on SS25 and the inclusion of a relief well. PLEASE NOTE THAT ALL WORK DONE BY HALLIBURTON WHETHER OR NOT BOOTS AND COOTS DIVISION OR NOT WILL BE COVERED UNDER THIS AGREEMENT. Halliburton requires us to use the hazardous work terms and conditions that are part of this agreement to cover the work they do. Directional drilling and control of well work are included under this agreement.				

Initial Workflow Approvers

Sequence	Approver Name	Approval Level Description
00	Todd Van De Putte	Requestor
01	Amy Kitson	Manager
02	Phillip Baker	Director
03	Scott Furgerson	Vice President - Officer

Requisition Approvers

Role	Name	Action	On	Comments
Budgetary Approval	Beth Gates	Rejected	Dec 4, 2015	Hi Carla, Please make Todd Van de Putte the requestor
Requestor Approval	Todd Van De Putte	Approved	Dec 4, 2015	
Budgetary Approval	Amy Kitson	Approved	Dec 4, 2015	
Budgetary Approval	Phillip Baker	Approved	Dec 4, 2015	Approved.
Budgetary Approval	Scott Furgerson	Approved	Dec 7, 2015	

Details

Status	AP	Request Type	Service	PO Type	Change Order
Existing PO .	5660044243	Original Amt	[redacted]	New End Date	May 31, 2016
Start Date	Oct 30, 2015	End Date	Dec 31, 2015	Sole / Single Source	Y
Invoice Contact	Todd Van De Putte	Agent/Delegate	Lanae Hernandez		
Ship To	Southern California Gas Co. SCG 555 West 5th Street Los Angeles CA 90013-1011 US				
	This change order is requested to increase the amount of funding for this agreement due to the				

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Agreement: 5660044243

SoCalGas

A Sempra Energy utility

12/21/2015

To: HALLIBURTON ENERGY SERVICES, INC.
P O BOX 301341
DALLAS, TX, 75303-1341

AMENMDENT NO. 1 TO HAZARDOUS WORK CONTRACT (AGREEMENT 5660044243)

The following is Amendment No. 2 ("Amendment") to a Hazardous Work Contract (Agreement No. 5660044243) dated October 25, 2015, between Southern California Gas Company ("Company") and HALLIBURTON ENERGY SERVICES, INC. This Amendment has an effective date of 12/21/2015 ("Amendment Effective Date").

The parties agree to amend the Agreement as follows:

- Extend the expiration date from December 31, 2015 to May 31, 2016

Other than as specifically modified above, the Agreement shall remain in full force and effect and is hereby ratified, approved and confirmed. This Amendment shall be subject to all of the terms and conditions of the Agreement as amended, as if it were a part thereof, including, without limitation, any provision with respect to choice of law, venue, and/or jurisdiction.

APPROVALS
IN WITNESS WHEREOF, the parties have executed this Amendment as of Amendment Effective Date.

Southern California Gas Company		HALLIBURTON ENERGY SERVICES, INC.	
By:	Richard O. Hass	**By:**	Randy Yeager
Name:	Richard O. Hass	**Name:**	Randy Yeager
Title:	Director, Supply Mgmt	**Title:**	Area Vice President - Rockies

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Agreement: 5660044243

SoCalGas

A Sempra Energy utility

January 8, 2016

To: HALLIBURTON ENERGY SERVICES, Inc.

Attention: Ariana Enriquez

P O BOX 301341

DALLAS, TX, 75303-1341

AMENDMENT NO.3 TO HAZARDOUS WORK CONTRACT (AGREEMENT NO: 5660044243)

The following is Amendment No. 3 ("Amendment") to a Hazardous Work Contract (Agreement No. 5660044243), dated October 25, 2015 ("Agreement") between Southern California Gas Company ("Company") and HALLIBURTON ENERGY SERVICES, Inc. ("Contractor"). This Amendment has an effective date of 1/8/2016 ("Amendment Effective Date").

The parties agree to amend the Agreement as follows:

Increase funding by an additional $[redacted] for a new funding limitation of $[redacted] And extend the expiration date of the Agreement to December 31, 2016.

THE SATISFACTORY COMPLETION OF THE SERVICES/WORK PERFORMED UNDER THIS AMENDMENT REFLECTS THE FOLLOWING CHANGE IN THE TOTAL AMOUNT DUE UNDER THE AGREEMENT.

PREVIOUS AGREEMENT AMOUNT:	$[redacted]
AMENDMENT AMOUNT:	$[redacted]
REVISED AGREEMENT AMOUNT:	$[redacted]

Other than as specifically modified above, the Agreement shall remain in full force and effect and is hereby ratified, approved and confirmed. This Amendment shall be subject to all of the

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

terms and conditions of the Agreement as amended, as if it were a part thereof, including, without limitation, any provision with respect to choice of law, venue, and/or jurisdiction.

APPROVALS

IN WITNESS WHEREOF, the parties have executed this Amendment as of the Effective Date.

Southern California Gas Company		HALLIBURTON ENERGY SERVICES, Inc.	
By:		**By:**	
Name:	Dennis Arriola	**Name:**	Randy Yeager
Title:	Chairman, President & CEO of SCG	**Title:**	Area Vice President - Rockies

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SED 00006

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Agreement: 5660044243

SoCalGas

A Sempra Energy utility

October 13, 2016

To: HALLIBURTON ENERGY SERVICES, INC.

Attention: Arianna Enriquez

P O BOX 80118

BAKERSFIELD, CA. 93380

AMENDMENT NO.4 TO HAZARDOUS WORK CONTRACT (AGREEMENT NO: 5660044243)

The following is Amendment No. 4 ("Amendment") to a Hazardous Work Contract (Agreement No. 5660044243), dated October 25,, 2015 ("Agreement") between Southern California Gas Company ("Company") and HALLIBURTON ENERGY SERVICES, Inc. ("Contractor"). This Amendment has an effective date of October 13, 2016 ("Amendment Effective Date").

The parties agree to amend the Agreement as follows:

The expiration date shall be extended from December 31, 2016 to December 31, 2017.

THE SATISFACTORY COMPLETION OF THE SERVICES/WORK PERFORMED UNDER THIS AMENDMENT REFLECTS THE FOLLOWING CHANGE IN THE TOTAL AMOUNT DUE UNDER THE AGREEMENT.

PREVIOUS AGREEMENT AMOUNT:	$[redacted]
AMENDMENT AMOUNT:	$[redacted]
REVISED AGREEMENT AMOUNT:	$[redacted]

Other than as specifically modified above, the Agreement shall remain in full force and effect and is hereby ratified, approved and confirmed. This Amendment shall be subject to all of the terms and conditions of the Agreement as amended, as if it were a part thereof, including, without limitation, any provision with respect to choice of law, venue, and/or jurisdiction.

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

APPROVALS

IN WITNESS WHEREOF, the parties have executed this Agreement as of The Effective Date.

Southern California Gas Company		HALLIBURTON ENERGY SERVICES, INC.	
By:		**By:**	
Name:	Tony Hesam	**Name:**	Robert Harber
Title:	Gas Portfolio Manager	**Title:**	Area Vice President- Rockies

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas
A Sempra Energy utility

Southern California Gas Company Standard Services Agreement

PROJECT:	Standard Senson 25	
		MAIL ORIGINAL INVOICE TO
CONTRACTOR:	HALLIBURTON ENERGY SERVICES	Southern California Gas Company
	P O BOX 301341, DALLAS, TX, 75303-1341, United States of America	**ACCOUNTS PAYABLE**
		P .O. BOX 30777 **Los Angeles, CA - 90030**

This Standard Service Agreement ("Agreement") is made effective as of October 30, 2015 between Southern California Gas Company ("Company") and HALLIBURTON ENERGY SERVICES ("Contractor").

The Parties hereby agree as follows:

1. SCOPE

Contractor shall perform, at its own proper cost and expense, in the most substantial and skillful manner, to the satisfaction of Company, the following generally described services ("Services"):

Boots & Coots' have been requested by SoCalGas to submit a proposal for the evolving well control situation on Standard Senson 25. Due to the ever changing conditions at the well, it is hard to give a definitive work scope. Boots & Coots will help provide workable and safe solutions:

- Mobilize one (1) Sr. Well Control Engineer, one (1) Sr. Well Control Specialists, and one (1) Well Control Specialist from Houston to California for Well Control services and forward planning.
- Upon arrival on location they will meet with the SoCalGas command team to discuss ongoing planning requirements and deliverables and determine the level of rates applicable for this specific well event

Note: It is difficult to estimate the number of days required for a successful completion of the project, due to uncertainty with well conditions and necessary equipment. Boots & Coots personnel will only work under safe and assessed conditions with the correct control and mitigation measures in place.

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

The main focus is to not allow the situation to worsen or escalate. Work through the situation in a safe, chronological order for the successful killing operation.

The service will be on a daily rate on a portal to portal basis from our base in Houston as per the pricing table included in this proposal.

In the unlikely event of the situation degrading or worsening it may be necessary to mobilize other specialized well control support.

All information regarding the project will remain confidential as always with our services.

2. PROJECT LOCATION

Aliso Canyon
12801 Tampa Avenue
Northridge, CA 91326

3. AUTHORIZED REPRESENTATIVES

Company designates the individual or individuals named below as Company Representatives for all matters relating to the performance of the Services. The actions taken by the Company Representatives shall be deemed acts of the Company. Company may at any time upon written notice to Contractor change the designated Company Representative.

Company Representative: Todd Van De Putte

Contractor designates the individual or individuals named below as Contractor Representative for all matters relating to the performance of Services. The actions taken by Contractor Representative shall be deemed acts of Contractor. Contractor Representative or designated superintendent shall be at the jobsite at all times during the Services. Contractor may at any time upon written notice to Company change the designated Contractor Representative.

Contractor Representative: Leonardo J. Portillo

4. COMPENSATION

Contractor shall be compensated for the Services at the rates set forth in the COMPENSATION SCHEDULE attached hereto in an amount Not-To-Exceed ("NTE") $[redacted] Contractor shall notify Company in writing when the costs incurred under this Agreement equal ninety percent (90%) of $[redacted] Company will not be required to pay Contractor for the Services in excess of the NTE amount unless and until, at Company's sole option, Company elects in writing to increase the NTE amount.

Contractor agrees to accept as full compensation for satisfactory performance of the Services the following labor rates and factors – SCHEDULE D – COMPENSATION.

5. COMMENCEMENT AND COMPLETION OF SERVICES

This Agreement shall commence as of October 30, 2015 and shall be in full force and effect through December 31, 2015, unless terminated earlier or extended by Company in accordance with the terms of this Agreement. Contractor agrees to commence and perform the Services in accordance with the requests of Company Representative identified herein. The nature of the Services is such that timely performance is critical to the orderly progress of related work and to the operating schedule of Company.

6. INVOICING INSTRUCTIONS

All invoices submitted must reference the Agreement number (5660044243) and the Invoice Contact (Todd Van De Putte) and have complete support documentation of all charges incurred, including any data required to calculate fees or variable rate changes, plus support documentation for any authorized reimbursable expenses by category.

Contractor may submit invoices via e-mail to:

SCG Accounts Payable: AP_Invoices_SCG@semprautilities.com

7. PAYMENT

Company shall make payment Net 30 Days after receipt and approval of an undisputed invoice to the following address:

P O BOX 301341, DALLAS, TX, 75303-1341, United States of America

Company offers additional discounted payment terms to Contractor pursuant to Contractor's enrollment through Ariba's online platform, which is Company's approved third-party payment platform. If Contractor is enrolled in Ariba's online platform as of the Effective Date, such discounted payment terms shall supersede those set forth in this Section during the period that Contractor maintains its enrollment. If Contractor enrolls in the Ariba online platform and selects certain discounted payment terms after the Effective Date, such discounted payment terms shall supersede those set forth in this Section as of the date of Contractor's enrollment in the Ariba online platform until the date that Contractor is no longer enrolled therein.

8. AUTOMATED CLEARINGHOUSE (ACH) PAYMENT METHOD

Upon enrollment by Contractor, Company shall make payments as automated clearinghouse transactions. Prior to Contractor's enrollment, Company shall make all payments by check to Contractor's address set forth above.

9. SAFETY NOTICE

If applicable, Company shall provide Contractor with SCHEDULE C - SEMPRA UTILITIES SAFETY NOTICE attached hereto. Contractor shall initial this notice where required and comply with its terms.

10. COMPLETE AGREEMENT

This Agreement, including all Schedules attached hereto and which are incorporated by reference, constitutes the complete and entire Agreement between the parties and supersedes any previous communications, representations or agreements, whether oral or written, with respect to the subject matter hereof. There are no additions to, or deletions from, or changes in, any of the provisions hereof, and no understandings, representations or agreements concerning any of the same, which are not expressed herein. **THE PARTIES HEREBY AGREE THAT NO TRADE USAGE; PRIOR COURSE OF DEALING OR COURSE OF PERFORMANCE UNDER THIS AGREEMENT SHALL BE A PART OF THIS AGREEMENT OR SHALL BE USED IN THE INTERPRETATION OR CONSTRUCTION OF THIS AGREEMENT.** The following Schedules are attached hereto and incorporated herein by this reference:

SCHEDULE A - GENERAL TERMS AND CONDITIONS

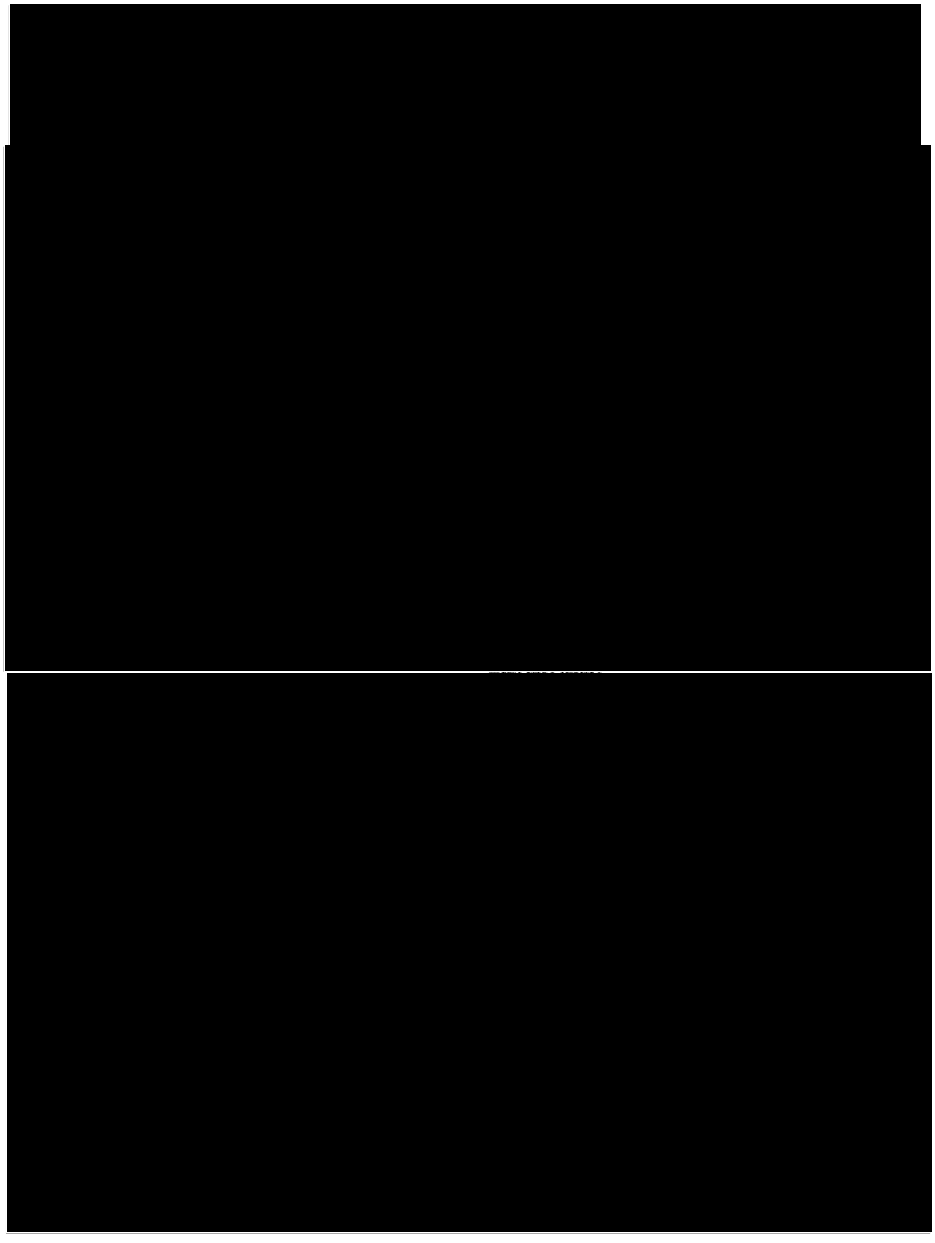
SCHEDULE B - REIMBURSABLE EXPENSES

SCHEDULE C - SAFETY NOTICE FOR CONTRACTORS

IN WITNESS WHEREOF, the parties have executed this Agreement as of October 30, 2015**.**

Southern California Gas Company		HALLIBURTON ENERGY SERVICES	
By:	_____	**By:**	_____
Name:	_____	**Name:**	_____
Title:	_____	**Title:**	_____

SCHEDULE A



Agreement: 5660044243

Signed in duplicate originals.

_____ (CUSTOMER)

By _____

Title _____

Date _____

HALLIBURTON ENERGY SERVICES, INC.

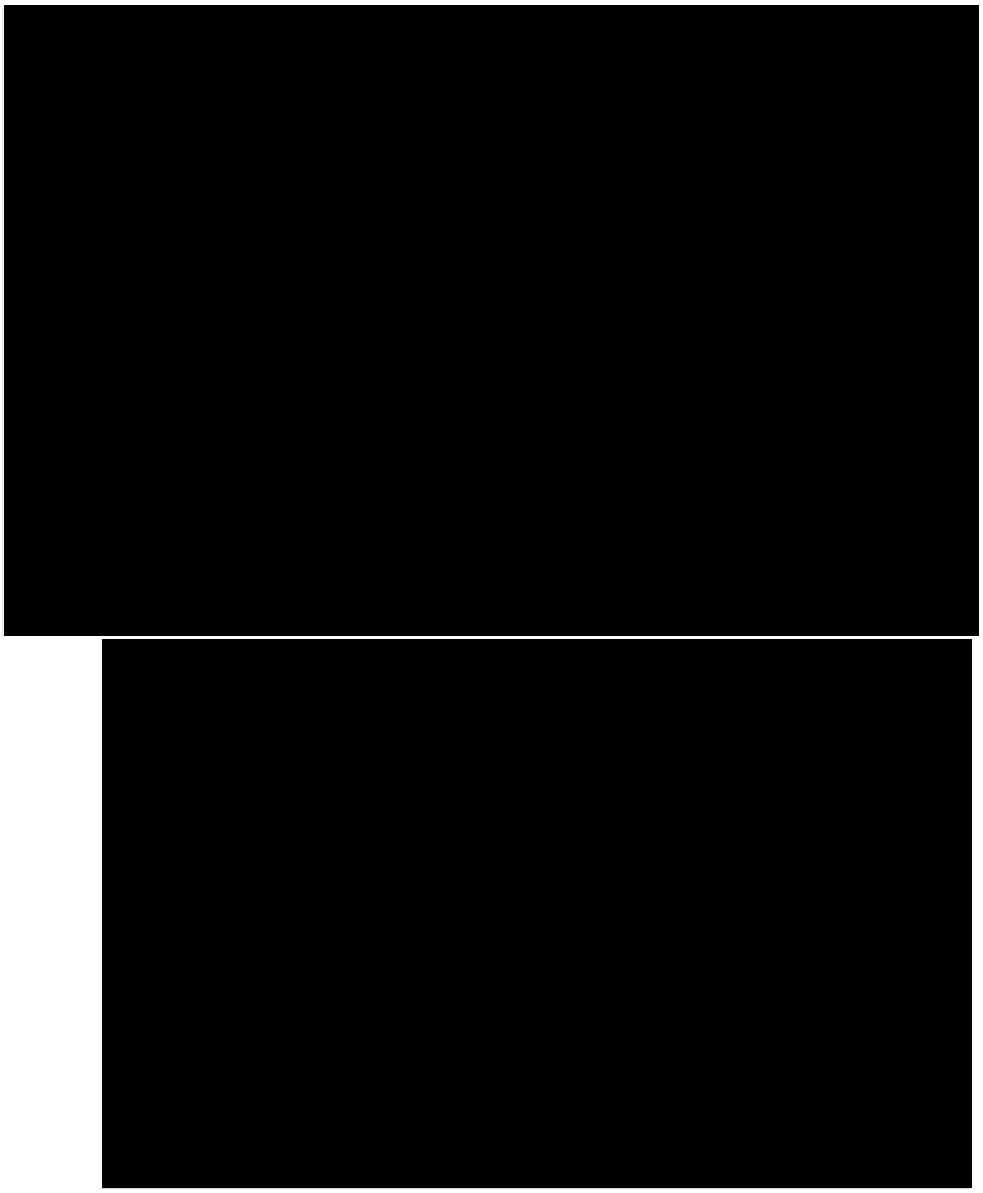
By Mandy Yeager

Title VP Redkes

Date 10-27-15

Please remit signed copy to:

US Regional Counsel
Halliburton Energy Services, Inc.
P.O. Box 60087
Houston, TX 77205-0087



Agreement: 5660044243

[redacted]

Signed in duplicate originals.

_____ (CUSTOMER)	HALLIBURTON ENERGY SERVICES, INC.
By [signature]	By _____
Title Vice President-Gas Operations	Title _____
Date 10/25/2015	Date _____

Please remit signed copy to:

US Regional Counsel
Halliburton Energy Services, Inc.
P.O. Box 42810
Houston, TX 77242-2810

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SCHEDULE B
REIMBURSABLE EXPENSES

All invoices for reimbursable expenses shall include the Agreement Number, an itemized listing supported by copies of the original bills, invoices, expense accounts and other miscellaneous supporting data. All authorized travel either to San Diego/Los Angeles or from San Diego/Los Angeles to other locations shall be approved in writing in advance by Company Representative. Travel time shall NOT be reimbursed except for travel during normal/regular business hours.

1. **Auto Mileage**

Auto mileage shall be reimbursed at $0.55 per mile, or at the current rate as specified by the United States Internal Revenue Service.

2. **Air Travel**

Airfares shall be reimbursed based on the most direct route at coach class travel rates. Upgrading (coach to a higher class) of airline tickets shall only be reimbursed when approved by Contract Manager, and only when the business schedule requires immediate travel and only higher class accommodations are available. Downgrading (exchange) of airline ticket where Contractor receives financial or personal gain shall NOT permitted. If a trip is postponed, reservations shall be canceled immediately. Contractor shall provide copies of passenger receipts to Company to receive travel expense reimbursement. Travel arrangements shall be made as early as possible (preferably three [3] weeks) to take advantage of advance reservation rates.

3. **Combining Business Travel with Personal Travel**

Contractor may combine personal travel with Company business only if the personal travel does NOT increase the reimbursable cost to Company.

4. **Air Travel Insurance**

Company shall NOT pay for air travel insurance.

5. **Accommodations**

Company shall reimburse hotel room fees at preferred corporate or contract rates. Company may reimburse hotel room fees at the standard rate based on single room occupancy in cases where a corporate or contract rate is NOT available.

6. **Laundry**

Any laundry and dry cleaning charges shall ONLY be paid if Contractor is on travel for Company assignment for a period in excess of six (6) consecutive days.

7. **Entertainment**

Company shall NOT pay for the rental of premium channel movies, use of health club facilities or other forms of entertainment.

8. **Meals**

Meals shall be reimbursed on an actual cost basis up to a maximum of $50.00 (Fifty Dollars) per day of travel. Itemized receipts are required and shall be submitted for all meals in the form of a credit card receipt or cash register tape. Company shall NOT pay for alcoholic beverages. In lieu of itemizing meal expenses and submitting receipts, Contractor may claim a standard $31.00 (Thirty-One Dollars) per diem for the duration of the business travel.

9. **Telephone Usage**

Contractor shall submit support documentation regarding all telephone calls charged to Company. The support documentation shall include the name of the party being called and the purpose of the call. Company shall NOT pay for additional business calls unless directly related to this Agreement. Personal telephone calls shall NOT be reimbursed.

10. **Ground Transportation**

Public transportation shall be utilized whenever possible, however if necessary, rental car expenses shall be reimbursed for authorized travel only. Cab fare (on a shared basis whenever possible) is reimbursable. Receipts shall be required to document all ground transportation charges.

11. **Car Rental**

If authorized, Company shall reimburse reasonable car rental charges including gas actually purchased for authorized travel ONLY. Contractor shall be required to rent at an economy car level classification or equivalent, unless the size or purpose of the group using the vehicle dictates a larger size in accordance with the following table:

Travelers	Classification
1-2	Economy/Compact
3	Medium/Intermediate
4-5	Full Size/Standard
6-8	Van

Contractor shall fuel rental cars prior to rental return as rental companies normally add a large surcharge to refueling services.

12. **Parking**

Contractor shall be reimbursed at cost for reasonable parking expenses incurred in the performance of Services while on Company business.

13. **Tolls and Fees**

Contractor shall be reimbursed at cost for reasonable transportation-related toll and fees incurred in the performance of Services while on Company business.

14. **Baggage Handling**

Contractor shall be reimbursed for baggage handling service fees at standard reasonable rates.

15. **Other Business Expenses**

Any business supplies, equipment rental, reprographics and facsimile expenses shall be reimbursed at cost when traveling on Company business.

16. **Non-Allowable Expenses**

Company shall NOT provide any reimbursement for travel expenses for family members, personal items, charitable contributions, or for any other type of reimbursable.

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SCHEDULE C
SAFETY NOTICE FOR CONTRACTORS

Legal - **Safety Notice for Contractors**

Project/Service: _____Date: _____

Job Location (s):_____

Facility Location: _____

Job Duration – from: _____ to: _____ (Date)

Company Contact List:

Contact Identification (include Name of Individual)	**Telephones**	**Contact Identification (include Name of Individual)**	**Telephones**
Legal Representative:	Office: Cell:	Facility Service Main Number:	Office: Cell:
Security:	Office: Cell:	Contractor Administrator:	Office: Cell:
Facility Manager:	Office: Cell:	Environmental Specialist:	Office: Cell:
Facility Maintenance:	Office: Cell:	Safety Representative:	Office: Cell:

	Telephones	**Title and Name**	**Telephones**
Contractor Owner/General Manager:	Office: Cell:	Foreman:	
Manager/Supervisor:	Office: Cell:	Safety/Environmental Representative:	
Other:	Office:		

	Cell:		

This Notice is to be issued to each Contractor at a pre–job meeting or other pre–work conference or the safety tailgate meeting before commencing work on the first day of the project. One Notice may be used for multiple projects if the projects present similar hazards or risks as determined by the Legal Representative. Specific safety issues shall be discussed. The Contractor will initial that he/she understands each section and sign the completed Notice. The Notice is to be discussed by the Contractor with each employee who will be working on the job. The Contractor will receive a copy of the Notice, with the original being filed in the appropriate facility office.

1. **Emergency Notification System.** The emergency notification system at this facility or property includes:

_____

and will be used to announce serious or life threatening conditions on site (i.e., fire, earthquake, or emergency evacuation). The competent employee making the announcement will give necessary information regarding type and location of the emergency. Contractors are required to follow instructions given.

In the event of an emergency evacuation, contractors are required to move in an orderly fashion to the Emergency Staging Area located at:

_____

Attached is a facility map that shows emergency exits and staging area. Contractors are required to account for all personnel, report personnel count, and report any missing persons with last known location, injuries, or other issues to the site emergency coordinator. Contractors are not to leave the emergency staging area until instructed to do so.

_____ Applicable_____ Not Applicable

Initials: _____

2. **Facility Phones.** Outside phone lines can be accessed by dialing "9" or _____ and the number you desire including area code if outside of calling area. *If it becomes necessary to secure site phone lines, the Contractor will notify the Company's facility manager or representative*. Note: Company phone usage by the Contractor is limited to urgent or emergency needs. Cell phone usage is prohibited in many areas of Storage Fields and Compressor Stations.

_____ Applicable_____ Not Applicable

Initials: _____

3. **Personal Protective Equipment.** The Contractor is responsible for providing its employees with all the required personal protective equipment (e.g., hard hats, safety glasses, gloves, hearing protection, personal fall protection, etc.).

Initials: _____

4. **No Smoking.** Smoking is not permitted in any Company building or vehicle. Designated smoking areas are:

_____

Initials: _____

5. **Non-English Speaking Personnel.** Non-English speaking personnel are the Contractor's responsibility and must have an English speaking / English-reading interpreter with them at all times.

Initials: _____

6. **Contractors' Injury and Illness Prevention Program.** Contractors when required shall have a written Injury and Illness Prevention Program per Title 8, California Code of Regulations, General Industry Safety Orders, Section 3203. The Company reserves the right to request proof (at any time) of the Injury and Illness Prevention Program.

Initials: _____

NOTE: Receipt of the Contractor's Injury and Illness Prevention Plan and/or the safety and health plan only signifies that the plans generally conform to the requirements of the contract and NOT Legal approval of the plans. It does not relieve the Contractor of the responsibility for providing employees with a safe and healthful work environment.

7. **Registration with Veriforce LLC**. Prior to commencement of DOT–covered work, the Contractor must register with Veriforce LLC (Legal DOT Drug and Alcohol program and OpQual compliance review agent) and complete an OpQual and Drug & Alcohol Program Compliance Review.

_____ Applicable_____ Not Applicable

Initials: _____

8. **Anti-Drug and Alcohol Misuses Prevention Program.** The Contractor shall have a written Anti-Drug and Alcohol Misuses Prevention Program. The Contractor shall have a written Anti-Drug and Alcohol Misuses Prevention Program that meets the requirements of all applicable regulations, including but not limited to 49 CFR, Part 40, Part 199, and Part 382, as it may apply. The Contractor shall ensure it, or its agent(s), i.e., Third Party Consortiums, comply with and conduct random drug and/or alcohol testing in accordance with 49 CFR Part 40, Part

199, and Part 382, as it may apply. In addition, proper review, reporting, and enforcement of drugs and/or alcohol testing of incidents meeting the post-accident criteria of 49 CFR Part 40, Part 199, and Part 382 has been discussed. The Contractor shall notify the Company Drug and Alcohol Testing Program Administrator of any and all incidents requiring Post Accident Testing and reports compliance.

_____ Applicable_____ Not Applicable

Initials: _____

9. **Operator Qualification Program.** The Contractor shall have a written and accepted Operator Qualification Plan on file that meets the requirements of all applicable regulations, including but not limited to Title 49, Code of Federal Regulation Part 192.801 through 192.809. Contractors must identify the scope of work and covered services/tasks they will provide to the Company(s) prior to commencement of DOT–covered tasks. Contractors must contact the Operator Qualification Department (OpsQual–Admin@semprautilities.com) and register with Veriforce, LLC, the Company's Contractor Compliance Review Agent, to initiate a DOT compliance review. Contact the Operator Qualification Department for additional information.

_____ Applicable_____ Not Applicable

Initials: _____

10. **Hazardous Materials.** Safety Data Sheets are available for hazardous substances used at the Company's facilities. Contact the Legal Representative for assistance for copies of SDS if necessary.

• Proposition 65 chemicals may be present when working on Legal facilities and signs may be posted stating "WARNING: This area contains chemicals known to the State of California to cause cancer, and birth defects or other reproductive harm."

• Naturally Occurring Radioactive Materials (NORM) may be present in the gas and associated sludge and liquids in the pipelines.

• The Contractor must have prior approval from the Company's Environmental Services and Safety and Health departments before bringing on site any hazardous substances that might create an exposure to Legal Company employees or an impact to the environment.

• Prior to the start of a job or project, the Contractor will disclose any and all hazardous materials use with the Legal Representative.

NOTE 1: Within 5 working days prior to use, the Contractor must provide notice in advance of planned uses of any odor-producing substances (e.g., petroleum or chemical-based building materials, solvents or cleaners) and dust or smoke-producing activities that may cause Legal employee or public concerns or discomfort. An action plan must be coordinated with Legal representatives, including Safety and Health, and affected site

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

management to prevent employee or public exposure and avoid unplanned interruption of work.

NOTE 2: Within 5 working days prior to use, where there is the potential for Legal employees to be exposed to hazardous materials used by contractor, Legal representative shall contact Safety and Health for a product review to ensure the safety of our Company employees and the public.

NOTE 3: In cases where Legal purchases hazardous materials for contractors to use, these products must go through the SEPA – Safety & Environmental Product Approval Process.

NOTE 4: In cases where the Contractor will be storing hazardous materials at Company facilities or project locations, it is the Legal representative's responsibility to inspect that area for proper storage of compatible materials.

_____ Applicable_____ Not Applicable

Initials: _____

11. **Asbestos–Containing Construction Materials.** No asbestos–containing construction materials (ACCM) shall be used for construction or left at Legal sites.

_____ Applicable_____ Not Applicable

Initials: _____

12. **Asbestos Containing Materials (ACM)**. If the facility where the Contractor will work has ACM, the Contractor understands the asbestos notification letter and applicable list of ACM and/or asbestos sample results provided by the Legal Representative, and understands not to disturb ACM or any material without asbestos content determined and documented unless specifically contracted and authorized by Legal for that work.

_____ Applicable_____ Not Applicable

Initials: _____

13. **Surface Coatings containing Lead or Other Metals.** Any potential lead (Pb) exposure hazards and lead and other metals in surface coating exposure hazards must be identified. All painted surfaces shall be assumed to contain lead and other metals unless shown otherwise by sampling and analysis. If lead or other metals are encountered, contractor and the Company will determine who will be responsible for removing them in compliance with applicable regulations. The Contractor may, at the discretion of the Company, disturb/remove less than 100 square feet of surface coatings containing lead, arsenic, cadmium, hexavalent chromium and/or mercury, providing the Contractor (a) submits their written Cal/OSHA compliant lead safety program to the Legal Representative prior to work on lead–containing materials, (b) generates no visible

dust emissions, and (c) manages waste in accordance with regulations and requirements (if any) of Legal Environmental Services.

Below is a listing of potential lead containing materials or lead and other metals in surface-coatings:

_____

The contractor shall be provided with this notice (including lead concentrations when known):

Lead, as well as other metals including but not limited to arsenic, cadmium hexavalent chromium and mercury, are commonly present in paint at varying concentrations in painted surfaces. Therefore, as an employer, you are expected to comply with all applicable regulations for protection of the workers and the environment, including but not limited to Cal/OSHA, prior to and during disturbance or removal of lead or other metal containing paint. Lead, arsenic, cadmium and chromium VI are substances known to the State of California to cause cancer /or birth defects and other reproductive harm.

_____ Applicable_____ Not Applicable

Initials: _____

14. **Proposition 65 Chemicals**. The Contractor shall not create at the work site an environmental or occupational exposure to Proposition 65 listed chemicals unless the Contractor provides the required Proposition 65 warning to Legal and other persons who may be exposed. If the work site creates occupational exposure to Proposition 65 chemicals, contact the Field Environmental Representative or Safety and Health Department Hazard Communication Administrator for instructions on attaching information on Proposition 65 chemicals to this notice.

_____ Applicable_____ Not Applicable

Initials: _____

15. **Handling and Disposal of Contractor's Hazardous Materials.** Proper handling and disposal of hazardous materials that the Contractor brings on–site, including primary and secondary chemical labeling, location of the Contractor's SDS, is required of the Contractor.

_____ Applicable_____ Not Applicable

Initials: _____

16. **Confined Space Program.** The Contractor understands the requirement of working in permit required confined spaces and will comply with all applicable laws and regulations involving confined spaces. The Contractor will verify to the Legal Representative they have a

permit required confined space program and have received information on Legal permit–required confined spaces that may be entered (including hazards, precautions) and will debrief after the entry with the Legal Representative regarding hazards of the entry.

_____ Applicable_____ Not Applicable

Initials: _____

17. **Hot Work Permit.** The Contractor understands the requirements to obtain an Legal hot work permit or to issue a hot work permit after Legal Representative approval and to comply with any permit requirements use of open flame, torch or welding equipment. The Contractor will comply with all the applicable laws and regulations required with these permits.

_____ Applicable_____ Not Applicable

Initials: _____

18. **Crane Lifting Plan.** The Contractor has lifting plan for cranes, including side booms if applicable, and will comply with all applicable laws and regulations involving cranes.

_____ Applicable_____ Not Applicable

Initials: _____

19. **Naturally Occurring Radioactive Materials – NORM.** The Contractor understands the requirement/guidelines of working with NORMs and will comply with all applicable laws and regulations dealing with safety and radiation.

_____ Applicable_____ Not Applicable

Initials: _____

20. **Safety Rules/Stop The Job.** The Contractor acknowledges that its employees must follow applicable safety rules while on Company facilities and properties. If an unsafe work condition or activity is identified, anyone working onsite has the authority to stop the job. All work will immediately cease once the Stop The Job is declared until the involved Contractor(s) have done a thorough investigation, remediated the unsafe situation, determined it is safe and communicated this to the SCG Representative and all affected employees. It is also the expectation that the Contractor's employees will abide by the Contractor's safety rules at all times. Known potential hazards at Company facilities and properties that have the potential to impact the Contractor's employees have been communicated to the Contractor. Such items may include but not limited to, equipment operations, energized electrical systems, fall hazards, etc.

_____ Applicable_____ Not Applicable

Agreement: 5660044243

Initials: _____

21. **Reporting of Incidents.** Contractor will immediately report to the Legal Representative any project–related incidents resulting in fires, hazardous situations, hazardous substance releases, OSHA recordable occupational injuries and illness, serious near misses, any injury or property damage involving the public and Stop The Job actions. A preliminary written report will be submitted within 10 working days followed with a final report within a reasonable time frame thereafter, to the Legal Representative, who will then forward it to the designated Field Safety Advisor.

_____ Applicable_____ Not Applicable

Initials: _____

22. **Agency Inspections.** Contractor will immediately notify Legal Representative of any governmental agency (Cal/OSHA, Health Dept. etc.) incident, complaint, inspection and any "Notice of Violation" or "Notice to Comply" issued by a government agency at the Contractor's job site. Any environmental related issue must be reported to the Environmental Representative. Contractor shall not provide any information to the government representative, unless otherwise instructed to by the Legal representative.

_____ Applicable_____ Not Applicable

Initials: _____

23. **Special Safety Concerns and Hazard Assessment (Related to the specific job)**.

Specific Job Location:
_____
Special Safety Concern:
_____
Specific Job Location:
_____
Special Safety Concern:
_____
Special Job Location:
_____
Special Safety Concern:
_____
Special Job Location:
_____
Special Safety Concern:
_____

Note: *Contractors are responsible for obtaining all needed permits prior to working, such as applicable shoring, and trenching permits. For confined space entry, any potential hazards, testing and evaluation procedure, elimination or control of hazards, entry requirements, entry permits and plans for emergencies must be discussed prior to work beginning. Who will be responsible for testing and evaluation procedures must be determined prior to any job beginning (i.e., Contractor or Company). The Company reserves the right to review or request proof of the Contractor's confined space training and compliance program.*

Initials: _____

Emergency Telephone Numbers and Address:
The nearest hospital address and number is:

_____

_____

The Company facility address is:

_____

_____

For medical and fire emergencies, please contact 911. The Contractor understands the proper reporting of fires, hazardous situations, hazardous substance releases, incidents, OSHA recordable occupational injuries and illnesses, and serious near misses. The Contractor also understands the proper review, reporting and enforcement of drug and/or alcohol testing of incidents meeting the post–accident criteria of CFR Title 49, Part 40, Part 199 and Part 382.

By signing this Safety Notice for Contractors, the Contractor agrees to follow the applicable requirements as outlined in this document. Failure to do so may result in work stoppage and/or termination of contract.

Copies of the Safety Notice for Contractors must be maintained pursuant to the company's file retention policy.

Contractor Representative Name:	Legal Representative's Name:
Contractor Representative Phone Number:	Legal Representative's Phone Number:
Signature of Contractor:	Signature of Legal Representative:
Date Form Completed:	Date Form Signed:

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SCHEDULE D
COMPENSATION

2. Pricing

Item	Reference No.	Description of Services/Personnel	Level	Unit	Unit Rate (USD)
		Sr. Well Control Specialist			
1	700012		Level One (1)	Per man, per day	[redacted]
2	700013		Level Two (2)	Per man, per day	
3	700014		Level Three (3)	Per man, per day	
4	700015		Level Four (4)	Per man, per day	
		Well Control Specialist			
5	700016		Level One (1)	Per man, per day	
6	700017		Level Two (2)	Per man, per day	
7	700018		Level Three (3)	Per man, per day	
8	700019		Level Four (4)	Per man, per day	
		Sr. Well Control Engineer			
9	700021		Level One (1)	Per man, per day	
10	700022		Level Two (2)	Per man, per day	
11	700023		Level Three (3)	Per man, per day	
12	700024		Level Four (4)	Per man, per day	
		HSE Specialist			
13	700029		Level One (1)	Per man, per day	
14	700030		Level Two (2)	Per man, per day	
15	700032		Level Three (3)	Per man, per day	
16	700033		Level Four (4)	Per man, per day	
17	700265	**Offshore Personnel Surcharge,**		Per man, per day	
18	[redacted] All travel and related ground transportation per person.			Per man	[redacted]

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

Pre-Formal Inquiry into California Gas Management, Practices and Procedures Related To The Aliso Canyon Incident in October, 2015.

EXAMINATION UNDER OATH OF JAMES MANSDORFER

REPORTER'S TRANSCRIPT
Los Angeles, California
September 13, 2018
Pages 1 - 154

Reported by: Andrea Ross, CSR No. 7896
Rebekah DeRosa, CSR No. 8708

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA
SAN FRANCISCO, CALIFORNIA

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THE PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA

PRE-FORMAL INQUIRY INTO SOUTHERN CALIFORNIA GAS COMPANY'S MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015.

Appearances: (Examination Under Oath, September 13, 2018)

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BE IT REMEMBERED THAT, by Subpoena of the Witness, and on Thursday, September 13, 2018, commencing at the hour of 10:10 a.m. thereof, at the offices of the CALIFORNIA PUBLIC UTILITIES COMMISSION, 320 West Fourth Street, Fifth Floor Law Library, Los Angeles, California, 90013, before ANDREA L. ROSS, CSR No. 7896 and REBEKAH L. DEROSA, CSR No. 8708 personally appeared:

JAMES MANSDORFER,

called as a witness herein, who, having been previously sworn, was thereupon examined and interrogated as hereinafter set forth.

* * * * *

MR. GRUEN: If we could, as a first order of business, let's go around the room, state and spell our names for the record and our titles today, if applicable. I'll start. My name is Darryl Gruen, D-a-r-r-y-l, G-r-u-e-n. I'm a staff attorney for the California Public Utilities Commission, and I am representing the Safety and Enforcement Division, Gas Safety and Reliability Branch today.

MR. HOLTER: My name is Randy Holter, R-a-n-d-y, H-o-l-t-e-r, Senior Utilities Engineer Specialist and with the Gas Safety and Reliability Branch.

MR. GRAVELLE: Doug Gravelle, G-r-a-v-e-l-l-e. I'm an attorney for Mr. Mansdorfer.

THE WITNESS: James, I go by Jim normally, Mansdorfer, M-a-n-s-d-o-r-f-e-r.

MR. GRUEN: Thank you.

EXAMINATION

BY MR. GRUEN:

Q Mr. Mansdorfer, you are here under subpoena. I will hand to you a copy of the subpoena and ask if that looks like a true and accurate copy of the subpoena that you received to appear today?

A Yes.

Q Do you want to take a look at the rest of the pages? You don't have to, but --

A I've seen it before.

Q Very good.

MR. GRAVELLE: Excuse me. Do you intend to mark these as exhibits?

MR. GRUEN: Yes, I do.

MR. GRAVELLE: All right.

MR. GRUEN: That was the next order of business. Do you want to take a look?

MR. GRAVELLE: No.

MR. GRUEN: And, indeed I will ask that this be marked as Exhibit 1, please.

(Exhibit No. SED-01 was marked for identification.)

MR. GRUEN: Q With that, Mr. Mansdorfer, could you confirm that you received fees to appear pursuant to the subpoena today.

A Yes, I did.

Q Very good. With that, just a bit of an introduction, if you will, about the basic ground rules of the examination under oath today.

So you are here under subpoena, which means you are required to appear and answer questions today. We are, the Safety and Enforcement Division, and when I say we, I mean the Safety and Enforcement Division, we are doing a pre-formal investigation in the matter of the incident on October 23rd and the surrounding circumstances related to that incident at the Aliso Canyon field, Southern California Gas' Aliso Canyon field.

You're here today to provide knowledge and testify as to those circumstances. It's why we've subpoenaed you here today. We do not know at this point whether this will in fact become an investigation, a formal investigation, by the Safety and Enforcement Division. It could. It may in fact end up not becoming a

proceeding before the California Public Utilities Commission. However, what you say today will inform our thinking and our decision making along that.

Do you understand all that?

A Yes.

Q If I say something that -- if I've articulated something poorly or it doesn't make sense, please do not guess in answering the question. Please ask me to either restate or rephrase, signal to me that I've not said it well and I will do my best to articulate it in a way that makes sense to you.

Do you understand that?

A Yes.

Q Good. That is the extent of, for now, the ground rules. Do you have any questions before we get started on substance?

A No.

Q I'm sorry, one other thing just in terms of the examination under oath for the record. The examination under oath is like a deposition. It is not a deposition. Your own personal counsel is here, Mr. Gravelle, but the difference is that we don't have an underlying proceeding as the basis for this so we call it in California Public Utilities'

parlance, Public Utilities Commission parlance, an examination under oath. So if I use the term "EUO," the letters "EUO," that means examination under oath and that is what I mean by that.

Do you understand that?

A Yes.

Q Very good. With that, if I could, what I intend to do, as best I can throughout much of the day, is just to give you a flag for you, a set of -- I'll ask questions in sets and there will be usually a thread, a logical thread. My goal is to basically give you, signpost for you, the subject matter under which the questions intend -- what they intend to get at just so you have an idea of where I'm going.

So if you have any questions about the nature of the subject area that I'm asking, please don't hesitate to ask. It may help facilitate your answers and the nature of the questions.

Do you understand that?

A Yes.

Q So with that, the first general set of questions is basically about your background and about in particular I aim to ask about how your background relates to the

field at Aliso Canyon in general and how you are qualified to make recommendations with regards to the incident that happened on October 23, 2015.

Do you understand that?

A Yes.

Q So just with regards to your biography, your basic background working at Southern California Gas Company, what was your role working for Southern California Gas Company, or SoCalGas, and I may use that term to refer to Southern California Gas Company, related to Aliso Canyon?

A Well, I had a lot of different roles over the years. For the last 15 years, I was at SoCalGas. My position was Storage Engineering Manager where I was responsible for the wells and the reservoirs, inventory verification, also land, mineral, and storage rights.

Q Great. Thank you. And so the 15 years approximately, what was the start date of your position as Storage Engineering Manager?

A 1998.

Q So you finished up in that position in 2013?

A Well, yeah, in 2013 I -- well, by

mutual agreement with the company, I worked part-time one or two days a week for another two years. I didn't actually fully leave the company until 2015, but I was no longer in that position of Storage Engineering Manager for those last two years working part-time.

Q With regards to your position as Storage Engineering Manager, were you managing the wells in the field at Aliso Canyon specifically or was it more than that?

A It was all the gas storage fields.

Q Honor Rancho and Playa del Rey and -- which one am I missing?

A La Goleta.

Q La Goleta, thank you.

A I was also responsible for the decommissioning phase of Montebello.

Q Very good. Thank you. And so you held one title with regards to your work on Aliso, just the --

A Well, I had other positions. I mean I was in a lot -- prior to that position, I was in a lot of different positions. I had been based at Aliso Canyon in the mid-'80s. I was -- I think the title they used then was resident reservoir engineer. So I was responsible, you know, for the on-site operations of the wells and

the reservoir at that time. I was also in several positions as drilling engineer and later drilling manager where I was responsible just for the drilling and workover aspects of wells at all the fields including Aliso Canyon.

Q Any other titles that you held while working for SoCalGas pertaining to Aliso Canyon?

A I don't -- I don't -- I mean I was in some positions in the transmission pipeline department where we had some responsibility for the pipelines at Aliso but not the wells.

Q Thank you for making that distinction. That's helpful. I'm asking at the level that you specified. With regards to your time as drilling engineer and drilling manager, approximately, just approximate dates, if you can remember your time holding those titles.

A Well, the drilling engineer function would have been early '80s, and then drilling manager was like '93 to '95 I think.

Q And I wrote that as drilling manager you were responsible for drilling workover fields. Did I get that right?

A Workover of the wells.

Q Okay.
A Yeah.
Q Got it. Thank you.
A Yeah.
Q Did you want to add to that?
A Workover just means existing wells as opposed to drilling new wells.
Q Oh, I see. Thank you. So you retired from Southern California Gas Company in 2015?
A Right.
Q From 2013 to 2015 you said you held a part-time role?
A Right.
Q Did I understand that right?
A Yes.
Q Can you talk about at a high level what your role was part-time with respect to Aliso Canyon.
A During that two years, I had pretty minimal involvement with Aliso Canyon. I was still responsible for the operations at Montebello during that time and I was on some other special projects. There was a native gas project I had some responsibility for, but pretty -- I had pretty minimal responsibility at Aliso for that time period.
Q Minimal in what sense? Can you

talk about what role you did have at Aliso.

A Probably just with respect to any activities under that native gas project.

Q The native gas project --

A So as far as the gas storage, I didn't really have any responsibilities at Aliso Canyon.

Q And what is the native gas project?

A Oh, that was a project that had been approved by the CPUC where we were looking for additional reservoirs, either oil or gas, at the storage fields that were owned by SoCalGas.

Q Thank you. So when you were doing that work as a consult -- was that as a consultant?

A No, I was still an employee.

Q You were still an employee.

A I just got paid for the actual hours I worked rather than a salary.

Q I see. Did you work in a role as a consultant for SoCalGas?

A I did for a short period during when the well was out of control.

Q Yes, okay. I'll get to that shortly. Thank you for clarifying that. I appreciate it. I think by "out of control" you mean you're referring to the incident

that happened on October 23, 2015; is that right?

A Yes.

Q Understood. Thank you. With regards to that incident that we just touched upon, what during your tenure would you say qualified you to make recommendations and have insights with regards to killing the well that went out of control on October 23, 2015?

A Well, I worked for, you know, well, off and on for a 30-plus-year career of working with wells. I don't know specifically what to say in answer to that.

Q It's a particularly broad question I will grant you, and I appreciate counsel's indulgence on this, but in terms of with regards to the 30 years, it seems as if you had quite a bit of experience working in the field at Aliso Canyon in particular.

Am I getting that right?

A Yes.

Q That's helpful. Let's go on to I think in terms of just another set of questions. That's helpful, thank you, just the general background understanding.

In reviewing some of the documents that your counsel, that Mr. Gravelle, sent to

us, I had gathered, if you will, a timeline that identified -- that essentially noted your communications with Southern California Gas Company, the time between when you had communicated to Southern California Gas Company offering your services to help with the well that went out of control.

And when Southern California Gas Company essentially accepted your offer and decided to ask you to come on board, if you will, and provide your services. So I want to just quickly and at a high level run through that timeline if I may.

I have here what are Bates stamped JM0005 through JM0007 inclusive. These are the Bates stamp of what Mr. Gravelle provided us. So these are some of your communications I understand, and you can correct me if I'm wrong, but I wanted to just confirm with regards to this if I'm tracking the timeline correctly that I just identified. That's really the overarching nature of these questions here.

Do you understand that?

A Yes.

Q If part of that doesn't make sense as we go through this, please let me know and I'll do my best to clarify. So this is --

MR. GRAVELLE: May I make a suggestion just so the record is clear?

MR. GRUEN: Sure.

MR. GRAVELLE: Can you perhaps indicate on the record what exhibit number it will be marked. I'm not sure whether we're doing the alphabet or Roman Numerals.

MR. GRUEN: I was thinking just plain numbers, but I'm open to suggestions if you prefer.

MR. GRAVELLE: No, no, that's fine.

MR. GRUEN: You want me to do that ahead of time? Commonly I'll do it after but --

MR. GRAVELLE: If it's okay with you.

MR. GRUEN: That's fine, absolutely.

MR. GRAVELLE: Thank you.

MR. GRUEN: So the Bates stamps JM0005 through JM0007 is an e-mail dated Friday, November 20, 2015, 9:21 a.m. It looks like it's from mansdorfer@aol.com to jlane@semprautilities.com, rphillips@semprautilities.com, rschwecke@semprautilities.com, and jcho@semprautilities.com. If we could have that marked as Exhibit 2.

(Exhibit No. SED-02 was marked for identification.)

MR. GRUEN: Let's go off the record.

(Off the record.)

MR. GRUEN: Q Back on the record. Mr. Mansdorfer, do you have in front of you the document that I just referenced and asked to be marked as Exhibit 2?

A I do.

Q So I am understanding this document to show that on November 20th you communicated with Mr. Bret Lane, Mr. Rick Phillips, Mr. Roger Schwecke, and Mr. Jimmy Cho, managers of SoCalGas Company, expressing your thoughts on the Aliso well service blowout.

Is that a correct understanding?

A Yes.

Q If I could characterize it -- so as part of this letter, and I'm looking at the first paragraph of it on JM0005 where you say -- I think it's the third line down --

"I have offered my assistance to Scott Ferguson and Phil Baker to help solve this problem starting at Lee's house on that first Saturday, but they have not shown any interest."

Do you see that?

A Yeah.

Q So just a clarification. When you're referring to the solving of this problem in that sentence, is that referring to the October 23, 2015, incident where Well SS-25 went out of control?

A Yes.

Q I'll just back up. You're familiar with Well SS-25?

A Yes.

Q And what does that well -- what does that term mean to you generally speaking?

A The term?

Q What does that refer to? Does that refer to a well at the Aliso Canyon field?

A Yes.

Q And is it a Standard Sesnon 25?

A Yes.

Q So it's one of the wells at Aliso?

A Yes.

Q And it's the well that went out of control on October 23, 2015; is that right?

A Yes.

Q Just a couple of questions about that sentence. When you talk about Lee's house, can you give us some background on who Lee is.

A Lee Stewart. He was the senior

vice president of gas operations for many years.

Q For SoCalGas Company?

A Yes.

Q And who is Scott Ferguson?

A I think he was in a vice president position at the time. I didn't really know him. I met him at that get-together at Lee's house.

Q And, again, vice -- when you're speaking, these are positions, management positions, at Southern California Gas Company; right?

A Yes.

Q And how about Phil Baker?

A Phil, he was my last supervisor or manager before I fully retired from SoCalGas. I think he was Director of Storage Operations.

Q Okay. And so you said you hadn't met Scott Ferguson before. Did I get that right?

A Yes.

Q How did you know Lee?

A I worked with Lee for many years.

Q During your time at SoCalGas?

A Yes.

Q How about Phil? How did you know

Phil?

A Well, he was my last supervisor.

Q You did say that. How long did you know Phil?

A I knew him for many years. I didn't work with him closely until he became my supervisor.

Q All right. Staying at just with the timeline then, thank you for talking about the different roles and relationships a little bit. The timeline, I was trying to figure out -- if we could go off the record just a second.

(Off the record.)

MR. GRUEN: Q Back on the record. First of all, the communication on November 20th that we just referred to in the e-mail, is that the first time you communicated with SoCalGas Company related to the incident on October 23, 2015, on Well Access 25?

MR. GRAVELLE: Do you mean in writing or oral?

MR. GRUEN: Q Either.

A I can't answer either way. This is three years ago.

Q I appreciate that.

A I don't -- I can't answer.

Q Okay. I'm asking in part because this was the first written communication we could find in the documentation that you provided us to Southern California Gas Company. So let's go with the written part if we could.

To the best of your recollection, is this the first written communication that you had with Southern California Gas Company?

A I -- yeah.

Q Okay. How about with Bret Lane? Was it the first written communication you had with regards to the -- I'll call it "the incident" for shorthand if I can. You know what I mean by "the incident," that that means the October 23, 2015, well going out of control at Aliso?

A I know what you mean, yes.

Q So was it the first time you communicated with Bret Lane with regards to the incident do you know?

A Again, I can't say for sure, but I haven't looked at any of this stuff for three years, almost three years.

Q Okay. With regards to the meeting at Lee's house that you mention in there, could you tell us about what you recall, to the best of your recollection. I know it was

three years ago. I appreciate that. But what do you recall discussing at Lee's house?

A Well, we, you know, this was like the day after it was discovered or something, a day or two after, and there was some discussion about it. I know Phil and Scott were on the phone with people and, you know, I offered if there was anything I could do to help. They didn't seem interested in it so that was pretty much it.

Q Yeah, you've written it's the first Saturday so that was the Saturday essentially after the incident that you were referencing in the November 20th e-mail; is that right?

A Yes.

MR. GRUEN: Let's go off the record for just a second.

(Off the record.)

MR. GRUEN: Q Back on the record. What I have here is a document that is Bates stamped JM0042. It appears to be an e-mail from mansdorfer@aol.com. At the top of it, it's to . It's dated Monday, December 7, 2015. It looks like it's an e-mail thread including others but that's just for purposes of identification. I'd ask that that be marked as Exhibit 3.

MR. GRAVELLE: Excuse me, can we add

the following page that is Bates stamped JM0043 so it's a complete e-mail?

MR. GRUEN: Absolutely.

MR. GRAVELLE: Thank you.

MR. GRUEN: Absolutely, let's do that with that caveat. We'll have JM0042 and JM0043 marked as Exhibit 3 together.

MR. GRAVELLE: Thank you.

(Exhibit No. SED-03 was marked for identification.)

MR. GRUEN: Q If we could turn to JM0043, since this is an e-mail, I think it's in reverse order. The first e-mail in the chain appears to be at the last part of the thread. At the bottom of JM0042 there's an e-mail from Bret Lane. It's dated December 7, 2015, at 11:01 a.m. It looks like it includes a Jimmy Cho and Roger Schwecke. The subject is "RE: Aliso Well Mansdorfer thoughts."

Do you see that?]

A Yes.

Q Okay. And it says in the body, I'm reading,.

"Jim, apologies for the delay in getting to you. Would you consider joining the team up here as a technical advisor for me and the

company? Your background and experience would be tremendously helpful. I'm also trying to bring in a couple of others, one, the retired lead for Mobil who ran their critical well team. Another is from the relief well side. As for time commitment, it would be what you spare -- what you can spare," et cetera, and that's from -- it's -- it's from Brett.

So is that an e-mail to you from Brett Lane?

A Yes.

Q And dated December 7th, 2015. Correct?

A Yes.

Q Do you recall, was that the first time that you heard back from Southern California Gas Company inviting you to work on the incident?

A I think so.

Q Okay. And you responded, continuing, now working backwards onto JM0042, Monday, December 7th, at 2015, 1:32 p.m. It's -- this is an e-mail as part of this thread from Mansdorfer to Brett Lane, cc'g Jimmy Cho -- Jimmy Cho and Rodger

Schwecke, saying, "Brett, I would be happy to help," and it continues on.

So that -- that signified your agreement to --

A Yes.

Q -- work on the incident at Aliso Canyon?

A Yes.

Q Okay. Very good. Okay. So -- so you had agreed, on December 7th, that you would help the -- in a technical role advising on how to solve the problem of the incident at Aliso?

A Yes.

Q Okay. Very good. So, by my rough math, we -- between November 20th and December 7th, the time you offered to help to SoCalGas' management and the time that you were asked to come help, that's about two and a half weeks, if I'm getting that right.

So, in that time span, did -- did Southern California Gas Company explain to you the -- the reason for the amount of time it took them to invite you to help on the Aliso incident after your November 20th e-mail?

A Not that I recall.

Q Okay. And let's go back to JM0005

on Exhibit 1, if you still have that in front of you. And so, I see that this is entitled "Mansdorfer Thoughts on Aliso Well Subsurface Blowout." And without getting really into the details here, would it -- would you accept this -- a characterization of this e-mail, generally speaking, as your recommendations for how to fix the incident and fix the well?

A Yes.

Q Okay. And so when you first joined the technical advisory team, just to use another term -- and by technical advisory team, I'm -- mean the -- the team that you joined and spoke to, the other team of -- of people who were working on trying to fix the -- the -- the well that had an -- experienced an incident on October 23rd, 2015. Do you understand that?

A Yes.

Q Okay. So when you joined the -- the technical advisory team, did you learn if SoCalGas had followed your recommendation that you sent on November 20th, 2015?

MR. GRAVELLE: Excuse me. I need to interpose an objection.

MR. GRUEN: Okay.

MR. GRAVELLE: I have to speak a little

bit here to sort of give you an idea.

MR. GRUEN: Okay.

MR. GRAVELLE: The -- in the cover letter I sent over with the documents, I explained that during the period in December, the short period when he was a technical advisor, he is subject to a confidentiality agreement that prevents him from disclosing any -- anything that he learned or discussed during that time period without SoCalGas' permission; and, of course, if you can get SoCalGas' permission, he will certainly answer the questions. But, I think the way you phrased that, if you were to go back and -- is that he would have to disclose if he learned -- if he learned of the information while he was employ -- retained as a technical advisor; hence, it would require him to divulge or -- or breach the confidentiality provision. So perhaps there's another way to ask the question while honoring that commitment he's made.

MR. GRUEN: Okay.

MR. GRAVELLE: And if you want to go off the record to talk about that --

MR. GRUEN: Yeah.

MR. GRAVELLE: -- we can do that.

MR. GRUEN: Yeah. Let's go off the

record briefly. Thank you.

(Off the record.)

MR. GRUEN: Let's go back on the record.

So, while we were off the record, we were just discussing the nature of the confidentiality agreement.

And Mr. Gravelle, do you want to expound on that a bit?

MR. GRAVELLE: Yes. Just to offer some insight here, there is a two-page confidentiality agreement between Mr. Mansdorfer and SoCalGas that I will call a confidentiality agreement regarding his -- his tenure as a technical advisor for a period of time in December of 2015 that imposes upon him certain confidentiality obligations. We have not produced that agreement, but you could certainly get it from SoCalGas --

MR. GRUEN: Yeah.

MR. GRAVELLE: -- and -- and/or get the authorization from them in writing for us to release it to you. And I -- I think, if you described it as the two-page confidentiality agreement, that would probably be a sufficient description of that, and I'm not aware of a separate written agreement.

MR. GRUEN: Okay.

MR. GRAVELLE: In other words, that description should not leave any ambiguity as to what we're talking about.

MR. GRUEN: Okay. Very good.

Q And Mr. Mansdorfer, is that your -- an accurate description of your understanding of the agreement that you entered into with Southern California Gas Company?

A Yes.

Q Okay. Very good. Thank you.

And so, just so I understand, that agreement applied -- the dates in which that applied -- you may have mentioned this, but just to be sure that I caught it, it applied during Mr. Mansdorfer's tenure advising SoCalGas when he was asked to join the technical advisory team on SoCalGas, and then when he finished his tenure advising SoCalGas with respect to the incident?

MR. GRAVELLE: Let me --

MR. GRUEN: Let's go off the record for just a second.

MR. GRAVELLE: No, that's fine. We can stay on the record.

MR. GRUEN: Oh, okay. Back on the record.

MR. GRAVELLE: I'm obviously not under

oath, but I'll give you my best understanding. I don't have it in front of me. But, it applies to information that he learned or gained while working as a technical advisor, and it's my presumption that those obligations would continue thereafter.

MR. GRUEN: Yeah.

MR. GRAVELLE: It's my understanding it would not apply to information he learned prior to his retention as a technical advisor, i.e. information he knew working as an employee of SoCalGas.

MR. GRUEN: Okay. All right. All right. Thank you.

MR. GRAVELLE: Sure.

MS. GRUEN: Q So prior to coming on board, prior to signing the agreement that we just -- that Mr. Gravelle just referred to, did you learn if SoCalGas had followed any portion of your recommendation that you sent on November 20th, 2015?

A I don't believe I did.

Q Okay.

A I had very limited communication. I -- yeah.

Q Okay. Do you remember approximately when you finished your role

working for SoCalGas on the Aliso incident?

A It was around Christmas --

Q Okay.

A -- of that year.

Q Okay.

Let's go off the record for a second.

(Off the record.)

MR. GRUEN: Let's go back on the record, if we can.

Q Mr. Mansdorfer, if I can switch topics to just a general set of questions that maybe I'll characterize as subsurface safety valves and recommendations regarding that, do you know what I mean when I use the term subsurface safety valve?

A Yes.

Q What does that term mean to you?

A It's a valve that is installed in a well that shuts flow off from the well.

Q Yeah. Thank you. So if we could go back to Exhibit 1 that you have in front of you, which I believe is the document on your left --

A Yes.

Q And in the -- that Exhibit 2 -- I see we're on the same page, from you signalling me there, yes.

That's Exhibit 2, and it's JM0005, and in the second paragraph of that -- that document, you talk about installing subsurface safety valves in order to protect against the possibility of a hundred -- the 120 wells at Aliso from shearing in the event of an earthquake along the Santa Susana fault.

A What? I don't see that.

Q Do I have the wrong document? Bear with me. No. I'm sorry. I think I do have the wrong document. Bear with me a second. Ah, excuse me. I apologize. That -- that is an incorrect document.

If we could -- if I could show you JM0031 and JM0032, this is marked from you.

MR. GRAVELLE: This will be Exhibit 4?

MR. GRUEN: Exhibit 4, that's my understanding.

MR. HOLTER: Yep.

MR. GRUEN: Let's see if I have a copy for the court reporters. Bear with me a second.

Q And if you have a chance, while I'm circulating the -- the document, to look at the second paragraph there.

And while you're doing that, I'll identify this as Exhibit 4, JM0031, JM0032.

This appears to be a -- an e-mail from Mansdorfer@aol.com to Davnamthom@aol.com dated Monday, November 30th, 2015, at 9:05 a.m. That's the first e-mail in the thread.

(Exhibit No. SED-04 was marked for identification.)

MR. GRUEN: Q And --

A Yes. Yes, I see it.

Q Okay. And that -- does -- I know you were reading. You may not have been listening to me at the same time.

A No. That's correct.

Q The information I stated is accurate about the -- the e-mail?

A Yes.

Q Okay. Very good. So I apologize for referring to the wrong document there, but now we have the correct one in front of us, I believe. So I think you're answering that the question I asked was -- was correct, but just, for the record, let me be sure that I have it right.

In this second paragraph here, you talk about installing subsurface safety valves in order to protect against the possibility of 120 wells -- the 120 wells at Aliso from shearing in the event of an

earthquake along Santa Susana fault. Is that correct?

A Yes.

Q Okay. Do you recall providing us with a study from your colleagues identifying the Santa Susana fault ran through the Aliso field, and was on the system that experienced two earthquake events, both Sylmar in 1971 and Northridge in 1994?

MR. GRAVELLE: Excuse me. You said do you recall him providing you with the --

MR. GRUEN: Uh-huh. Yeah. I -- let's go off the record.

(Off the record.)

MR. GRUEN: Let's go back on the record.

Q Do you -- to your knowledge, have you been informed that the Santa Susana fault runs through the -- the Aliso field?

A Yes.

Q And does it intersect with all of the wells in the Aliso field?

A Yes.

Q Okay. And to your knowledge, does the -- is the Santa Susana fault part of the system that experienced the -- the 1994 Northridge earthquake?

A No, it's not.

Q Oh, it's not?

A No.

Q Okay. What about the Sylmar earthquake in 1971, do you know?

A You know, I'm not a geologist. I -- I -- I don't think it's the same system.

Q Okay.

A I think there may have been a small movement on a small piece of the Santa Susana fault during that earthquake, but I don't think it's the same system; but, again, I'm not an expert on that.

Q Understood. Okay. If you look at the second paragraph again, and I'm reading from the fourth line from the bottom of that paragraph on Exhibit 4, there I'm reading.

"My proposal was to install subsurface safety valves at the bottom of the well under the fault. They were concerned enough back in the 1970s that they did this but the technology wasn't up to it then and the valves all failed quickly. Now, due to the deep water offshore wells the technology is there. I never could convince them of this risk, though."

Do you see that?

A Yes.

Q And that's -- that's referencing your -- that's a writing from you to Thom in this e-mail. Is that correct?

A Yes.

Q Okay. When you say, "due to deep water offshore wells the technology is there" in that passage we just read, that I just read, does that mean there are -- that there are effective subsurface safety valves that could successfully shut off the gas flow on the wells at Aliso Canyon?

MR. GRAVELLE: I'm sorry. Could the court reporter read that back to me?

MR. GRUEN: Go ahead.

(Record read.)

MR. GRAVELLE: Effective and successful are vague and ambiguous, calls for speculation.

MR. GRUEN: Okay.

Q Are there -- I'll rephrase.

Are there subsurface safety valves that you're referencing in that passage that I just read that would work to turn off gas -- the gas on the -- the gas flow on wells at Aliso Canyon?

MR. GRAVELLE: Calls for speculation.

MR. GRUEN: Q Can you answer, anyway?

Are you able to answer that question?

A Well, it's obvious, when I wrote this, that I thought that was the case. I didn't have any direct experience or evidence of that, though.

Q Okay. When -- I am struggling with counsel's -- I want to be mindful of counsel's objection, and be sure that you understand the question, because if I'm not articulating it well, and you don't understand it, then I want to be sure I state it in a way that you do.

So do you have any concerns or confusion about what I mean --

A No, I don't think so.

Q Okay. Okay. All right.

A No. I think, when I answered it, is correct. You know, in this casual conversation with my friend, I essentially indicated I thought the technology was there; but, I don't have experience with those valves directly --

Q Understood.

A -- so --

Q I think I see the basis for counsel's objection now. Okay. So I'm not going to ask you to guess. I'm asking you for your knowledge.

So it -- when you wrote this, you -- it was an opinion, but you didn't have the facts there to --

A That's correct.

Q -- understand? Okay. I follow. Okay.

Do you have knowledge, based on your work at -- for Southern California Gas Company, about subsurface safety valves, the latest ones that are available today?

A No.

Q Do you have knowledge about subsurface safety valves, the latest ones that were available, during your time the -- the -- the time that you -- as of the time that you worked on the incident for SoCalGas?]

A Well, of a certain type, the type that are set near the top of the well, but not the type that I was referring to here that could be run underneath the fault.

Q What was your basis for making this statement when you said it?

A Some research I had done on the technology back when I was at SoCalGas.

Q Can you say more about the research that you had done on the technology when you were at SoCalGas.

A Just reviewing the manufacturers, you know, what they published on their valves.

Q The research that you had done on SoCalGas, did that give you reason to believe that valves could be installed below the fault line at Aliso?

A It did.

Q Why did it give you the reason to believe that?

A Well, again, just reading what the manufacturers published in their sales brochures and so on.

Q Did you talk with anyone at SoCalGas about installing subsurface safety valves below the Santa Susana fault line at Aliso while you were working for SoCalGas?

A Yes.

MR. GRAVELLE: You're referring to excluding the time when he was a technical adviser?

MR. GRUEN: Correct, I am.

Q Do you want me to restate the question?

A No, I think I answered it.

Q You did talk to others about installing subsurface safety valves and counsel is right. Why don't we say as a

general disclaimer because the objection is noted. For purposes now, why don't we say that we're excluding communications during your time as a technical adviser when the confidentiality agreement applies unless and until we get clearance from SoCalGas to disclose that information.

So at this point I'm not asking questions about the communications you had as a technical adviser to fix the incident. Do you understand that?

A Yes.

MR. GRAVELLE: And thank you. One clarification, could it also include information he learned solely based upon being a technical adviser; that is, if you learned something both before -- if you knew it independent of being a technical adviser, that would be fine. But if you learned it solely based on being a technical adviser, it would be subsumed within Mr. Gruen's exclusion.

MR. GRUEN: That would be acceptable to us.

Q Do understand that?

A Yes.

Q All right. So then asking about your time prior, not the technical advisory

time and not things that you learned exclusively because you were a technical adviser but your time while working for SoCalGas otherwise, who did you talk to at SoCalGas about installing subsurface safety valves below the Santa Susana fault line at Aliso Canyon?

A Primarily my supervisors.

Q And what did you tell them?

A I told them my concern that the fault could move, it's considered an active fault and it could shear all the wells in the field and release a huge amount of gas.

Q Did you voice a concern, if I'm understanding right, that what happened on Well Access 25 then could have happened on all the wells if such a shearing occurred?

MR. GRAVELLE: Objection, misstates his testimony.

MR. GRUEN: It may. I'll rephrase.

Q Was there a concern that -- well, let me just ask it open-ended. What would the concern have been with releasing gas if all of the wells at Aliso had sheared along the fault line?

A Well, that the gas could reach the surface and cause safety concerns.

Q Did you voice that concern to your

direct supervisors at SoCalGas?

A Yes.

Q What was the response that you received when you voiced that concern?

A Well, there were studies done in regard to that. There was some, I think, belief at some level of the company that it wasn't a problem to be worried about.

Q Were you told why this was a belief at the Company, that it wasn't a problem to be worried about?

A No, not that I remember.

Q Did you make any communications in writing regarding what we just talked about?

A I did.

Q To whom?

A To my boss.

Q I'm sorry, who was that at the time?

A Well, Rudy Weibel.

Q Can you spell that for the court reporter.

A W-e-i-b-e-l.

Q What was Rudy's response to that recommendation?

A Well, it took some time. We had a team. We studied the issues. And in the end, I don't know, that concern, again, about

the fault was not believed to be an issue that we should worry about.

Q Do you recall the time that you made the written communications identifying your concerns?

A Well, there's -- yeah, starting in 2009.

Q How long did you continue to voice your concerns related to this topic?

A Well, you know, we studied it for a few years. It wasn't specifically that. I mean there was some work that was done specifically on the fault, but I think as long as I was in that position of storage or Storage Engineering Manager, I expressed that concern.

MR. GRUEN: Off the record, please.

(Off the record.)

MR. GRUEN: Q So do you have a general sense of timing starting in 2009 how long you continued to voice the concerns regarding shearing of the wells?

A Like I said, as long as I was in that position of being responsible for the wells through 2013.

Q And during that time when you voiced the concerns, Southern California Gas Company continued to maintain a belief that

it wasn't necessary to do anything with regards to the concern that you voiced?

MR. GRAVELLE: Objection, misstates testimony, calls for speculation.

MR. GRUEN: I'll restate.

Q From 2009 to 2013, what was the response that you received to that concern that you identified?

MR. GRAVELLE: Other than what he's testified to?

MR. GRUEN: What I'm trying to get at is I heard -- and correct me if I'm saying this incorrectly -- I heard you say that there was a belief from SoCalGas that it wasn't needed.

MR. GRAVELLE: Some.

MR. GRUEN: Some?

MR. GRAVELLE: My notes indicate that he said "some believed."

MR. GRUEN: Some believe.

MR. GRAVELLE: And I think that's where I was --

MR. GRUEN: That's helpful.

MR. GRAVELLE: Yeah, I interpreted your question as being a characterization of the entire company.

MR. GRUEN: Got it.

Q Is that accurate?

A Yes.

MR. GRUEN: So there was some belief amongst SoCalGas. Thank you.

MR. GRAVELLE: Yeah.

MR. GRUEN: Q There was some belief amongst SoCalGas that it wasn't needed to address the shearing concern?

A Yes.

Q What about others? Were there others who responded that it was necessary to address the shearing concern at Aliso?

A Well, there was -- I mean several of the bosses I had did understand my concern. I'm not sure whether they agreed with it or not.

Q Okay. You're not sure whether they agreed. So did you ever hear affirmatively that anyone agreed with the shearing concern you identified?

A Repeat that again, I'm sorry.

Q Did you ever receive any communication from your direct supervisors or anyone else agreeing that shearing of the wells at Aliso was a concern?

A I think I did receive confirmation they understood my concern and they weren't sure whether it was an issue, but they didn't directly dismiss it either.

Q Did you receive any communications that anyone was willing to do anything to address the shearing concern that you identified?

A It's a long time ago.

Q Understood. Take your time. Take your time if you want to take a moment to just think back and recall. I recognize that we're talking about almost 10 years ago, so to the extent that you can remember, it's helpful.

A I don't really remember enough to say anything with any definitiveness.

Q Understood. Thank you. Just so I understand the last statement, you didn't observe any action on the company's part to address the shearing concern that you identified. Did I get that right?

A Yes.

Q When you had identified the shearing concern, did you talk with anyone about the option of installing subsurface safety valves to address the concern?

A Yes.

Q Who did you talk to?

A Well, starting in 2009 with my boss Rudy Weibel.

Q And who else do you recall?

A Well, my next boss after he retired was Roger Schwecke and it was discussed with him.

Q And what were the reactions of those gentlemen that you heard?

A I think, you know, some understanding of my concern.

Q Okay.

A I think it was at a higher level where there wasn't a belief that was an issue.

Q From both of those gentlemen, there was no belief that this was a concern?

A No, it was from a higher level in the company; above them.

Q I see. Do you know from whom above them there was -- so when you say at a higher level than them, it wasn't a concern, if I'm understanding correctly. Do you know who didn't have that concern?

A I believe it was Bret Lane.

Q Did you see anything or hear any communications from Mr. Lane stating that the shearing wasn't a concern?

A Yeah, there was an e-mail.

Q Do you remember the approximate time of the e-mail?

A I think that was 2012.

Q Do you recall the e-mail talking about -- let me rephrase. Was the e-mail responding to not just the shearing concern, but the option of installing subsurface safety valves to address it?

A No.

Q Was there any discussion with Mr. Lane to your knowledge about installing subsurface safety valves?

A No.

Q So the e-mail was limited to just saying --

A The fault itself, yeah.

Q At Aliso was not a concern?

A It didn't say that specifically. It just said we were going to -- it was regarding a meeting we were having about well integrity, and it just said we're not going to discuss the Santa Susana issue.

Q Oh, I see. If we were to ask for that e-mail, how would we identify it so that SoCalGas would understand what we were talking about?

A It would be a 2012 e-mail from Bret Lane to I think I was copied and Roger Schwecke.

Q Thank you. And do you recall anything about what was in the subject line

of the e-mail?

A No, I don't.

Q When the e-mail stated from Mr. Lane that you were not going to discuss the Santa Susana issue, what did that mean to you?

A It meant he didn't want to talk about the fault moving and shearing all the wells.

Q Did you understand that to mean at that meeting or in general?

A Well, it was in regard to that meeting specifically.

Q In regard to that meeting.

A Yeah.

Q Okay. Did you have occasion to communicate with Mr. Lane about the Santa Susana issue, as you just referred to it, at a later point in time?

A I don't recall.

Q To your knowledge, did anyone talk about the Santa Susana issue at a later point in time after the 2012 e-mail?

A I don't recall that either.

Q I'll refer to him as Rudy and you know who I mean, your supervisor?

A Yes.

Q Do you approximately have an idea

how many times you identified the Santa Susana issue, the shearing concern that is, to Rudy?

A I don't remember specifically. It was more than once, but probably limited to, you know, a handful of times we discussed it.

Q To your knowledge, did anyone else at SoCalGas recommend installing subsurface safety valves on the wells at Aliso Canyon?

A No.

Q To your knowledge, did anyone else identify the risk or problem of the wells shearing?

A No.

Q Let me restate it. To your knowledge, did anyone else share the concern that you identified of the wells at Aliso shearing?

MR. GRAVELLE: Calls for speculation.

MR. GRUEN: Well, I'm asking what he knew.

MR. GRAVELLE: If he knows.

MR. GRUEN: If he knows, yeah.

MR. GRAVELLE: Okay.

MR. GRUEN: Q So to your knowledge, did anyone else identify the concern of the amount of wells shearing at SoCalGas?

A Well, I think, like I said earlier,

you know, when I discussed it with people, there was some acknowledgment there might be, but they -- I think they didn't believe they had the technical knowledge to know whether there really was a concern there or not.

Q And did anyone to your knowledge talk with those who did have the technical background to understand whether wells shearing at Aliso were a concern?

A I don't know.

Q Did you ever talk to someone yourself who had knowledge about the shearing concern that you identified at Aliso?

A Well, I did have a geologist look at it.

Q What was the name of the geologist?

A I don't remember.

Q What do you recall the geologist finding?

A He said it was a possibility but there is just not enough known about that fault to say for sure whether it would be a concern or not.

Q Did you talk to anyone with knowledge about the effectiveness of subsurface safety valves, let's say, after 2000 during your time at SoCalGas?

MR. GRAVELLE: Are you referring to

deepset or shallow set?

MR. GRUEN: Good clarification. I appreciate that.

Q Let's couch it this way: The effectiveness of installing subsurface safety valves below the Santa Susana fault line at Aliso.

A So repeat the whole question.

Q Yes, I will. Did you talk to anyone about the effectiveness of installing subsurface safety valves below the Santa Susana fault line on the Aliso wells from 2000 until your retirement?

A I'm sure there were discussions about the possibility of that. I don't recall any discussions about the effectiveness or whether the valves would be effective.

Q Okay.

A Not to say there wasn't, but I don't remember any specific conversations.

Q So I heard from earlier, and I appreciate counsel's question that I was probing maybe areas of knowledge that you didn't have with regards to subsurface safety valves. Part of this is just my limitation of knowing, my limited understanding of knowing where your knowledge limits are, so

if I trip over that line, please do correct me. I appreciate that.

What I'm trying to get at at a general level is your knowledge of and where the limits of your knowledge are with respect to subsurface safety valves that could have been installed below the fault.

So with regards to that, you mentioned that you did some research on publications. Can you describe at a high level the amount of confidence you had, based on your own research, of whether these -- the research you did would mean that the subsurface safety valves would work below the Santa Susana fault line.

A I think I had a reasonably confident belief they would work, but I didn't, you know, it was never tried in that specific application. So I think at the time I thought it was worth investing time and money to look into it but...

Q Did you think it was worth time and money to invest into trying out one or two wells?

A Well, actually we did try one deepset valve at the Goleta field. It actually had some problems with it. I don't know that that meant it wouldn't have worked

at Aliso, but I think it would have encouraged other people's beliefs that deepset subsurface safety valves just were going to have problems.

Q Approximately what point in time did the trial of the one deepset valve at Goleta occur?

A You can look that up on the records.

Q Sure.

A Sometime in the, oh --

Q If you know. If you have an approximate sense. I get it was a while ago.

A Yeah, it was probably after 2000.

Q That would help us hone our focus, too, so thank you.

MR. GRAVELLE: By the way, you did get a response from SoCalGas on an e-mail.

MR. GRUEN: Let's go off the record for a second.

(Off the record.)

MR. GRUEN: Q If we could go back on the record. Let me ask generally. Are there e-mails or other writings in your capacity while you were employed by SoCalGas discussing topics related to the installation of subsurface safety valves at Aliso Canyon?

A Well, I don't have them. I mean

those were all in the SoCalGas system if there were any.

Q Okay. So to your knowledge then, a deepset, if you will, subsurface safety valve was not installed at Aliso Canyon during your tenure; is that accurate?

A I believe that's accurate.

Q If working in modern deepset subsurface safety valve had been installed on SS-25, based on your research and your knowledge, prior to October 23, 2015, would it have saved Well SS-25?

MR. GRAVELLE: Objection, calls for speculation.

MR. GRUEN: Just asking to his knowledge.

THE WITNESS: Well, I think that's -- I mean there's a good chance it would have, but there is I mean some speculation on whether it definitely would have or not.

MR. GRUEN: Q Okay, understood. I appreciate the speculation point, but the part where you're saying there's a good chance it would have is based upon the research that you had done where you're saying you're evaluating the chance that it in fact could have saved the well?

A Yeah.

Q Is it based upon advice from the geologist you spoke with as well?

A The geologist didn't -- that didn't involve subsurface safety valves. That's not something geologists know anything about.

Q Point well --

A That was strictly the fault.

Q Point well taken. Thank you. And based upon advice from others who have knowledge of subsurface safety valves?

A You know, I think my beliefs at the time were based strictly on study of where they were used elsewhere and reading the manufacturer's publications on it, so I don't know that I -- it's a unique application so I'm not sure there was anyone really that would have knowledge about it for use in the high flow rates and with the sand production. I mean there's reasons to be concerned that they wouldn't have worked.

Q Were there any concerns that something bad would have happened if they were installed?

A Well, there was a history of when they installed them in the '70s and they all failed. There was a whole lot of money spent and a lot of grief. The field was restricted on its usage because they just installed all

these deepset subsurface safety valves that all failed.

Q And to your knowledge, based on your research, though, you still thought it was worth trying one out at Goleta?

A Yes.

Q Why is that?

A Well, the technology had changed. I thought it was worth trying it to see if it would work.

Q Did you consider trying one out at Aliso as well?

A Well, we tried one at Goleta specifically because the well there was considered a critical well and so it was required to have a subsurface safety valve.

Q Okay.]

A And so we thought "We got to put one in here. Let's try the deep-set one."

Q Okay. All right.

A And it didn't -- you know, it did have some problems there; whether it would have been the same if it was used at Aliso, it's hard to say.

Q Why is that, whether it would have worked the same at Aliso, it's hard to say?

A Well, it was installed in a directionally-drilled well, which was thought

to be part of the problem why it didn't work right.

Q Okay. And by directionally-drilled well, can you state briefly what you mean?

A It's not a vertical well. It's drilled at an angle.

Q At an angle. I see. Okay.

Do you have a sense how many wells at Aliso are drilled at an angle?

A A majority of them. Not -- this is a -- well --

Q Go ahead.

A -- to get into a lot of technical issues that I'm not sure matter, but --

Q Okay. Did you consider installing subsurface -- deep-set subsurface safety valves in non-directional wells at Aliso?

A Did I consider it or -- I'm -- there was no -- well, the thought was "Let's try it where we need to install subsurface safety valves, anyway, and see how it works."

Q And what was the need for installing them, anyway?

A The one at -- the well at Goleta, where it was required because of the location of the well.

Q Okay. Any -- any requirements at Aliso, because of their location --

A No.
Q -- to install?
A No.
Q What was it about the location of the well at Goleta that made it required?
A It's a state law that if wells are within a certain distance of a road or a structure, they have to have a subsurface safety valve.
Q I see.
A There were no wells at Aliso that fell within that requirement.
Q Okay. Do you consider the cost-effectiveness of installing subsurface safety valves at -- elsewhere other than that one Goleta well?
A Well, the -- yeah, the overall effectiveness, including cost-effectiveness, sure.
Q Okay. And what did you come up with when you ran through the overall effectiveness? Did you think -- what did you -- would you -- did you consider, excuse me, that it would have been effective to install deep-set subsurface safety valves elsewhere other than the Goleta well?
A I'm not sure I understand the question.

Q To your thinking, in your role as a manager in so -- at SoCalGas, was it effective to install subsur- -- subsurface safety valves deep-set at other wells other than the one at Goleta?

MR. GRAVELLE: Calls for speculation.

MR. GRUEN: Q And I -- I appreciate counsel's -- counsel's objection.

A Well, it doesn't seem like a very clear question. I mean --

Q Okay.

A -- is it --

Q Did -- did you think it was effective to install subsurface safety valves at other wells other than the one at Goleta?

MR. GRAVELLE: The same objection.

THE WITNESS: I thought it -- well, I thought it effective to install subsurface safety valves only when there was a reason to do it, if they were required by the state or, in the case of Aliso, where there was the threat of the fault. Other than the -- the fault, the belief was -- and then I shared it -- we didn't really need subsurface safety valves.

MR. GRUEN: Q Okay. That's -- that's helpful. I think that -- that's helpful.

Why don't -- Mr. Holter, do you want

to ask a couple of questions in follow-up before we break for lunch?

MR. HOLTER: Sure.

MR. GRUEN: Okay. Go ahead.

MR. HOLTER: They're pretty rapid enough. Thank you, Mr. Gruen.

EXAMINATION

BY MR. HOLTER:

Q Mr. Mansdorfer, during your tenure, and from my understanding your prior testimony, as -- in the role of storage engineering manager, am I understanding that was from 1998, roughly, to 2013?

A Yes.

Q Is that right?

When you took over that role in 1998, was it your understanding that your role was to provide a program of safety for the storage fields that you managed?

A With respect to the wells, yes.

Q Okay. So specifically, maybe you can elaborate. What did that safety program that you stated you understood to be the -- part of -- what is -- what did that cover in the wells? I could clarify.

Was it from the wellhead down --

A Yes.

Q -- to the reservoir?

A Yes.
Q And that was your safety --
A Yes.
Q -- program?
A Yes.
Q So how was that -- how were you informed of that role of safety by SoCalGas? Your employer, SoCalGas. Excuse me.
A Well, I mean partially from discussions with my boss. But, I think we had annual performance plans where we wrote out, you know, what our responsibilities and goals were. But, there were -- you know, the company -- and I'm sure you've seen them. There were written -- they called them formal communication documents that set out, you know, the safety monitoring program for the wells, you know, that required that -- temperature surveys and all the different monitoring programs that were in place.
Q Was it your understanding -- thank you.
Was it your understanding that safety improvements was part of your role as storage field manager?
A Improvements is implying that things weren't safe, and I think we thought that our programs were -- if we implemented

them properly, provided the required safety.

Q Thank you for --

A I mean --

Q -- clarifying on that. This was not meant to imply that it wasn't safe, just that -- were you understanding that there were technologies that came into being that you may want to look at, and was there a program of looking at technologies and to -- to -- as you've testified before, you saw that there was a safety valve that -- at Goleta that may have added a measure of safety at that well; so in that vein of safety improvements, not that there was a deficit implied in the question.

A Well, I think the company always encouraged -- I mean it's hard to define what -- what you're saying, I think, of you're required to make safety improvements when you don't have anything definitive. I mean I think the company did encourage looking at new ways to improve safety.

Q Thank you. So, in light of your response, we can be specific.

Was there a specific program during your tenure regarding using subsurface safety valves? You mentioned earlier there was a study. Was that a formal study in your

group, in the well storage group, that you worked on over a number of years?

A Well, there was a -- there was a team that was put together to look at well integrity and, you know, what could we do to improve, yeah. You guys surely heard that from other people.

Q Well, regarding subsurface safety valves, is there a report that you summarized and delivered to --

A No --

Q -- your management?

A -- not specifically on subsurface safety valves.

Q Okay. So there's -- there was -- are you able to articulate if there was a study name or -- or a program name or a string of meetings that you put together and had a conclusion at the end that you presented to your company supervisors?

A Oh, I don't know if there was a name --

Q Regarding subsurface safety valves. I'm sorry.

A No --

Q This is regarding subsurface safety valves.

A -- not regarding subsurface

safety valves. No.

Q Thank you. I appreciate that.

And referring to your prior testimony, was the use and your -- your input for sub-safety surface valve -- subsurface safety valves broader than the concern for the fault, or did it also cover the use of the annulus for product -- production and injection and the use of the annulus concerns maybe regarding corrosion risks? So did the subsurface safety valve come into play for those two elements, using the annulus to -- for production, and then the aging of wells for corrosion, and -- and the ability for sub-safe -- surface safety valves to address that, if there was ever a incident?

MR. GRAVELLE: I'm sorry. It's vague. When you say, "come into play," do you mean it was the genesis or the cause of the --

MR. HOLTER: Yeah. I'll re-simplify it again.

Q Were subsurface safety valves considered for a broader concern other than seismic activity?

A They probably were. It was discussed, I'm sure of it. But, I don't -- I mean it's so long ago, I can't remember -- you know, refer to anything specifically.

Q So the risk of corrosion and being a -- a risk concern, and then a mitigation measure of surface -- subsurface safety valves -- to your recollection, was that ever a concern?

A Well, it was discussed. I think the thought was the better solution to concerns about corrosion is to do casing integ- -- you know, a casing integrity program, where you run surveys to measure wall thickness and do pressure tests, just like you do on a pipeline, you know.

Q Uh-huh. Okay. Thank you for that.

That's it for this subject.

MR. GRUEN: Okay. If we could go off the record.

(Off the record.)

(Whereupon, at the hour of 12:12 p.m. a recess was taken until 2:09 p.m.)]

* * * * *

AFTERNOON SESSION - 2:09 P.M.

* * * * *

MR. GRUEN: Back on the record.

While we were off the record, we had discussed the -- with -- had some off-line conversations between SoCalGas -- Gas' attorney, Ms. Sabina Clorfeine, and Mr. Gravelle and myself regarding the nature of whether SoCalGas would release Mr. Gravelle from the -- Mr. -- excuse me, Mr. Mansdorfer from the confidentiality agreement that Mr. Mansdorfer and SoCalGas had during his time on the technical advisory group in December of 2015 for SoCalGas.

And Mr. Gravelle, I believe you wanted to -- to -- you maybe had some words regarding your understanding of how that -- how that -- whether that issue's resolved, and how so, if so.

MR. GRAVELLE: Right. Thank you. And so, just so the record's clear, I have received, this afternoon, several e-mails from Sabina Clorfeine of SoCalGas confirming, in writing, that Mr. Mansdorfer is released from the confidentiality obligations in the two-page confidentiality agreement as it pertains to his testimony today in this --

MR. GRUEN: Examination Under Oath.

MR. GRAVELLE: Yeah. Yeah, this EUO. And hence, based upon those e-mails, he will be responding to questions regarding his work as a technical advisor and information he learned while serving as such, pursuant to those -- to that written authorization from SoCalGas.

MR. GRUEN: Very good. Thank you, Mr. Gravelle.

MR. GRAVELLE: Sure.

MR. GRUEN: And with that, if we could turn to the documents Bates stamped -- the documents Bates stamped JM0033, JM0034 and JM0035, and have -- identify that as marked as Exhibit 5.

(Exhibit No. SED-05 was marked for identification.)

EXAMINATION (Resumed)

BY MR. GRUEN:

Q And Mr. Mansdorfer, if you could confirm with me, do you see those -- those markings, the JM --

A Yes.

Q Okay. And that appears to be an e-mail from yourself to -- to a number of other people on December 3rd, 2015, at 12:29 p.m. That is the e-mail I see on the first page, JM0033. Do you see that?

A Yes.

Q And continuing on to JM0034, this appears to be a dia- -- diagram, as does JM0035, that you drew.

So, I will ask you: Are these -- is this -- does JM0033 contain your writing, and -- first of all, is that accurate?

A I'd forgotten all about writing this; but, yes, it was -- it was by me.

Q Okay. And is the diagram -- are the diagrams on JM0034 and JM0035 your diagrams, as well?

A Yes.

Q Okay. Regarding this, you said you had forgotten about this. Do you need a moment to review it?

A No, I just read through it.

Q Okay. I want to ask you, generally, some questions re- -- pertaining to your communications with Southern California Gas Company on the mud and weight for a well kill attempt pertaining to the -- let me back up; your discussions related to a well kill attempt, flow rate, the weight of the mud, pump rate, things of that nature. So these -- this next set of questions is related to that. Do you understand?

A Yes.

Q Okay. So let's go through, if -- if we can, the -- turning to the diagrams on JM0034 and JM0035.

So could you describe, at -- at a somewhat high level, what it is that these diagrams are showing?

A Well, this -- oh, the 0034 is a schematic of the well showing the casing and the tubing as it existed at the time the -- this gas release started. There were ports near the bottom of the well just above the packer where the gas flowed out of the reservoir, up through the packer, and out those ports, and up the casing.

Q And when you talk about the ports, you're referring to the holes in the diagram that -- it looks like it says -- next to the 8415 --

A Correct.

Q -- feet ports?

A Yeah.

Q Okay. I see. Okay. And then I see, also, there's discussion about -- there's -- it says -- on -- on the other side of the -- the well schematic, it talks about kill fluid, and it looks like it says 18 pounds per gallon?

A Yes.

Q At three barrels per minute?
A Right.
Q Equals 2268 pounds per minute?
A Yes.
Q Okay. And so, what do those numbers represent?
A Well, that's the mass momentum of the -- if -- if you were able to pump kill fluid of that weight at that rate, that's the mass mo- -- downward momentum.
Q So would that be, in -- in short -- in shorthand, would that be the flow rate?
A Well, the flow rate's the three barrels per minute.
Q Okay. Okay. And so, the downward momentum is the -- the 2268 pounds per minute?
A Correct.
Q And so, the 2268 pounds per minute, there's an arrow drawing between that and 8300 -- I'm sorry, 1,837 pounds per minute. Do you see that?
A Yeah.
Q And what does the 1,837 pounds per minute represent?
A Well, that's the mass flow rate of natural gas flowing at the rate of 65 million cubic feet per day.

Q Okay. And the -- again, you're looking at the 65 MMCFD right above it?

A Right.

Q And that's where you're getting the 65 million cubic feet per day?

A Yeah.

Q Okay. Understood. So is it important for the 2,268 pounds per minute to exceed the 1,300 -- excuse me --

A Right.

Q -- 1,837 pounds per minute?

A Yeah.

Q Why?

A Well, if you got higher mass momentum down than you do up, the downward momentum is going to overcome the upward momentum, and the kill fluid will go past the ports, and the well will be killed.

Q So essentially, your recommendation, then -- part of your recommendation, in order to successfully kill the well, was to have a flow rate of 18 pounds per gallon at three barrels per minute?

A Right.

Q And you discussed that with the technical advisory group?

A Well --

Q Do you recall?

A -- first of all, this was written before I was part of the technical advisory group.

Q That's a fair qualification. Yes, I see that. So it's -- it is, indeed, December 3rd, 2015. Understood.

So this was your discussion about -- outside of the technical advisory group about what would be necessary to successfully kill SS-25. Is that right?

A Right.

Q And I jumped ahead. Thank you for the clarification.

The -- in terms of, then, speaking -- once you were asked to join the technical advisory group, then did -- did you discuss this diagram and the proposal you had shown here with the technical advisory group?

A Well, the problem is -- is, I think, I described in -- on the first page --

Q Yes.

A -- is they already precluded that option, because they set a plug in the tubing above the ports.

Q And -- and just to clarify --

A That's where the -- what's shown on the third page.

Q Yes. Thank you.
A At the time I became part of the technical advisory group, we were already in the situation shown on the third page.
Q Okay. So if -- and the third page -- JM0035. Right?
A Yes.
Q And that shows a plug inserted at -- toward the bottom of the tubing just above -- above the ports that you referenced. Is that right?
A Yes.
Q So -- so, if I'm understanding you correctly, then, the proposal -- the recommendation or idea that you had to kill -- successfully kill the well on JM0034, the first diagram, would have worked without a plug?
A Well, I mean there's a fair amount of speculation in saying that it would work. I mean I -- based on the momentum calculations, it would have worked; but, you know, there's some uncertainty on whether you could have actually pumped that heavy a mud at that flow rate. So --
Q Okay.
A So I can't say for absolutely sure it would have worked. But --

Q Okay. But, as you said, it wouldn't work without the plug -- I'm sorry.

It wouldn't work with the plug --

A Correct.

Q -- in place?

A Correct.

Q Because the plug is blocking the flow?

A Yeah.

Q Okay. And do you know -- based on conversations with the technical group, did you discuss with them the -- the proposal in the first diagram on JM0034?

A Well, that was already precluded from happening by the time I became part of the group. So --

Q Fair point. Let me ask it differently.

Do you know if they attempted to do something like what is on JM0034, based on your conversations with them?

A Well, I don't have complete information on what they did before I became involved. I don't -- my understanding is they'd never -- before they set the plug, they never pumped heavy kill mud like that.

Q Okay. They pumped water?

A Yeah.

Q And would water work, in your assessment?

A Well, it wouldn't have been my choice.

Q Why is that?

A Well -- and I think they did use some salt water that had some weight above just straight water. But, one of the problems is, if you kill the well with water, the -- there's nothing to prevent the water from just going -- going away, is what we would say in the oil field. It would go into the reservoir, and disappear.

Q Uh-huh.

A And so, then you lose your -- your kill; but, also, without the weight, it would take much higher pump rate to kill the well.

Q Okay. And so, you note in the second diagram on -- on -- I'm just going to call it the second diagram --

A Okay.

Q -- under JM0035, and I'll call the JM0034 the first diagram. You understand what I mean there. Right?

A Yeah.

Q Okay. So what the second diagram has that the first one doesn't, it appears -- well, no. They both have the ports.

But, it looks as if the second diagram has a second set of ports. Is that right?

A Yeah. After they set the plug, they perforated the holes in the tubing above the plug.

Q And why did they do that?

A Well, to be able to circulate.

Q Okay.

A You have to circulate to kill the well.

Q So, by circulating, you mean --

A Well, pumping down the tubing and up the casing.

Q Pumping fluid down the tube -- pumping something down the tubing and up the casing?

A Right.

Q Okay. And how did they get to the point where there was a -- where they -- let me back up.

There was -- they pumped water without a plug beforehand. Right?

A I believe they did. Again, I wasn't there, and so I was hearing bits and pieces. But, I -- I'm almost sure they did pump water before they set the plug.

Q And they didn't -- do you know,

from your conversations, if they pumped mud before they set the plug?

A I don't believe they did; but, again, I'm not absolutely sure.

Q Okay. And based on your conversations, how did the plug get there? At what point did the plug get there, let me say?

A Well, you should be able to get those records. I don't know.

Q We can. We can. Okay. Did you talk -- okay. Did you get an insight -- let me back up.

Did you learn from the technical advisory group why they had put a plug in the tubing?

A What I heard was it was Boots & Coots' choice, and they didn't -- this -- what I describe as a port, it was an old subsurface safety valve mandrel. And they didn't have a picture of it. They didn't know what it was. They just thought it would be better not to have to deal with it, since they didn't understand what it looked like.

Q Just a couple of clarifications of that.

They thought it would be better not to have to deal with what, since they didn't

know what it looked like?

A The old subsurface safety valve mandrel, which is what I labeled as -- it had the ports built into it.

Q Okay. So, to your knowledge, Boots & Coots had not looked at the -- the -- the ports, and had just gone forth with the plug?

MR. GRAVELLE: Objection, calls for speculation.

MR. GRUEN: Okay.

Q Why don't you characterize it for me so that -- because I think I didn't quite capture the facts right. If -- I think I got the part -- correct me.

I think I got the part that Boots & Coots put the plug in. That was their call. Am I getting that right?

A Well, I'm sure SoCalGas agreed to it. I -- from my experience, everything was agreed mutually.

Q Okay.

A But --

Q But, it was Boots & Coots' proposal?

A I believe.

MR. GRAVELLE: I'm going to object.

THE WITNESS: Okay.

MR. GRAVELLE: I think my --

THE WITNESS: Yeah.

MR. GRAVELLE: Just so you know, my concern here is he said he -- he wasn't there, he doesn't know, he's just sort of hearing --

THE WITNESS: I'm going --

MR. GRAVELLE: -- secondhand.

THE WITNESS: -- on what I heard secondhand, yes, that's correct.

MR. GRUEN: I follow, and we don't want to go there.

MR. GRAVELLE: Yeah.

MR. GRUEN: Point -- point taken. Yeah.

Q What -- in terms of the -- the -- the flow rate, did you learn what the -- what the -- not the flow rate.]

In terms of the rate that was pumped down in the well, the materials that were pumped down in the well, did you learn what those were prior to arriving for the prior well kill attempts prior to your arriving?

A Prior to my arriving, if -- I might have heard some numbers from someone that I talked to, but I don't remember what they were at this point.

Q Okay.

A And I don't know if they would have been accurate anyway.

Q Let's go to Diagram 2 and look at the plug. So you learn, when you get to the technical advisers group, that what's shown here is what you're now facing; is that right?

A Right.

Q And so what did you think should be done at that point?

A Well, I thought we should still try pumping the heavy mud and kill the well that way, which is what we did.

Q And you told the group that?

A Yeah. Yeah. We had -- there was quite a bit of debate on what to do next.

MR. GRUEN: Off the record for just a second.

(Off the record.)

MR. GRUEN: Q Back on the record. Just in terms of -- I want to ask a couple questions about Diagram 1, JM0034, just in terms of the number. So you mentioned, and I appreciate you correcting me, that this -- the numbers that you had put on this diagram were before you joined the technical advisory group for SoCalGas.

A Correct.

Q Okay. So how did you come up with the numbers on Diagram 1?

A Well, based on my experience, you could mix and pump mud as heavy as 18 pounds per gallon and pump it at three barrels per minute. I don't remember whether I made any efforts to do a calculation on if that was possible within the pressure limits.

I think, based on our knowledge, I thought it was possible. Mass momentum calculation is just a calculation of 18 pounds per gallon at three barrels per minute, that's what that calculates to, and the same with the gas mass flow rate.

Q So is that to say based on your experience, this was a general calculation of what you thought would work for any well at Aliso?

A Well, it depends on the configuration of each well, tubing and casing size and depth.

Q So you used your knowledge of the specifications of Access 25 in order to inform these numbers in the calculations shown here?

A Well, the casing size and tubing and all that came from DOGGR's. The records were all on DOGGR's website. That's where

those came from. I didn't have any records in my possession of it.

Q And based on the numbers on DOGGR's website that showed the specifications of the well such as tubing size, casing size, what have you, you then were able to come up with the numbers that are shown in the calculations on the first diagram?

A Right.

Q I follow. And of course that would have also used your extensive background and experience that you had working for SoCalGas and working on the Aliso field as well; right?

A Yeah.

Q I follow. I'm struggling with, you know, whether this -- the rate here, the 2268 pounds per minute would fit within -- was that -- was it possible to pump at that rate?

A Well, again, I don't remember whether I did some -- I mean it's a matter of the combination of hydrostatic pressure of 18 pounds per gallon mud, you know, 8,400 feet tall with the frictional loss of pumping at that rate.

And I can't remember now whether I did some calculations to determine that that was possible or whether I just based it on my

previous experience that you could pump at that rate, pump that heavy mud at that rate. I can't -- I don't remember.

Q Just in terms -- we've kind of been switching into accuracy of data a little bit, but I want to maybe just flag this set of questions in terms of data accuracy with regards to well kill attempts. So that's really a high level flagging of where I'm going next.

So when you joined the technical advisory group, what pump rates were you observing discussed by the technical group at that time?

A Well, are you talking about what pump rates had been -- when I was working on that technical advisory group, we only actually made one kill attempt and it failed. And, you know, every time they had attempted to kill the well when it wasn't successful, by then there was a big crater and the well would just go all over the place.

They were concerned the well was going to come apart. So after that kill attempt I was involved with, they decided not to do anymore. I was only there for one.

Q Okay.

A So there were I mean discussions of

different rates and different weights of fluid. I mean I can't tell you at this point.

Q From your conversations with the technical advisory group, what was the source of their data in order to run the calculations for pump rate?

A Their source of data?

Q Yes. In other words, how did they come up with the numbers underlying the calcs?

A What numbers are you talking about?

Q I'm assuming that when you were there, they had a pump rate that they were using in order to try the well kill attempt. Is that a fair assumption?

A That's fair.

Q Okay. And I'm similarly assuming that they would have had -- they would have used mud and had a mud density. Is that fair, too?

A Yes. I believe that was the first attempt they actually used mud.

Q Similarly they would have had a flow rate?

A They -- yeah.

Q Okay. So those are the numbers I mean.

A Okay.

Q So in coming up with the various calculations to figure out all those things, I'm asking about sources of data underlying the calculations.

In your conversations with the technical advisory group, did you learn the sources of data that were used in order to come up with the numbers that were plugged into the calculations?

A You're still confusing me when you say "sources of data." I mean you're talking about -- you can do a calculation for any weight or pump rate. So I mean I'm sure there were different numbers that were --

Q Yes. It's based largely upon the understanding of the flow rate; right? And you're trying to overcome the flow rate?

A The flow rate of the gas?

Q Correct. Am I following? Am I understanding that correctly?

Go ahead, Mr. Holter. Why don't we switch gears and have Mr. Holter ask a few questions specifically regarding the underlying data.

MR. HOLTER: Fair enough. Thank you, Mr. Gruen.

EXAMINATION (RESUMED)

BY MR. HOLTER:

Q Mr. Mansdorfer, when you came to the site, were you given a set of assumptions on reservoir pressures, flow rates, well isolations to start up your assessment of where they were roughly and what was the date specifically you began doing that?

There's two questions there. What was the date you did it and then were you given a set of data, well data and reservoir data, on that date?

A Well, I don't remember the exact date. Somewhere that should be available, I mean SoCalGas has it. I mean it was sometime after the 7th. I don't think it was too long after that.

Q Within a week would you say?

A Yeah, yeah.

Q All right. So within a week of December 7th, were you given a set of assumptions data and in that data set were you given reservoir pressures, flow rates of wells, including SS-25 to assess the situation?

A Well, I was given pressure on the nearby wells. You know, I think the actual flow rate on SS-25, there was obviously no

way to actually measure it so there had to be some assumptions on that but --

Q And what are those assumptions based on? Prior flow rates when the well is in control?

A Right.

Q Is that what I'm understanding?

A Yeah.

Q Were you given a set of data to review of when that --

A I believe I was, yeah.

(Crosstalk.)

THE REPORTER: I need that question again, please.

MR. HOLTER: Q Were you given a set of data to review of when that well was in a controlled state?

A I believe I was, I think.

Q And as an additional question parallel to that, is that a standard set of data that you had experienced reading when you were storage field manager, data you were familiar with?

A Yes.

Q So that was easily accessible data?

A Yes.

Q What is the name of that group of data that you manage when you were storage

field manager? Like a monthly storage filled flow rate from wells? What would be the name? I'm giving you a suggestion.

A The name of it. I don't -- I don't know what you're getting at.

Q Flow rates on each well, production well?

A Right.

Q Each well has --

A It's just -- it's flow rate on a well.

Q Okay. So is there -- when did you gather that in the field during your tenure as storage field manager?

A Well, that data was collected at different times for different purposes. We did periodic tests on each well and that was generally put in a permanent record as the field engineer -- when I was the field engineer there almost daily I had the field operators when they turn the well on or off, they checked the change in rate at the main flow meter and they would, you know, they kept a record of when they turned the wells on or off, what the pressure at the well was, and the change in flow rate at the main flow meter.

So by the rate of difference, you

could get a rough -- I mean pretty close flow rate on the well.

Q Okay. Now, is that flow rate you're speaking of right now, is that the rate that you were given when December 7, 2015, you showed up? Was that data you were given in the data set?

A Well, I'm sure one of the pieces of data I was given was the test records from the well.

Q When you were given that data, was that familiar to you from your experience and --

A Yes.

Q -- standard information?

A Yes.

Q Okay. Were there any exceptions or missing parts to that data that you noticed when you showed up?

A Not that I can recall at this time.

Q So you had all the data you needed --

A Yes.

Q -- for your professional understanding?

A Yes.

Q Is that my understanding?

A Yes.

Q A week after December 7, 2015?
A Yes.
Q Thank you.
Go ahead, Mr. Gruen.
MR. GRUEN: Thank you, Mr. Holter.
EXAMINATION (RESUMED)
BY MR. GRUEN:
Q So you talked about getting a data set gathered on a regular basis in order to determine the flow rate. Did I capture that right?
A Right.
Q Was there other data that was necessary to gather in order to calculate the flow rate of the wells at Aliso other than what you just told us?
A No.
Q I think you talked about you could get a rough understanding of the flow rate by the data gathering points, and forgive me because of my limited technical understanding. I didn't track exactly what you had said to gather the data.
What was the term you used in order to get a rough understanding of the flow rate?
A Rate by difference.
Q Rate by difference, okay. So rate

by difference and that's gathered at each wellhead?

A No, it's at the main meter.

Q Main meter.

A You have 10 wells flowing and the flow rate is 200 million cubic feet a day. You take one well off and the new flow rate is 180 million cubic feet a day.

Q Okay.

A Common sense tells you that well was making 20 million cubic feet a day.

Q Okay. And the main meter, is there one main meter for each well then?

A No. The main meter for the field.

Q For the field. And so the main meter of the field is -- by getting a reading of the main meter for the field, you're able to tell the flow rate into each well; is that right?

A When you turn the well on or off, the rate by difference.

Q And the main meter -- so I think maybe a factor I'm missing. Is the main meter gauging reservoir pressure?

A No, flow rate.

Q Flow rate. And flow rate is not a function of reservoir pressure then?

A Well, flow rates, it's a

matter of -- I mean it does change as reservoir pressure changes, but it's how many wells are on and what's the tote size in each well.

Q Okay. Do you need anything more than you're reading from the main meter in order to tell the flow rate at a given well?

A Well, you need to rate by difference. You need to turn that well on or off.

Q If you turn -- got it. The rate by difference is measuring the pressure of adding or subtracting one more well?

A It's not the pressure, the flow rate.

Q The flow rate by adding or subtracting one more well?

A Right.

Q Thank you. So you're able to tell the flow rate of any given well by looking at the main meter and turning that particular well on or off?

A Right.

Q I follow. Would you turn given wells on or off in order to check rate by difference and the accuracy of it at given points in time then?

A Well, the most common data, which

was not necessarily kept as a permanent record was when, you know, there's a gas control for SoCalGas and they would call each storage field and say increase your withdrawal rate by 200 million cubic feet or decrease it.

And so when they go turn wells on or off to meet that increase or decrease, that's when you would just have them get the rate by difference and they'd, you know, at 8:01 they'd turn off well X and the rate drops by 20 million so you know that well is doing approximately 20 million.

Q Yes, I --

A But there were some -- we did do periodic tests and we called them sand tests where we were checking to make sure each well wasn't producing too much sand, which would be erosive. And during that, those were kept as more formal records. I mean the flow rate was determined the same way, by difference, but it was kept as more of a permanent record.

Q So you had periodic data points of rate by difference based on different times when you turned a well on or off?

A Yeah.

Q Was your basis of turning the wells

on and off responding to demand?

A Yes.

Q Did you ever do it for other reasons?

A Well, only those sand tests I described, you -- we put a probe in a well, flow it for a certain number of hours, and it was turned on or off, you know, at the start and beginning of the six-hour period.

And so they would have to put on a separate well to make up -- because they had to keep the rate more or less what they were being called for. So that was the only time you would turn a well on or off only to get the rate, which is part of a test.

Q And how did you decide which wells to turn on or off in order to test rate by difference?

A Well, for the sand tests I was just describing?

Q Yes, for the sand tests.

A Well, I mean you try to get a periodic test on every well but there were some wells that were known to be more of a sand producer and so those got more frequent tests.

Q I think where I'm trying to go with this is was there a methodology in order to

calculate the rate by difference of given wells at Aliso?

A Yeah. I mean I think the data that we had on the rates of the wells was pretty accurate. That wasn't an issue with not killing the well.

Q Okay. And you had records of the rate by difference in terms so that you could tell essentially the flow rate of given wells?

A Yeah.

MR. GRUEN: Mr. Holter, anything you want to ask on that line, anything else?

MR. HOLTER: Yeah, just a follow-up.

EXAMINATION (RESUMED)

BY MR. HOLTER:

Q Mr. Mansdorfer, when it comes to SS-25 and the flow rate on that, are you able to remember if it was online and flowing when it produced the incident?

A You know, I wasn't involved with that. My -- this is just an impression. It was not flowing at the time it happened, but I don't know that for a fact. I mean, again, that's something you should be able to get a record from SoCalGas.

Q Yeah, thank you for that.

A They know.

Q No, you're right. And it's not to compare your testimony with the record. It's more just what you knew coming into it. And you have experience to understand what data you have.

So I would like to ask this: Do you have -- is it important or was it a concern of yours how long it had been off-line or online or not been producing? Was that something you factored into your consideration?

A No.

Q And when a well is off-line and not able to come online and join in with the mass meter down a hill, is there a method at Aliso Canyon to measure the flow rate of a well or what it potentially would be other than the historical flow rates? Is there a methodology to isolate a well and do a flow rate test on it when it's not online?

A Well, the only way to flow test a well is through the gas gathering system that's there. It's not online. I don't understand.

Q Well, it's not a trick question.

A I mean bullet to the atmosphere? Is that what you're talking about?

Q Did they do --

A No.
Q -- a quick blowoff --
A No.
Q -- or did they blow into a mechanical -- okay.
A No.
Q So it's all through the gathering system?
A Yeah.
Q There was no underlying intent there other than just is there a mechanism there to it, isolate it.
A No.
Q Okay. That's it, thank you.

EXAMINATION (RESUMED)

BY MR. GRUEN:

Q Switching topics if we can, I want to ask -- do you want to go off the record for a moment?

MR. GRAVELLE: Yes.

MR. GRUEN: Off the record.

(Off the record.)

MR. GRUEN: Q Thank you, Mr. Mansdorfer. I want to ask you some questions about cathodic protection of the wells at Aliso. So with that understanding, just that's where this next set of questions is headed.

Are you familiar with Frank Selga?
A Yes.
Q How do you know him?
A I worked with him.
Q When?
A Oh, I --
Q Approximately.
A Well, it was -- I don't know. I mean it was toward the end of my career with SoCalGas.
Q So prior to the incident?
A Yes.
Q And what does the term "cathodic protection" mean to you?
A Well, it means draining current from a metal structure to make it a cathode rather than an anode so that it doesn't corrode.]
Q Thank you. We understand, from Mr. Selga, that there were two wells at Aliso that had been cathodically protected. Is that accurate? Can you confirm that?
A Well, I think there were at least two, yeah.
Q Okay. Do you recall there being others?
A I don't -- I mean it was a limited number, but I don't know exactly how many.

Q And who decided to cathodically protect the -- the wells at Aliso?

A Those two wells, you're referring to?

Q The two wells that I'm referring to, yes.

A Well, I think it was a group decision, but I -- I think I was involved in it.

Q Okay. Do you recall approximately when the decision was made to cathodically protect the two wells?

A I don't know. You ask me these timeframes, and I -- you know --

Q Long --

A -- it's a long time ago --

Q A long time.

A -- and a lot of things have happened, I --

Q That's --

A -- mean, and you should be able to find those dates. I don't know why you ask me.

Q It's -- it's a reasonable response to -- to say it was a long time ago. I get it. We're not trying to test your memory from years back.

A That's what it feels like.

Q I can't remember what I ate yesterday.

What we're trying to get at, really, is the -- the basis of the decision to cathodically protect certain wells, but not others.

A Right. Well, they were in a -- the very eastern part of the field where there was an apparent corrosion problem that didn't apply to the rest of the field, which we had theories about why that was. But, yeah. And, you know, I assume Frank or whoever else you've talked to has told you the reasons why cathodic protection wasn't applied to all the wells in the field.

Q Can you give us your understanding?

A Well --

Q You talked about the theory, and that's helpful. If you could explain it at a high level to us, the basis for cathodically protecting certain of the wells, but not others.

A Well, I mean the original decision not to apply cathodic protection at Aliso Canyon was because SoCalGas only owned some of the wells, and there were other owners of other wells, and if you apply cathodic protection to some wells, and not all of

them, you can actively cause corrosion on the ones that aren't protected.

Q Okay.

A So they were trying to avoid doing harm to property they didn't own, was -- is my understanding. I mean, you know, that was a decision that was made early in the conversion of the field to gas storage.

Q So -- so it wouldn't have been possible to cathodically protect all of the wells, because -- at least, not from a SoCalGas decision-making standpoint?

A Right.

Q Okay. And had SoCalGas done so, I -- I think what I'm hearing is that there would have been corrosion on -- or the -- the threat of corrosion, at least, on non-SoCalGas --

A Right.

Q -- wells? Okay.

Was there a concern about a threat of corrosion on non-SoCalGas wells based on the cathodic protection of the -- the two wells that were --

A Well, the two wells were on the very eastern part of the field. They were pretty much by themselves.

Q Uh-huh. Okay. Did SoCalGas ever

communicate with the other owners at the field at Aliso about cathodically protecting all of the wells?

A Well, I don't know. That was a issue that was decided early in the life of the field, before I was there.

Q Would it have been an option? Did you consider anything like that while you were there?

MR. GRAVELLE: I'm sorry. When you say, "like that," what are you referring to?

MR. GRUEN: Yeah. Anything -- let me restate the whole question. Fair point.

Q The -- did you -- during your tenure, your 15-year tenure as manager, I think storage field manager, if I understood correctly, did you consider having SoCalGas communicate with the other owners at Aliso about cathodically protecting all of the Aliso wells?

A No, I don't think that was considered.

Q Okay. We understood generally from Mr. Selga that there was communication about a lack of O2 in the field, which would be a source of a threat of corrosion; and I hope I'm not misstating this, but that is our understanding of -- of part of the reasoning

that went into not doing cathodic protection.

A Well, yeah, that's right. I mean if you don't have oxygen in the water, in the subsurface water, you're not going to have corrosion. And that's -- I didn't get into the details, but on the very eastern part of the field, the formation dip is different than the rest of the field, and there's -- it dips to the surface, so rainwater, that carries oxygen, can get down to the wells. The rest of the field, that's not the case. And, in fact, there's -- there is no history of external corrosion on the rest of the field. So that was one of the reasons why we didn't see any driver to -- and besides that, cathodic -- cathodically protecting wells is -- it's not like a pipeline where you can go take pipe-to-soil readings and know you're protecting it. You can't go a thousand feet in the well, take the pipe-to-soil reading. So it's very questionable how much -- how deep is the current going, are you really protecting the well. So --

Q Okay. And -- and with regards to the history of corrosion in the field --

A Uh-huh.

Q -- if I understood you right, you mentioned that there's no history of

corrosion in -- in --

A Well, when I say, "no," in general, there's not a -- there's not a history of significant external corrosion, other than on the very east side, where I described it.

Q And in order to know that there's not a history of -- did you say significant metal corrosion?

A Yeah.

Q I want to be sure I'm getting your words right. Not a history of significant metal corrosion.

Were there tests done?

A Oh, absolutely. I mean we had a policy, whenever we had to pull a well -- you can't -- you know, you can't run a casing inspection log when it's got tubing in the well, like, you know, because you have to have access to the whole cross section of the casing. So, unless you have a rig on the well and pull the tubing, you can't run a casing inspection log. But, our policy was, when we had to pull the tubing for some other reason, we ran a casing inspection log, which gave you the wall thickness of the casing.

Q Uh-huh. And -- and so, that is to say that you didn't find metal loss on the wall thickness of the casing when you

pulled --

A That's right, yeah.

Q -- for those --

A Yeah.

Q -- pieces that you pulled?

A Yeah.

Q Okay. I follow.

A In general. I mean sometimes you'd see a little -- you know, you can have wall thickness for various reasons; most one -- common one is drill pipe wear. You know, if you're drilling -- like on this well, they set casing here, and then they drilled through it. So that drill pipe's turning inside the casing, and you can have drill pipe wear. But, cathodic protection wouldn't do you any good with that.

Q Because you're talking about --

A That happened when it was originally drilled.

Q Originally drilled, and, to boot, it's internal, and not external?

A Right. Yeah.

Q Okay. So -- so you didn't see -- I -- I just want to get my head around this, because I think I've got the picture.

But, you didn't see, when you -- for any of the casing that was pulled,

there's no documentation showing any -- any corrosion on -- on the -- on the casing?

A Well, I mean the casing is almost never pulled. What I was referring to was the casing inspection logs, where you can run a tool on wireline down the well, and it measures the thickness of the casing.

Q Okay.

A And I'm just saying, in general, no, we didn't see a corrosion problem on the wells there.

Q Okay. Did you see any exceptions to -- where there were examples of corrosion?

A Well, on the east side, we saw it there; other than that, I don't recall.

Q Okay. Okay. Thank you.

Mr. -- yeah.

MR. HOLTER: I can go ahead, if you want me to.

MR. GRUEN: Yeah. Yeah. Go ahead, Mr. Holter.

MR. HOLTER: Thank you, Mr. Gruen.

EXAMINATION (Resumed)

BY MR. HOLTER:

Q So Mr. Mansdorfer, regarding the logging that you -- you spoke of on the casing, what -- which casing are we referring to, when you say, "casing"?

A Well, the casing that can find well pressure.

Q So would this be like a standard annulus casing, where production gas was being used for it?

A Right.

Q Are those generally a size of like five inches to, say, eight or nine inches? Is that what they are?

A Well, most at Aliso were seven-inch or eight and five-eighths or nine and five-eighths.

Q And do -- and do they travel -- or are they installed in a borehole from surface to the reservoir?

A Yes.

Q And the tubes are encased within that casing, the annulus casing?

A The tubing, yes --

Q Tubing.

A -- inside there.

Q And then -- so all the logs you're talking about are run in that casing. Is that right?

A Right.

Q And that checks for both interior metal loss and exterior metal loss, which would include possible corrosion, exterior

corrosion. Is that right?

A Right.

Q Did you also -- moving to the outer casing, the surface casing, which the purpose of the surface casing is, in your words, to what?

A Well, it's really -- well, it's mainly for the drilling of the well. It doesn't serve a whole lot of purpose after the well is drilled and cased.

Q It's -- it's --

A Well, it's the anchor for the blowout prevention equipment. It -- you know, in some locations, it serves to protect fresh water. But, it -- and it, you know, provides return of drill mud to the -- to the tanks. But, it's mainly an anchor for the blowout prevention equipment.

Q And in our review of the records, it looks like those surface casings are either -- are run from about 500 to 1200 feet, roughly --

A Right.

Q -- in that range.

A Yeah.

Q Is that correct?

At any time, did you log surface casings to check for exterior threats in your

time at -- as storage field manager?

A Well, there was -- there was no way, that I know of, to log the surface casing after the primary casing string has been run inside of it.

Q No technologies or -- what about when you abandon a well, do you ever remove parts of the casing, of the seven-inch casing, the six-inch casings, so that you now have access to surface casing?

A That's one way of doing a well abandonment, yeah.

Q Did you do some well abandonments like that when you work -- worked there from 1998 to 2013?

A You know, I -- offhand, I can't remember abandoning any wells at Aliso Canyon during that time. We did some at other fields, but I don't remember doing one at Aliso.

Q Uh-huh.

A I'm not saying we didn't, but I just don't remember doing any.

Q So in the documents that we subpoenaed, you mentioned your thoughts of exterior corrosion being a cause or a possible cause. What would lead you to that statement, what makes you think of that?

A Ah, well, just because I -- based on what I knew at the time, I didn't know of any other possible cause that could have caused it.

Q Is that based on your experience from working there, that corrosion is a possible cause of a whale -- a well incident, losing well control or integrity of the well borehole?

A Yeah. There's a limited number of ways you can lose subsurface control, and, yeah, corrosion -- even though, like I said, there wasn't really history of it; but, that's not to say there couldn't be some unique situation at a given well. And I mean I am not privy, but there -- I know there's been a root cause analysis. They recovered casing. Somebody should know by now what the real cause of the leak was here.

Q So I think that's -- you're right on.

The questions here is -- is when -- when you were removing casings, was there a data assessment of --

A Well, we didn't remove casings, at Aliso, anyway.

Q Uh-huh.

A We did a few -- during my time, we

did a few abandonments at Playa del Rey. And there's a shallow gas zone there, which is the reason why we would cut the casing off just above the shoe of the surface casing, and pull it out, so we could cement the surface casing from the shoe up. But, I don't recall ever doing that at Aliso Canyon. Like I said, I don't even remember plugging any wells at Aliso.

Q When you're running a log, does the log also have the ability to do like a -- a double penetration to the outer 11 and three-quarter casing?

A No.

Q How would you assess a surface casing's integrity, if it's put in in 1946, and to see if it is, indeed, having any exterior --

(Crosstalk.)

THE WITNESS: Well, in my judgment, the surface casing, like I said earlier, serves minimal function, once you've run and cemented the primary casing. I mean it's set too shallow to contain gas pressure. It just doesn't really serve any real function. So it was never something that -- of concern.

MR. HOLTER: Q So it doesn't serve a purpose of like a environmental barrier, say,

from exterior corrosive fluids or any type of crystalline growth or anything from the exterior borehole? It doesn't serve anything from that?

A Well, I could -- it wasn't something I'd given a lot of thought to, but I mean it -- it -- I won't say it's not possible that it does kind of protect the primary casing string. It could.

Q Is -- this is going back to your statement about -- is that what, indeed, is -- the well's hung on, or is it -- is the well hung on the -- the conductor casing? I'm -- I may have a misunderstanding about the well --

A Well, the -- yeah, the --

Q -- engineering there.

A The primary casing is -- is generally hung on the surface casing.

Q And then, what is the conductor for?

A That's strictly for drilling. That's just -- when you're drilling the surface hole, that's to provide mud returns to the tanks.

Q Uh-huh. So am I hearing you correctly when you're saying that the surface casing is primarily a foundation structural

component, and not so much a protector annulus --

A Right.

Q -- for the rest of it?

A Right.

Q Okay. But, indeed, it's vital for the integrity of the well, because everything's physically hung on it?

A Well, you could look at it that way. I just -- I've never heard of a well failing because the surface casing failed. That's just not something I've ever heard of. It was never something I'd heard anyone have concern about.

Q Thank you for that.

So while -- my question is: Is there any wells that are built with a conductor, and no surface casing, because there's no groundwater, and then it goes straight to annulus?

A Well, I don't know about storage wells, but I can tell you -- I mean some of the oil wells I operate right now were drilled that way, yes.

Q Okay. So what's your thoughts on why SoCalGas would spend good hard-earned money to drill a surface casing, if they may or not -- may not be vital?

A Well, you have to have it to --

MR. GRAVELLE: Objection, calls for speculation.

THE WITNESS: Oh, I think it's a pretty straightforward answer.

You have to have surface casing, like I said earlier, to put the blowout prevention equipment on. I mean it's state law you have to have blowout prevention equipment, and DOGGR determines the depth of the surface casing in each field.

MR. HOLTER: Q So --

A But, it's primarily for drilling, like I said.

Q I got you. So blowout prevention is for drilling or production, blowout prevention?

A For drilling.

Q Okay. So after the drilling's done, its use is pretty much intact, and not necessarily a production necessity?

A Right.

Q Okay. I -- I appreciate you clarifying that. So --

MR. GRUEN: Thank you. Let's switch gear --

MR. GRAVELLE: Do you want to take a break? Five-minute break?

THE WITNESS: Okay.

MR. GRUEN: Let's go off the record five minutes.

(Off the record.)

MR. GRUEN: Let's go back on the record.

EXAMINATION (Resumed)

BY MR. GRUEN:

Q Mr. Mansdorfer, on -- if you would turn -- I think it's the e-mail in front of you, JM0033 to JM0035. And if memory serves, I think that is --

MR. GRAVELLE: Five.

MR. GRUEN: Exhibit 5. Thank you.

Q So if you would turn --

MR. HOLTER: That's five.

MR. GRUEN: Thank you.

MR. HOLTER: That's five.

MR. GRUEN: Q If you would turn -- actually, stay on JM0033, and it's the one, two, three -- fourth paragraph down. And I'll read it.

"As of now, their plan for the relief well seems to be to try to actually intercept and mill into the blowout well casing - that is why they are saying 3 to 4 months. I don't think that is

necessary - if they can get within 20 feet in the right direction from the well they should be able to kill it, and this would take more like 3 - 4 weeks rather than 3 - 4 months."

Do you see that?

A Yes.

Q And -- and that's -- I think I asked this before, but that's your writing. Right?

A Yes.

Q So, as you might gather, but just for the record, this is -- these questions are about the timing of drilling the relief well.

A Okay.

Q Did you talk to -- when you joined the technical advisory group, did you talk to SoCalGas about this approach?

A I was -- it was made clear to me I was not involved with the relief well. I was there for the last kill attempt on SS-25, and that was it.

Q And that was it. Okay. Did -- so you weren't given an opportunity to talk to them about a quicker way to do a relief well?

A No.

Q Okay. Had you been allowed to talk to them about a quicker way to drill a relief well, do you think it could have been expedited?

MR. GRAVELLE: Objection, calls for speculation.

THE WITNESS: Yeah, I don't -- I don't know.

MR. GRUEN: Q Okay. Do you know if SoCalGas -- but, SoCalGas, to your knowledge, did -- let me ask -- I don't want to cross the speculation line. He's right.

Do you know what method SoCalGas used in order to drill the relief well? Do you know?

A What method?

Q What approach they used. Let me ask it this way. I'll rephrase.

Do you know if SoCalGas took the approach that you proposed in this e-mail?

A I don't think they did. But, like I said, I wasn't involved.

Q Okay. What's your basis for saying if -- if they can get within 20 feet in the right direction from the well, they should be able to kill it?

A Well, because of the reservoir's high permeability, water flows easily through

it, and if they -- I would have drilled, you know -- you have some target where you think the well is at, but you never know, for sure; so you have a radius of uncertainty. I would drill to the uphill side. The reservoir's on a dip. Water flows downhill. So you'd want to be above it, not below it.

Q Uh-huh. And what's the benefit of being above the -- the well rather than below?

A Because water flows downhill.

Q And -- and -- and therefore -- I'm -- I'm sorry. And, in my non-technical understanding, I got the water flows downhill part.

But, what does that -- what's the advantage of water flowing downhill when you're trying to drill a relief well uphill of the actual well?

A Well, the purpose of the relief well is to pump fluids to the blowout well.

Q Right. Yeah. Okay.

A So you want the water to go from the relief well to the blowout well.

Q Thank you for connecting the dots. I appreciate that.

So, this sounds like a common sense approach. It's based -- it's common sense,

based on your experience working on the Aliso field. Am I characterizing that fairly?

A Well, it's -- it is. Although, you know, there's a fair amount of speculation on my part when I wrote that, because I had never actually been involved in doing an operation like that.

Q Okay.

A So, yeah. I mean I --

MR. HOLTER: Excuse me. Just a clarification.

I want to make sure when you're speaking uphill/downhill, are you speaking of through the cap rock, and into the formation?

THE WITNESS: No. No.

MR. HOLTER: Could you clarify where you're talking about within the well?

THE WITNESS: Just within the reservoir. The reservoir's at a dip. Right? 20-degree dip or something. So the -- you could drill on the updip side of the blowout well.

MR. GRUEN: Okay. Okay.

MR. HOLTER: Thank you.

MR. GRUEN: Q So what part of this is -- what part of this statement is based on speculation, then?

A That you could kill the well, if

you could get within 20 feet of it. I mean I don't know, you know -- that's one area where Boots & Coots has a lot of experience. They very well have a -- maybe have a way to calculate if you could kill the well.

Q Yeah.

A If they know the reservoir permeability and thickness and gas flow rate, it's probably possible to calculate could you actually -- how close do you need to be to kill it.

Q But, you don't need to actually drill into the well to kill it, in your understanding?

A I wouldn't think so. But, again, it's not an area I really have expertise. So I mean I -- some of this stuff I wrote trying to get discussion going, as much as anything.

Q Did you get any response at this point?

A Not a whole lot, no.

Q Okay.

A I think most of these people were smarter than I was about putting stuff in writing.

Q Well, I don't know about the writing part, but I -- I like to work with people who are smarter than I am, too.

Usually, I -- I tend to try and put stuff in writing, like you do, Mr. Mansdorfer; although, there are exceptions.

Okay. What were the backgrounds of the folks on this e-mail, generally speaking, do you know?

A They're different people I worked with in the oil field over the years.

Q Okay. All right. Thank you.

Switching to another topic that the -- I think we're back to Exhibit 1, which is -- has JM0005 at the bottom.

MR. GRAVELLE: I believe that's Exhibit 2.

MR. GRUEN: Exhibit 2. Thank you for the clarification.

Go off the record a second.

(Off the record.)]

MR. GRUEN: Back on the record. So in the e-mail you state -- I'm looking for it but, yeah, it's the fourth paragraph down. It's the two-line paragraph.

"Also, there are multiple reasons why the interest and incentives in Boots & Coots are not aligned with those of SoCalGas and so putting complete control in their hands may not be in SoCalGas' best interest."

Do you see that?

A Yes.

Q What did you mean when you wrote that statement?

A Well, I just think the longer Boots & Coots is there, the more money they're making. You know, they obviously want to get the well killed at some point, but I don't think they necessarily had the same urgency that other people had. That was the only -- it was speculation really.

Q Anything else?

A No.

Q With regards to the e-mail and Boots & Coots being present at Aliso to kill SS-25, what is your understanding of the underlying historical relationship between Boots & Coots and SoCalGas at Aliso Canyon if any?

A Well, you're asking me a question I'm pretty sure you should have been able to get answers from SoCalGas, but I think the well control insurance that SoCalGas has may have required Boots & Coots to be called when there's a problem, well control problem.

Q Thank you. Let's do a set of questions regarding storage well integrity. If we go to JM0031 and if somebody has the

exhibit number of that one, I would be grateful.

MR. HOLTER: It was 4.

MR. GRUEN: Q Exhibit 4, do you have that in front of you?

A Yes.

Q In the first paragraph starting in the second sentence and I'm reading,

"Most likely just corrosion. The well is 70 years old. This was a concern of mine for a long time, and I had recommended a storage well integrity program to put a rig on each of the storage wells and run casing inspection logs, and ironically, SoCalGas recently got CPUC approval to include this program and associated costs in rates charged ratepayers, but the authority to include rates hasn't taken effect yet and so they have been waiting to start it. In other words, they knew it was needed but haven't started it because they couldn't yet collect it in rates!"

You wrote that; correct?

A Yeah.

Q Generally speaking at a very high

level, I'm not trying to pin down dates, but I am going to ask you a when question again. Do you have a general rough understanding of approximately when you first recommended a storage well integrity program to SoCalGas?

A Well, I think 2009.

Q Okay. And in some level of detail, if you would, what did you recommend when you recommended a storage well integrity program to SoCalGas in 2009?

A Well, just to have a structured program where we have a schedule that will eventually result in a casing inspection and pressure test for every storage well.

Q And who did you recommend that to?

A My boss at the time.

Q Rudy?

A Yeah.

Q Did the storage well integrity program also include putting a rig on each of the storage wells?

A That's the only way you could do it.

Q And running casing and inspection logs?

A Yes.

Q Anything else?

A Pressure test the casing.

Q You did say that, thank you. Anything other than what you mentioned?

A Well, you know, I don't remember exactly what. There's probably some other things you do while you're doing it. Change seals in the wellhead and run a cement integrity log.

Q Did you make any of these recommendations regarding a storage well integrity program in writing?

A Yes.

Q To whom?

A To Rudy.

Q And what was the response that you received, if any?

MR. GRAVELLE: From Rudy?

MR. GRUEN: Yeah, from Rudy.

THE WITNESS: Well, there was discussion and, you know, there was I think acceptance it was a good idea and it wasn't exactly a new idea at that point. I think it did eventually make its way into the, you know, I think it was in SoCalGas' 2016 rate case where they applied for it.

MR. GRUEN: Q Indeed. So when you say that SoCalGas knew a storage well integrity program was needed before they could collect it in rates, is that because of your 2009

recommendation to Rudy?

A Repeat the question.

Q Sure. I'm reading the part of the e-mail that we just covered, the November 30th e-mail. Let me see if I can find it a second and point you back to it. Let's go off the record for just a second.

(Off the record.)

MR. GRUEN: Q Back on the record. So I'm referring to the first paragraph under Exhibit 4 at the end,

"In other words, they knew it was needed but haven't started it because they couldn't yet collect it in rates."

Do you see that?

A Yeah.

Q So that was referring to the storage well integrity program that you had recommended, wasn't it?

A It was a storage well integrity program. Whether it was the one I recommended, I can't say.

Q Okay. And to your knowledge was the storage well integrity program recommended by others in SoCalGas Company?

A I think there was pretty general acceptance it was a good idea.

Q And at what point in time was that?
A I don't know.
Q Prior to 2009?
A I think it was after that when it, you know, we really started discussing something like that.
Q If SoCalGas had started a storage well integrity program in 2009 when you recommended it to Rudy, what would have been done differently in terms of -- well, let me just ask. What, if anything, would have been done differently for wells like SS-25?
A Well, my presumption of how it would have worked is there would be a schedule, there'd be an analysis of how should we prioritize the wells to do the inspections on and, you know, over some period of years you'd have a schedule and do so many wells per year.
Q And given its age, would Well Access 25 have received a certain level of prioritization compared to some of the other wells or most of the other wells at Aliso?
MR. GRAVELLE: Objection, calls for speculation.
MR. GRUEN: Q Based on your recommendation, how would a well like SS-25 received prioritization?

A Well, first of all, the well integrity program would have applied to all the storage fields, not just Aliso, and I probably would have prioritized the wells closer to urban areas. For example, Playa del Rey would have been the first priority.

Q Simply by virtue of it being in an urban area?

A Right. So when you got to Aliso, yeah, age would have probably been a consideration in prioritizing wells.

Q All other things being equal, would you have prioritized a brand new well in Playa del Rey over an older well at Aliso?

A Not a brand new well, no, but --

Q A 10-year-old well versus a 70-year-old well?

A That's a debatable thing. I might have.

Q So there are more factors than --

A Than just age of the well, yeah.

Q -- just age and more factors than just whether it's in an urban area, too; is that fair?

A Yeah.

Q What other factors?

A Well, what's the history? I mean when you were doing that, you'd look at has

there been any previous casing inspection logs on the well and what did those look like, is there a reason, you know, to think this well has a corrosion problem or something.

Q Yes. What about leak history?

A That would certainly be a consideration, yeah.

Q So you'd look at all of these things together --

A Right.

Q -- to figure out how to prioritize --

A Right.

Q -- the whole set of wells?

A Right.

Q What other factors, if any?

A I can't think of any other factors right offhand, not to say there probably may not be some other factors.

Q I'm not asking you to be exhaustive, just to the best of your recollection. That's helpful. Thank you.

Were these factors part of the recommendation that you gave to Rudy in 2009?

A That recommendation did not get into that depth, no.

Q Did you talk about these factors at

any other point in time when you were discussing a storage well integrity program with SoCalGas?

A Oh, I'm sure we did.

Q Following the 2009 recommendation?

A Yeah.

Q Prior to the 2016 General Rate Case?

A Yeah.

Q Prior to the application of the 2016 General Rate Case?

A I would think so.

Q Okay. You see what I'm doing, I'm trying to get a sense, and I know it's back in time, but to the best of your recollection, approximately when did you start talking about the factors?

A Oh, I think, you know, from 2009 forward we were having discussions about it.]

Q Okay. All right. So you -- you talked about the -- the 2016 general rate case, and that's my understanding, too, as well, that -- that there was a storage well integrity program called the Storage Integrity Management Program that was part of that application, and we've seen workpapers with regards to that.

To your knowledge, did SoCalGas --

in preparing for that application, did SoCalGas have documentation supporting their workpapers about the wells justifying the storage well integrity program request?

A I don't think I had really any involvement in preparation for that rate case.

Q Okay.

A I think that was after I started working, you know, one or two days a week.

Q Okay. That was toward the end of your tenure there. I get that.

A Yeah.

Q Fair -- fair point.

And based on your experience, who -- which people are the people who had the most knowledge about the storage well integrity program at Southern California Gas Company towards or at your retirement?

A Well, it would have -- I think Phil Baker was the witness in that rate case, and it would have been the guy that replaced me, whose name was Tom Schroeder.

Q Tom Schroeder. Yeah. Okay. Yeah. Thank you. Let's go -- based upon your experience working for SoCalGas, and other sources of information you did talk about -- strike that. Strike that.

With regards to corrosion, you mentioned there was no history of corrosion for most of the wells on Aliso, I think, with the --

A Yeah.

Q -- noted exceptions that you pointed out.

And re- -- you mentioned, I think, as well, that it was through pulling certain of the casings that one could observe corrosion? No?

A No. I think I said we rarely, if ever, pulled casings.

Q I stand corrected.

A Maybe you abandon a well; but, like I said, I had -- I don't remember ever doing that at Aliso Canyon. It was through the casing inspection logs.

Q Casing inspection logs. Thank you. Thank you.

And is that -- was that the way to track corrosion?

A Yes.

Q Okay. Any other way to track corrosion?

A Well, you know, we did what you could say is the equivalent of leaks, or we ran temperature logs in every well once a

year.

Q Okay. What --

MR. GRAVELLE: I'm sorry. Did you finish?

THE WITNESS: Yeah, I did.

MR. GRUEN: Q What role, if any, did corrosion on wells play in your recommendations regarding a storage well integrity program?

A Well, as one possible source of -- of loss of integrity.

Q Okay. So it would be a factor in terms of the prioritization of wells?

A Yeah.

Q Okay. How much weight did corrosion of a well carry in terms of recommendations for well integrity management compared to other factors?

MR. GRAVELLE: I'm sorry. Are you asking in general or his --

MR. GRUEN: No.

Q I'm really referencing to the -- the discussions following the 2009 recommendation to Rudy, where you talked about the factors in the storage well integrity program.

A I don't know how to answer that question.

Q Okay. Did -- did you talk about corrosion when you were at --

A Oh, I'm sure we did, yeah.

Q Okay. All right. Are there e-mails or other writings that you had in your capacity while you worked for Southern California Gas Company re- -- related to the creation or implementation of a storage well integrity program?

MR. GRAVELLE: I'm sorry. I missed the part about "in your possession." Can the court reporter read that question back for me?

MR. GRUEN: Let's go off the record.

(Off the record.)

(Record read.)

MR. GRAVELLE: Thank you.

MR. GRUEN: Okay. Yeah. Sure.

THE WITNESS: I would think there are, but I don't have any of those.

MR. GRUEN: Q Yeah.

A I didn't -- you know, that would have been on SoCalGas' system.

Q Okay. What -- I'm trying to get a sense of what questions to ask to get these -- access to those e-mails.

How would you couch a question -- how would you recommend that we couch a

question in order to get access to e-mails about those -- those --

A Well, I would think questions about well integrity program.

Q Just generally?

A (Nods.)

Q Probably mentioning your name, as well?

A Well, yeah. I mean I would think, from your perspective, any e-mails or memos regarding well integrity would be of interest.

Q Certainly, yes. Thank you. Okay. Let's switch topics.

This is a document that we have not yet circulated, so if -- if I can, this is a document that has Bates stamps JM0027 and JM0028. It says, on top, "From: Mansdorfer To: Bob Nunn," N-u-n-n --

A Uh-huh.

Q -- dated Wednesday, November 25th, 2015, 10:36 a.m.

And if this could be marked Exhibit 6.

(Exhibit No. SED-06 was marked for identification.)

MR. GRUEN: Q And here, on JM0028, it looks like you wrote to Mr. Nunn.

A It looks like he e-mailed me first.
Q He -- indeed, it does, yes. And I -- I jumped ahead. But, you're right; so we'll start at that point. Fair enough.
Where he asks, "Why aren't they putting a cement plug and simply abandoning the well," and I think that -- that's really the sentence that prompted the -- the thread --
A Yeah.
Q -- if I'm tracking that correctly.
A Uh-huh.
Q Okay. And you write back, "Bob, I'm not privy to details, but I'm guessing the reason for not pumping cement into the -- into the well --" I assume it's the well?
A Yeah. Right.
Q "Is that it would not shut off gas -- it would not shut off flow of gas but would block ability to pump into the well."
A Uh-huh.
Q "Pumping into well has increased flow of gas to surface and that is apparently why they have been cautious about pumping into well. It would seem to me that pumping the heaviest clay based drilling mud down the tubing at maximum possible rate should kill the well. As far as I know they have been

afraid to try this."

And then, turning on to -- back to the -- the beginning of the thread that we have, JM0027, we see from Mansdorfer to Bob Nunn that the response appears to be "Yes, gross mismanagement. After a week of not being able to control the well they should have put wells around it on withdrawal to reduce reservoir pressure and should have started relief well. Nearly 5 weeks and drilling of relief well still not started."

Does that ac- -- accurately capture the e-mail thread, what I just read?

A Well, you missed the response from Bob on 028, where it says, "Sounds like it. Really managing it poorly. Bob."

Q Ah, so I did. Thank you for the -- the correction. That was an oversight on my part. Indeed. Okay.

And that -- that accurately -- with added correction --

A Yes.

Q -- that accurately captures the thread?

A Yes.

Q Okay. Thank you. So when you joined the technical advisory group, did you talk about -- I -- I get that you didn't talk

about the relief well. You were told not to talk about that.

A Uh-huh.

Q You said that earlier.

But, after a week of not being able to control the well, they should have put wells around it on withdrawal to reduce reservoir pressure, did you talk about that part with the technical team?

A Well, that was one of the first things that I did when I got up there, was worked with the people there to -- they -- they'd already started doing that. But, yeah, I worked with them to get as many wells around the blowout well on withdrawal.

Q Uh-huh. So -- so had the group -- the technical advisory group done -- started work on getting wells around on withdrawal -- around SS-25 on withdrawal before you got there?

A I think they had just started that, yes.

Q Do you know at what point, approximately, they had started?

A No.

Q Okay. Did the withdrawal effort change when you arrived?

A Well, I -- yeah. We -- I worked --

there was problems with a number of the wells where they had been taken out of service for whatever reason. So one of the things I focused on initially was doing what we could to get the surrounding wells on withdrawal.

Q So -- so did the with -- the amount of gas withdrawn from the surrounding wells increase once you arrived?

A I believe it did.

Q And why is that?

A Well, like I said, because I worked with people there to try to resolve some of the issues that had prevented those wells from being put on withdrawal.

Q Okay. You also add here, at the beginning, "Yes, gross mismanagement."

A Yeah.

Q What did you mean by that?

A Well, I just saw it -- I mean I -- several things that -- things that I mentioned here, you know, the things we talked about earlier about why didn't they pump the heaviest clay-based drilling mud into the well they could have, all of those kind of things.

Q And after joining the technical advisory group, what -- how did that opinion change, if at all?

A Well, I -- I don't think it changed too much.

Q Why -- why is that? Let me just be clear. I'm asking about the gross management opinion.

A Right.

Q So you're saying that you didn't think that it changed too much.

A Well, the mismanagement of it in the beginning, I don't think that opinion changed much.

Q Okay. Even after you joined the technical advisory group?

A Well, that opinion was for the period before I joined.

Q I understand.

A I mean in the beginning.

Q Okay. What was your opinion of -- with regards to gross mismanagement after you joined the technical advisory group?

A I don't think I would characterize it as gross mismanagement. I think they had more expertise at that point.

Q Okay. Would you -- would you -- do you think there was mismanagement?

MR. GRAVELLE: At what point?

MR. GRUEN: At the point in which he joined the technical advisory group.

MR. GRAVELLE: Moving forward, you mean?

MR. GRUEN: Correct. Yes. That's a good clarification. Thank you.

THE WITNESS: I don't know if mismanagement's the right word. I -- there's -- if I'd have been in full control, I would have done some things different than were done. But, I don't know that I would classify it as mismanagement.

MR. GRUEN: Q What would you have done differently?

A Well, I would have been prepared to pump at a higher rate on the final kill attempt.

Q On the final kill attempt?

A Yeah.

Q After you joined?

A Right.

Q Did you -- and you proposed pumping at a higher rate when you arrived?

A Yeah.

Q To the technical advisory group?

A (Nods.)

Q Correct?

A Yeah.

Q Yeah. And what response did you receive when you proposed that?

A Well, they're -- you know, the -- Albert and Boots & Coots guys did calculations on what we could pump at, the maximum rate, without exceeding the pressure limits, and it was wrong, and when we pumped, we were on a vacuum. We could have pumped at a higher rate, but they weren't set up to do it. So --]

Q And how do you know it was wrong, their calculation for the pump?

A Well, because the well went on a vacuum. We didn't get to the pressure limit.

Q That's in hindsight; right?

A Yeah.

Q So did you know at the time that the calculation was wrong?

A No.

Q Did you have any idea that it was wrong?

A No.

Q Okay. Subsurface safety valves very quickly. What is your understanding as to whether subsurface safety valves, can they work for both tubing and casing of a well or merely tubing?

A Well, there's different styles. PG&E has ones that work on both tubing and casing. I think they're kind of troublesome

but most of them, well, almost all of them are set up to work on tubing only.

Q I see. And that includes for deepset?

A Right. It would have to flow through a packer and to the tubing. And then if you wanted to flow in the annulus, it would have to flow out through ports and up the annulus.

MR. GRUEN: Okay, do you have any quick questions?

MR. HOLTER: Yes, couple quick ones.

MR. GRUEN: We've got about one minute.

MR. HOLTER: Just a clarification.

EXAMINATION (RESUMED)

BY MR. HOLTER:

Q Can you explain when you said, they, who they were, weren't set up for it. Can you explain that again quick.

MR. GRUEN: Why don't we -- I think he's not going to have the context. Let's go off the record for a moment.

(Off the record.)

MR. GRUEN: Back on the record. You want to ask it again.

MR. HOLTER: Okay, agreeable.

Q Would you please be more specific on referring to your statement about the well

went on vacuum, what that means, and then the statement "they weren't set up for it." Could you explain that a little more, please.

A Right. Well, Halliburton was there doing the pressure pumping and they weren't, Halliburton, wasn't set up to pump at a higher rate.

Q Does that mean they didn't have the equipment for it or they didn't have the methodology and calculations, which one?

A It was -- well, I don't think they knew it would be an issue. But, yeah, the heavy mud wouldn't flow out of the tanks into their pump truck at a high enough rate to go -- it went at the rate they had planned on going, but when we saw we didn't reach the pressure limit, we couldn't have gone to a higher rate because the mud wouldn't flow from the tanks into the pumps.

Q And was that vacuum in the well?

A Yeah.

Q And what was happening in the well when you say "vacuum"?

A Well, the heavy mud went down the tubing and the weight of it caused it to go on a vacuum.

Q Does that mean it's actually pulling faster than they can pump?

A Yes.

Q Thank you. I appreciate the clarification.

A Okay.

MR. GRUEN: Mr. Mansdorfer, thank you very much for your time. You were required to be here but we still appreciate your efforts to answer questions throughout the day and we know it's been a long session. We appreciate you being here.

MR. GRAVELLE: Before we go off the record, may I have two minutes with him?

MR. GRUEN: Certainly, and we can discuss --

MR. GRAVELLE: Can we go off the record?

MR. GRUEN: Yes, off the record.

(Off the record.)

MR. GRUEN: Mr. Gravelle, did you have a clarification question for Mr. Mansdorfer with respect to the subsurface safety valves?

MR. GRAVELLE: Yes. Thank you. There was some prior testimony by Mr. Mansdorfer. I'll paraphrase it. I think he wants to clarify his record and give you an opportunity to explore that clarification.

MR. GRUEN: Okay.

MR. GRAVELLE: My notes indicate that

he had testified to the effect that there was a good chance that subsurface safety valves would have worked to prevent the leak but that there was some speculation on that point. That's the general gist of his testimony.

MR. GRUEN: Okay.

MR. GRAVELLE: And I want to go back.

CROSS-EXAMINATION

BY MR. GRAVELLE:

Q When you said "good chance," do you think the phrase "good chance" is the best characterization or would you care to rephrase that characterization?

A I would, yeah. Good chance is -- I don't know even for sure what I meant by that. There's a possible chance it would have. But, again, I didn't have any direct experience with those deepset subsurface safety valves other than the one at Goleta, which actually failed.

So I think I may have been speculating too much that it would have prevented the leak when I don't have a good basis for actually saying that.

MR. GRUEN: Okay. So your statement has changed to say that there's a possible chance that a subsurface safety valve on

SS-25 would have prevented the incident from happening?

THE WITNESS: That's correct.

MR. GRUEN: Okay, fair enough. No further questions.

MR. GRAVELLE: All right.

MR. GRUEN: Thank you.

MR. GRAVELLE: Would you care to propose a stipulation?

MR. GRUEN: Yeah, I think so.

MR. GRAVELLE: And interpose your objections.

MR. GRUEN: Yeah, indeed, and we can clarify, both interpose the objections or concerns if --

MR. GRAVELLE: Right, right.

MR. GRUEN: -- we see fit that we discussed off the record. I think that's a good suggestion, Mr. Gravelle.

So just with regards to confidentiality, so consistent with other examinations under oath, the Safety and Enforcement Division will keep the transcripts confidential, as is its prerogative.

If SED chooses to make the transcripts not confidential at a later date, that is SED's prerogative. But at this time

it is SED's intent to keep the transcripts confidential.

With regards to Mr. Mansdorfer sharing his recollections of the examination under oath today, SED is noting for the record its objection to doing so. That is an order to be consistent with SED's position that the examinations under oath, that it has done to date are to be kept confidential.

So with that, is there anything that you want to add or is there anything you want to do to address that?

MR. GRAVELLE: Maybe we should start where I think you and I agree, which is it's my understanding, you can tell me if you disagree.

MR. GRUEN: Go ahead.

MR. GRAVELLE: It's my understanding that when the court reporters' transcript is prepared, you'll send me an e-mail advising me of the same and that it will be made available in the CPUC's Los Angeles office for up to 30 days upon my receipt of the e-mail for either Mr. Mansdorfer or myself or both to review it provided, however, that if any changes or corrections Mr. Mansdorfer wishes to make, which are voluntary, not mandated, he will make them.

That is, for example, I may come in and review them in your office but I would not have the authority to actually make any changes. Only he would within that time period. I think on that issue are we in agreement?

MR. GRUEN: Yeah, largely. Just as a clarification, I don't think this changes really the substance of the agreement. It may take a little bit of time between when we get the transcripts electronically and when they're actually made available in hard copy for review.

Once we have them in hard copy, we will let you know and you can come in and review them. Mr. Mansdorfer, if you wish for Mr. Gravelle to do that in your stead --

THE WITNESS: I do, yes.

MR. GRUEN: -- that's fine. And then, Mr. Gravelle, if you see anything that needs to be changed and at that point you wish to come in and suggest the changes to us, we can arrange for that as well. That's fine.

MR. GRAVELLE: In other words, you'll send me -- we'll have 30 days after I receive the e-mail, but it may take some time from when you get the transcript for you to send me the e-mail.

MR. GRUEN: Correct.

MR. GRAVELLE: And that's fine.

MR. GRUEN: Yeah, that's exactly right so that's fine.

MR. GRAVELLE: And then putting aside the actual transcript but in terms of what was asked, what was answered, impressions, context, all of that, as you know, we've discussed off the record we have a much different view being that he was under no obligation to keep it confidential coming in and he should not have any confidentiality obligations to that when he leaves.

Hence, we object to any attempts to interpose confidentiality obligations and we do not intend to abide by any requests by the CPUC to keep it confidential. So if the CPUC wants it kept confidential in terms of questions, answers, context, they will need to seek a court order because we intend to -- I'm not saying we're going to go out today and obviously start broadcasting it -- but we do not intend to abide by any restriction on that.

I just want to give you fair game and warning, but I do understand that you view it differently.

MR. GRUEN: Yeah. And related to that,

for the record, we prefer that Mr. Mansdorfer not share what his recollections of what were discussed today, he understands that, but we understand the objection.

MR. GRAVELLE: Okay. I think are we --

MR. GRUEN: With that, let's go off the record.

MR. GRAVELLE: Yeah, we're off the record.

(Off the record.)

(Whereupon, at the hour of 4:20 p.m., the examination under oath was concluded.)]

* * * * *

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

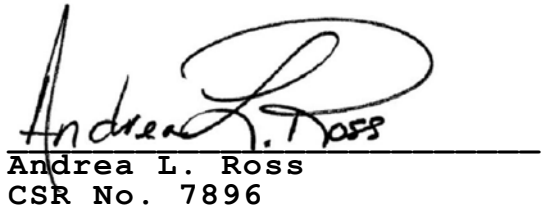
STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Andrea L. Ross, Certified Shorthand Reporter No. 7896, in and for the State of California, do hereby certify that the pages of this transcript prepared by me comprise a full, true, and correct transcript of the testimony and proceedings held in this matter on September 13, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 13th day of September, 2018.



Andrea L. Ross
CSR No. 7896

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Rebekah L. De Rosa, Certified Shorthand Reporter No. 8708, in and for the State of California, do hereby certify that the pages of this transcript prepared by me comprise a full, true, and correct transcript of the testimony and proceedings held in this matter on September 13, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 13th day of September, 2018.

Rebekah L. De Rosa

Rebekah L. De Rosa
CSR No. 8708

Mansdorfer, Jim

From: Mansdorfer, Jim
Sent: Thursday, April 23, 2009 2:12 PM
To: Weibel, Rudy
Subject: RE: Please review 'Generic Topic Areas for interviews'

Rudy, with all of the focus on image management and risk control there is an issue that I have been thinking about and this seems like a good time to present the case.

At Aliso Canyon we have over 100 storage wells that are set up for annular flow with up to 3150 psi on the casing. A few of these wells are under 10 years old, but the majority are from 35 to 70 years old. There is no Cathodic Protection on these wells. Many of the wells pass through known or unknown ancient landslides, and every well in the field crosses the Santa Susana fault, which is considered to be active with a slip rate of 5 mm/yr. (Yeats, et. al.)

Casing corrosion, landslide movement or fault movement are all potential causes of a major subsurface casing leak. Depending on the cause and the number of wells affected, it may be possible to control the well by pumping kill fluid into it, but if a subsurface blowout gets out of control and craters to the surface it would probably require a relief well to control it. Even one of these happening could have severe consequences for the Company's image, and if the cause is a large landslide block or fault movement there could be multiple events at the same time.

Back in the 1970's our predecessors were concerned about this enough to install subsurface safety valves in all wells at Aliso. Unfortunately at the time the technology was not up to the challenge and all of the valves failed and were subsequently removed. However due to deepwater high flow rate wells the technology is now available to install deep set valves that will withstand high flow rates. We have one of these in Miller 4. We could leave the wells in annular flow configuration so we don't have the cost, problems and deliverability loss associated with conversion to tubing flow.

We are soon to be putting together the GRC for the 2012 Rate Case. I recommend that we put together a case for a program to install deep set safety valves in all Aliso Canyon wells. We would pull tubing, run a casing inspection log, pressure test the casing, and rebuild the wellhead seals prior to re-running tubing with the safety valve.
My offhand guess is between $300,000 and $400,000 per well, including the control panel. We could probably complete 20 to 25 wells per year, so this would be a 5 year program at a cost of about $6 – 8 million per year.

This would also make me feel more comfortable with utilizing the higher pressure that will be available from the new compressors – with the lighter gas we can gain another 4-5 Bcf by going to higher surface pressure (while staying within our bottomhole pressure limitation), but this would be higher pressure than the wells have ever been exposed to.

If you want me to pursue this I can have Todd do a better cost estimate.

Jim Mansdorfer P.E.

4/23/2009

Storage Engineering Manager
SoCalGas Storage
818-701-3473

From: Weibel, Rudy
Sent: Thursday, April 23, 2009 9:58 AM
To: Thompson, John A.
Cc: Bomberger, Timothy J.; La Fevers, Glenn; Mansdorfer, Jim; Mumford, Joel; Nakano, Lauren; Quon, Lissa; Schroeder, Tom
Subject: RE: Please review 'Generic Topic Areas for Interviews'

A risk assessment review.

From: Thompson, John A.
Sent: Thursday, April 23, 2009 9:57 AM
To: Weibel, Rudy
Cc: Bomberger, Timothy J.; La Fevers, Glenn; Mansdorfer, Jim; Mumford, Joel; Nakano, Lauren; Quon, Lissa; Schroeder, Tom
Subject: RE: Please review 'Generic Topic Areas for Interviews'

I can better comment with a little more info.
What is the basis for this? Who is the interviewer?

From: Weibel, Rudy
Sent: Thursday, April 23, 2009 9:48 AM
To: Bomberger, Timothy J.; La Fevers, Glenn; Mansdorfer, Jim; Mumford, Joel; Nakano, Lauren; Quon, Lissa; Schroeder, Tom; Thompson, John A.
Subject: Please review 'Generic Topic Areas for Interviews'

Please review the attached document.

I will be interviewed next week. Please provide your insights on any of the bullet points.
Rudy

Message

Sent: 2/4/2016 6:02:17 AM
To: Cho, Jimmie I (JCho@semprautilities.com) [JCho@semprautilities.com]
CC: Schwecke, Rodger (RSchwecke@semprautilities.com) [RSchwecke@semprautilities.com]
Subject: Randy Request
Attachments: Halliburton - SoCal Porter 39A RR24 Ranging Report; Halliburton - SoCal Porter 39A RR23 Ranging Report; Halliburton - SoCal Porter 39A RR22 Ranging Report; Halliburton - SoCal Porter 39A RR21 Ranging Report; Halliburton - SoCal Porter 39A RR20 Ranging Report; Porter__39_A_RW_Kill_Ops_Rev_1_02032016_JRH.PDF; SCGC - Porter 39A_Dynamic kill analysis_01-26-2016.pdf

Jimmie;

Tried to make this easy for you. Attached is the latest draft of the intercept/kill procedure for relief well 1 to SS-25 and the dynamic kill analysis. I also have included the last 5 ranging run reports.

We do not have a dynamic kill program developed yet for Relief well 2.

We do not have kill programs for SS 25A or 25B

Bret Lane
Chief Operating Officer
Southern California Gas Company
213-244-2100
jlane@semprautilities.com

xc: REW
RMD SS-25

INTEROFFICE CORRESPONDENCE

SOUTHERN CALIFORNIA gas COMPANY

TO R. W. Weibel FROM M. E. Melton DATE Sept. 2, 1988

SUBJECT Candidate Wells for Casing Inspection, Aliso Canyon Field

Attached is Dave Horstman's recommendations and priorities for inspection of casing flow wells originally completed in the 1940's and 50's.

I agree with Dave's priorities and recommend that all 19 wells listed be logged and pressure tested over the next two year period.

MEM:hr
Attachments

cc: N. W. Buss
J. D. Mansdorfer

INTEROFFICE CORRESPONDENCE

SOUTHERN CALIFORNIA gas COMPANY

TO M. E. Melton FROM D. R. Horstman DATE August 30, 1988

SUBJECT Candidate Wells for Casing Inspection, Aliso Canyon Field

Attached is a listing of all casing flow wells of 1940's and 1950's vintage currently in operation at the subject field. It is recommended that casing inspection surveys (vertilogs) be run to determine the mechanical condition of each well casing. In addition, each well should be pressure tested to identify any leaks at the casing collars.

The wells included on the attached list are prioritized based upon deliverability, operational history, and the length of time since their last workover. Please advise should you have any questions or require additional information.

DRH:hr
Attachments

84-F

Aliso Canyon Casing Flow Wells of 1940's and 1950's Vintage

Well	Completed	Deliverability @ 19.8 Bcf (MMcf/d)	Most Recent Workover	Comments	Priority
P 34	5/45	9	10/77	Casing pressure tested, SSSV run.	High
P 37	8/46	24	9/77	Casing pressure tested, SSSV run.	High
P 44*	1/56	26	4/78	Redrilled from 7805', casing patch set 3971'-4012', SSSV run.	Low
P 46	2/44	35	8/77	Reperf'd 7730'-7920', SSSV run.	High
P 47	8/43	21	6/77	Pulled 2-3/8" liner, squeezed perf's @ various depths. Temp anomaly @ shoe (3/23/88).	Low
SS 2	9/43	16	8/83	Repaired shoe leak, CBL run 7/73.	Low
SS 4	1/45	0(FL)	12/81	Repaired shoe leak, CBL run 11/80.	Low
SS 6	9/45	10	9/82	Repaired shoe leak, CBL and TDT run 5/73.	Low
SS 7	2/46	1	9/77	Casing pressure tested, SSSV run.	Medium
SS 8	8/46	15	7/78	Casing pressure tested, SSSV repaired.	High
SS 9	2/47	15	2/79	Casing pressure tested, SSSV replaced.	High
SS 10*	6/47	25	12/78	Casing patch run 4474'-4516', SSSV replaced.	Low
SS 11	11/47	9	6/80	Repaired shoe leak. CBL and TDT run 7/73. New temp anomaly @ shoe (2/88).	Low
SS 17**	6/51	7	8/77	Casing pressured tested, SSSV run. Well has a shoe leak.	Low

Well	Completed	Deliverability @ 19.8 Bcf (MMcf/d)	Most Recent Workover	Comments	Priority
SS 24	4/53	11	3/85	Repaired shoe leak. CBL run 7/73.	Low
SS 25	2/54	38	2/79	Replaced SSSV. Temp anomaly @ shoe (3/3/88).	Low
SS 29**	9/53	22	3/79	Replaced SSSV and set packer @ 8040'. Well has a shoe leak.	Low
F 2	7/44	1	9/77	Casing pressure tested, SSSV run.	Medium
F 4	1/48	12	9/77	Workover planned for 1988. Will log at that time.	-
F 5	7/48	2	8/77	SSSV run.	Medium

* Equipped with casing patch.
** Identified shoe leak. Casing will be inspected during workover.
FL - Fluid loaded

DRH:hr
8/30/88

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO P. D. Yu
M. E. Melton

FROM R. L. Adamczyk

DATE August 20, 1991

SUBJECT FF-34A Casing Corrosion, Aliso Canyon

It is recommended that FF-34A be equipped with cathodic protection (CP). CP can prevent further external casing corrosion. Chuck Skelton, Cathodic Protection Staff Engineer, has estimated the cost of CP for FF-34A at approximately $25,000 to $30,000. Annual O & M expenses are estimated at $400.

A meeting was held to exchange information on July 25, 1991, at Aliso Canyon. Schlumberger casing inspection and casing potential logs run in FF-34A during its workover, casing corrosion, and cathodic protection were discussed.

The FF-34A casing inspection (electromagnetic thickness) log showed severe metal loss at 2104' ELM, and shallow (1000' to 3000' ELM) metal loss which averaged approximately 15%. The FF-34A casing potential (corrosion and protection evaluation) log showed several anodic intervals (opposite the 8-5/8" casing), which demonstrates a need for CP. The cost of CP is minor when compared to the cost ($400,000+) of a workover should leakage problems develop in the future.

If funds are available, the Division should equip FF-34A with CP as soon as is operationally feasible.

The possible regional external casing corrosion problem in the southeastern portion of the field will be further studied and a report issued. Additional investigation of well histories and well logs is required before a recommendation can be made as to whether regional CP is necessary. While casing inspection logs show shallow (1000' to 3000' ELM), casing metal loss in FF-35C, MA-1A and MA-5A, there is not enough evidence to substantiate a regional corrosion problem.

If you have any questions, please advise.

RLA:ll

cc: R. M. Dowell
R. L. Patterson
W. T. Scott
R. C. Skelton
Well History File

64-F

The Gas Company™

FILE in Well History

Interoffice Memo

TO: N.W.Buss/J.D.Mansdorfer

FROM: R.D.O'Neal

DATE: March 26, 1993

SUBJECT: Recommendation for Well FF 34A

Pursuant to the attached workover recommendation submitted by LD Krohmer for well FF 34A, it was decided in a joint meeting between the Petroleum and Drilling groups to not initiate workover activities on this well. Instead, it is proposed to leave the well in its current condition and seek funding to drill a replacement well in Aliso Canyon.

Well FF 34A developed a casing leak in 1991 which resulted in a underground blowout at ±2000'. Subsequent casing inspection logs revealed a 15% metal loss to a depth of ±4000'. During the workover to repair the leak a Homco patch was placed across the hole from 2080-2120' and a 6 5/8" innerstring was landed in the existing packer at 7500'.The most recent pickup was at 7632', 38' above the top of the S4.

Several options were discussed to remedy the current liner failure. The standard solution in this situation is to pull the innerstring, mill the packer at 7500', pull the liner and gravel pack in place a new liner. Due to the Homco patch and the poor condition of the casing, extended milling operations in the primary string were not believed an option. This ruled out any scenarios which entailed pulling the innerstring. Another option was to gravel pack a 2 3/8" innerliner inside the 5 1/2" liner. Questions were raised regarding the effectiveness of the innerliner in holding back the formation. Due to past failures with this type of completion, only a minimal increase in the wells' rate was believed attainable. Due to the current mechanical condition of the well, it was decided not to workover the well.

Storage Operations will seek funding to drill a replacement well in the field. The well will be located in the most productive region of the reservoir. Its exact surface and bottomhole location to be determined at a later date.

If you should have any questions, do not hesitate to ask.

RDO:ff34arec
Attachment

cc: L.D.Krohmer
R.D.Phillips
R.C.Wiegman
Well File

SED 00192
AC_CPUC_0021774

The Gas Company℠

Interoffice Memo

To: R. C. Wiegman

From: P. D. Yu

Date: February 20, 1992

Subject:

Well FF-34A Cathodic Protection

Storage Operations recommends the installation of cathodic protection in well FF-34A at an estimated cost of $25,000 to $30,000. Storage Operations has provided the necessary funds for this project in its 1992 budget and the Division is requested to oversee the installation as soon as it is operationally feasible.

Cathodic protection is recommended for this well in light of our discoveries of external casing corrosion during the workover in July of 1991. Metal loss averaging approximately 15% was indicated over the interval of 1000' to 4000' and the hole in the casing was discovered at 2104'. The cost of installing and maintaining the cathodic protection is minimal when compared to the potential cost ($400,000) of a workover should problems develop in the future.

Please inform me when a completion data for this project is anticipated. If you have any questions, do not hesitate to ask.

RDO:sw:FF34A

cc: R. D. Phillips

WELL HISTORY FILE

SED 00193
AC_CPUC_0022178

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO N. W. Buss
J. B. Lane FROM Richard L. Adamczyk DATE Oct. 31, 1990

SUBJECT Workover Recommendation for Fernando Fee 34A, Aliso Canyon

It is recommended that FF-34A be worked over and a new innerstring run. This workover is necessary for both safety considerations and to maintain field deliverability, especially at low inventory levels.

On September 10, 1990 - Monday evening - a downhole flowing condition was discovered in FF-34A. Strong vibrations and noise at the wellhead indicated the severity of the problem, subsequently identified as a subsurface blowout caused by casing failure. The production casing SIWHP in FF-34A was also 140 psi lower than it should have been. Surface casing pressures in nearby wells FF-34B and MA-5A had respectively increased to 580 psi and 760 psi; and arrangements were made to bleed off gas and reduce the pressures. After a valiant all-night effort, FF-34A was killed by Tuesday morning.

A noise/temperature survey was run in FF-34A on Wednesday, September 12, in order to locate the hole or split in the 8-5/8" production casing. A cooling anomaly and high noise levels were observed from 1440' to 2060' MD, a 620' interval. Peak cooling occurred in a 10' interval from 1580' to 1590' MD. A tracer survey was also run on September 12, and the leak was verified.

A TDT log was run on September 14. The log indicated high gas saturations behind the 8-5/8" casing from 1470' to 1515' ELM. The highest gas saturations occurred in an 8' interval from 1480' to 1488' ELM, which was probably the entry interval for the leaking gas. The leaking gas had pressured up a shallow Pliocene sand interval, whose best sand quality is located from 1600' to 1900'

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY HEALTH AGENCY

BARBARA FERRER, Ph.D., M.P.H., M.Ed.
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Via Email: Jlane@SempraUtilities.com

March 11, 2019

Brett Lane
Chief Executive Officer
Southern California Gas Company
555 West 5th Street
Los Angeles, California 90013

ALISO CANYON NATURAL GAS DISASTER FOLLOW-UP REQUEST FOR CRITICAL DATA ELEMENTS

The Los Angeles County Department of Public Health (Public Health) has been made aware, through a permit renewal process required by the South Coast Air Quality Management District, of treatment systems utilized by Southern California Gas Company (SoCalGas) to remove crude oil routinely from natural gas before it is served into the distribution system. We are disheartened by the fact that SoCalGas did not disclose this critical information regarding crude oil contained in its gas reservoir at the Aliso Canyon Storage Facility. Thus, the massive quantity of natural gas released from October 23, 2015 through February 12, 2016 contained crude oil, while SoCalGas repeatedly stated during the disaster that the contents of the release were limited only to typical components of stored natural gas.

During the Aliso Canyon Natural Gas Disaster, Public Health conservatively operated under a hypothesis that natural gas in this geological storage reservoir was likely to contain traces of crude oil due to a previous history of oil extraction from the reservoir. In November 2015, Public Health recommended a complete characterization of air quality using an expanded list of chemicals typically found in both crude oil and natural gas, but this testing was severely limited and delayed. At that time, SoCalGas knew that crude oil was contained in the natural gas but withheld this information from Public Health. SoCalGas had an obligation to inform Public Health about known crude oil in its stored natural gas, as this information would have critically impacted Public Health's assessments of human exposures during the Disaster.

Whereas SoCalGas knowingly released both crude oil and natural gas during the Disaster without disclosing critical information to Public Health; whereas the health of nearby residents may have been impacted by exposure to both crude oil and natural gas during the Disaster; and whereas Public Health requires critical information for the forthcoming Health Research Study, Public Health directs SoCalGas to provide the following:

a) All records of sampling data related to the composition of natural gas at Aliso Canyon, before, during, and after the Disaster.
b) All records of environmental sampling data collected below and above mesh grates, which were utilized to mitigate oily mists released from Well SS-25.
c) All records regarding exterior home cleaning information, including, but not limited to, home addresses, ranking results at each property, and residue density and sampling results.
d) Facility access for Public Health to collect samples from the storage facility for the forthcoming Health Research Study and to make such data available to the public.

Sincerely,

Angelo J. Bellomo, MS, REHS, QEP
Deputy Director for Health Protection

AJB/

cc: Edward Randolph, Energy Division Director, California Public Utilities Commission
Wayne Nastri, Executive Director, South Coast Air Quality Management District

SoCalGas
A Sempra Energy utility

Jimmie I. Cho
Chief Operating Officer
555 West 5th Street
ML: GT21C1
Los Angeles, CA 90013

BY EMAIL AND U.S. MAIL

March 21, 2019

Angelo J. Bellomo
Deputy Director for Health Protection
County of Los Angeles Department of Public Health
5050 Commerce Drive
Baldwin Park, CA 91706

Re: ***County of Los Angeles Department of Public Health Letter Regarding Crude Oil***

Dear Deputy Director Bellomo:

I am responding to your letter dated March 11, 2019, in which you suggest that SoCalGas failed to timely disclose certain treatment systems and other activities at the Aliso Canyon facility related to the extraction of residual oil from the natural gas stored at the facility. You state that the Los Angeles Department of Public Health (DPH) was unaware of these activities, and that it therefore lacked information relating to the composition of the gas that leaked from the well SS-25. With respect, we disagree with your statements and strenuously dispute any allegation that we have, at any time, withheld relevant information regarding the composition of the gas from DPH, any other agency, or the public.

Turning to the issues raised in your letter, I provide the following information, which I am confident should resolve any concerns you may have:

First, the fact that the storage wells at Aliso Canyon produce some residual oil in the course of normal storage operations is public knowledge. SoCalGas reports all such production data to the Division of Oil, Gas and Geothermal Resources (DOGGR), which then publishes that information on its "Well Search" website.[1] Monthly oil production volumes for SS-25 specifically are available on DOGGR's website as far back as 1977. The facilities associated with the production and extraction process are properly permitted and inspected according to state and local regulations. "Crude oil" is also prominently listed (with volumes disclosed) several times for multiple facility locations in Aliso Canyon's Hazardous Materials Business Plan filed every year with state and local authorities.

[1] https://secure.conservation.ca.gov/WellSearch/

Second, as your letter admits, DPH has always been aware that the Aliso Canyon storage reservoir is a depleted oil-bearing zone. Since at least early 2016, SoCalGas has understood that DPH was evaluating potential health impacts associated with compounds found in both natural gas and crude oil, and we have thus never been aware of any misunderstanding on the part of DPH requiring correction. For example, DPH wrote in its May 13, 2016 Public Health Assessment:

- "Given the history of the Aliso Canyon Storage Facility as a petroleum oil extraction field, DPH determined that it was necessary to test for more than those chemicals that might have been emitted from Well SS-25 as a result of the gas leak and related operations." (p. 1)

- "The reemergence of adverse health symptoms reported by the community and preliminary results of this independent research prompted the Los Angeles County Department of Public Health (DPH) to conduct a series of rapid surveys and testing to investigate the scope of the health effects and possible exposure to contaminants related to gas ***and oil field*** activities." (p. 1, emphasis added)

- "DPH conducted an indoor assessment of contaminants related to natural gas ***and oil*** emissions, and a comprehensive investigation of reported symptoms since the gas leak was sealed." (p. 5, emphasis added)

Consistent with those statements, air samples taken by DPH and other agencies during and immediately after the incident were analyzed for compounds that are typically found in crude oil, including benzene, toluene, ethylbenzene and xylene. SoCalGas also conducted its own community air testing for these compounds and posted the results of that testing on its website during and after the leak. As DPH is aware, those compounds were never detected in Porter Ranch at concentrations above regulatory levels of concern. Other regulatory agencies, including the South Coast Air Quality Management District (SCAQMD) and the Office of Environmental Health Hazard Assessment (OEHHA), reached similar conclusions.[2]

Third, SoCalGas informed the press, while the leak was ongoing, that oil "naturally occurring within the leaking well's reservoir" may have been released and that SoCalGas had implemented measures designed to capture such releases.[3] After oil spots were discovered in various locations following that release, and samples of the residue were analyzed, DPH reported in its January 19, 2016 "Update on the Aliso Canyon Storage Facility Gas Leak, Chemical Exposures, and Health Impacts in the Porter Ranch Community" that "[t]he sample results indicate the presence of

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[2] *See, e.g.,* http://www.aqmd.gov/docs/default-source/compliance/aliso-cyn/report/executive-summary.pdf?sfvrsn=4 ("Long-term concentrations of air toxics were found to be substantially lower than the health-based reference exposure levels (REL) for long-term exposures") and https://oehha.ca.gov/air/general-info/aliso-canyon-underground-storage-field-los-angeles-county ("Overall, the available air sample data does not indicate that an acute health hazard exists from any of the volatile organic chemicals measured, including benzene, in the Porter Ranch neighborhood as a result of the Aliso Canyon natural gas leak. . . . Current measured exposures to benzene are below the level of concern for chronic health effects.")

[3] *See, e.g.,* https://www.latimes.com/local/california/la-me-porter-ranch-20160105-story.html.

SED 00198

heavier-end petroleum hydrocarbons consistent with crude oil (carbon chains 21 through 28)."[4] Moreover, the fact that the leak caused small amounts of oil to reach the surface was apparent to anyone who visited the well during the incident. Representatives from DOGGR, the California Public Utilities Commission (CPUC), California Occupational Safety and Health Administration (OSHA), and the Los Angeles County Fire Department were onsite nearly every day during the leak and would have observed the presence of oil on the well pad. In fact, OSHA and the County Fire Department took samples of the oil during the incident. It is my understanding that representatives from DPH were likewise onsite frequently during the incident, but even if they did not see the oil themselves, we understand that DPH coordinated closely with those same agencies in responding to the incident and evaluating its potential public health impacts.

Fourth, your letter appears to take exception to a statement by SoCalGas that "the contents of the release were limited only to typical components of stored natural gas." We are not familiar with the specific statement to which you are referring, but in any event, that statement is neither false nor misleading. As noted above, DPH is and has always been aware that Aliso Canyon, like many other natural gas storage facilities across the United States, is a depleted oil field. We have no reason to believe that gas stored at Aliso Canyon is in any way atypical of gas stored at similar facilities. In any event, SoCalGas' air monitoring during and after the leak specifically tested for components that could be present in the small amounts of crude oil that may be combined with the stored natural gas.

Fifth, we understand that you were copied on an October 30, 2018 letter that Porter Ranch Neighborhood Council (PRNC) President Issam Najm sent to the CPUC addressing this precise issue. From at least that time, DPH has engaged in discussions with SoCalGas and several other Government Plaintiffs concerning matters related to the SS-25 gas leak. Despite any number of opportunities to raise this or any other concern, DPH has, until now, remained silent in the nearly five months since receiving Mr. Najm's letter.[5]

For all of the above reasons, your suggestion that SoCalGas somehow withheld information or was otherwise not fully transparent with respect to the components of natural gas released during the incident, and your statements concerning DPH's ability to perform a health assessment, are simply incorrect. From the time the leak began until the present, SoCalGas has made every effort to provide accurate and timely information to the public and to the appropriate regulatory agencies. To that end, among many other actions, SoCalGas provided written responses to hundreds, if not thousands, of formal and informal information requests from local, state and federal agencies, legislators, and the independent root cause investigator; produced hundreds of thousands of documents to those same entities; and maintained a public website during the incident to provide immediate public access to air monitoring data. This was in addition to the

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[4] *See* http://publichealth.lacounty.gov/eh/docs/AlisoCanyonUpdate_1-20-2016.pdf. BTEX was not detected in any of the residue samples and DPH determined at the time that the spots posed a "minimal health risk." SoCalGas nevertheless provided cost-free indoor and outdoor assessments and cleaned hundreds of homes, cars and public parks in response to concerns expressed by the community.

[5] Moreover, PRNC has been well aware of this issue since at least November 2016. *See, e.g.,* http://www.prnc.org/sites/default/files/pages/2016/2016-1110-PRNC-Position-Aliso-Canyon-Gas-Storage-Facility.pdf ("There are also unknown chemicals left in the underground formation from the time it was filled with oil. How can we know the health impacts of the chemical exposure, when we do not know to what chemicals we were exposed?").

voluminous information about all major aspects of the facility dating back decades that was and remains available on a variety of public agency websites, including those maintained by DOGGR, CARB and SCAQMD. SoCalGas has cooperated extensively with all leak-related investigations, and we will continue to do so.

Sincerely,

Jimmie Cho
Chief Operating Officer

cc: Edward Randolph, Energy Division Director, California Public Utilities Commission
Wayne Nastri, Executive Director, South Coast Air Quality Management District

SED 00200

STATE OF CALIFORNIA Gavin Newsom., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

March 19, 2019

Mr. Bret Lane
Chief Executive Officer
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013

SUBJECT: Failure of Southern California Gas Company (SoCalGas) to Timely Provide Data to Blade Energy Partners and Request to Modify the Existing Injection and Withdrawal Protocols at Aliso

Dear Mr. Lane:

I am writing regarding the Southern California Gas Company's (SoCalGas) March 1 and 6, 2019, supplemental data dump on Blade Energy Partners (Blade)[1] as well as SoCalGas' continued failure to produce those Boots & Coots[2] employees Blade has requested, in order to help inform Blade's Root Cause Analysis (RCA).

On March 1 and 6 of this year, SoCalGas surprised Blade with over 25,000 pages of data, plus additional electronic files in Excel and other formats. This data dump is allegedly a supplemental data response to questions submitted by Blade to SoCalGas in 2016 and 2018. As SoCalGas was aware, Blade intended to release its RCA of the failure of SS-25 by the end this month. I am particularly shocked and concerned that SoCalGas would dump these additional 25,000 pages plus of documents and cause delay in the analysis of the well failure. Due to the size and extreme tardiness of SoCalGas's data dump, Blade's RCA will now be delayed as Blade attempts to review, digest, and analyze this new information for purposes of producing its report.

Moreover, SoCalGas continues to fail to provide Blade access to Boots & Coots, SoCalGas's contractor and agent responsible for multiple well-kill attempts of SS-25. Blade has requested an

[1] Blade is the engineering firm conducting the independent Root Cause Analysis of the 2015 leak at Aliso Canyon at the direction of the California Public Utilities Commission's Safety and Enforcement Division and the Division of Oil, Gas and Geothermal Resources.

[2] Boots & Coots is a subsidiary of Halliburton.

opportunity to interview Boots & Coots employees in order to inform its conclusions and confirm the events that occurred during the multiple well-kill attempts, yet SoCalGas has failed to produce its agent and subcontractor.

In SoCalGas's February 25, 2019 letter addressed to Ms. Arocles Aguilar and Ms. Elizaveta Malashenko, (February, 25, 2019 letter),[3] a SoCalGas official states as follows: "My primary concern is SED's apparent view that cooperation requires action beyond SoCalGas' control: SoCalGas *compelling* Halliburton, an independent corporation, to make its employees available for interviews by Blade."[4] (Emphasis in original.) While I understand this concern, it is inappropriately expressed to the Commission management as any sort of basis for claiming that SoCalGas is cooperating with the pre-formal investigation of the incident at SoCalGas's Aliso Canyon natural gas storage facility, beginning on October 23, 2015 (incident). The case law cited in SED's July 11, 2018 letter to SoCalGas (SED July 11, 2018 letter)[5] makes clear that the same requirements apply to Halliburton and its subsidiary Boots & Coots as to SoCalGas because of the contractual relationship with SoCalGas.[6] Such requirements include the statutes cited in the SED February 21 letter to SoCalGas. (February 21 letter.)[7] [8] All of these requirements were in place well before SoCalGas entered into a contract with Boots & Coots to kill well SS-25 in an attempt to end the incident, but SoCalGas did not include a provision in its

[3] This is a letter with the subject heading, "RE: Southern California Gas Company's Response to California Public Utilities Commission Letter dated February 21, 2019".

[4] Blade is the engineering firm conducting the independent Root Cause Analysis of the 2015 leak at Aliso Canyon at the direction of the California Public Utilities Commission's Safety and Enforcement Division and the Division of Oil, Gas and Geothermal Resources.

[5] This is a letter with the subject heading, "Memorialization of Southern California Gas Company's (SoCalGas) Failure to Cooperate with Safety and Enforcement Division (SED) in SED's Preliminary Investigation".

[6] See SED July 11, 2018 letter, p. 2, citing *Snyder v. Southern Cal. Edison Co.*, 44 Cal.2d 793, 800. (Where the law imposes a definite, affirmative duty upon one by reason of his relationship with others, whether as an owner or proprietor of land or chattels or in some other capacity, such persons can not escape liability for a failure to perform the duty thus imposed by entrusting it to an independent contractor. . . . It is immaterial whether the duty thus regarded as 'nondelegable' be imposed by statute, charter or by common law.)

[7] This is a letter with the subject heading, "Second Memorialization of Southern California Gas Company's (SoCalGas) Failure to Cooperate with Safety and Enforcement Division's (SED) Preliminary Investigation".

[8] See SED February 21 letter, p. 2, "The timely and complete cooperation of SoCalGas and its contractors, Halliburton, and Boots & Coots, with Blade's requests is imperative to Blades' ability to complete its RCA of the largest natural gas leak in California's history. Therefore, pursuant to California Public Utilities Code Sections 311, 314, 315, 316, 451, 581, 582, 701 and 702, we direct SoCalGas to make certain that Blade's requests are responded to in a timely and complete manner."

contract with Boots & Coots that would ensure Boots & Coots follow these requirements.[9] Therefore, Boots & Coots refusal to appear for questioning by Blade is a problem created by SoCalGas's own doing.

As you know, in cases of great magnitude such as this one where a utility has failed to produce requested evidence that it controls, the Commission has applied an adverse inference, authorized by the California Supreme Court, against a utility where that utility lacked evidence it was under a duty to maintain.[10] The California Supreme Court has recognized in instances requiring that adverse inferences be made that the worst possible facts can be presumed against the wrongdoer who failed to produce the needed evidence that they controlled.[11] If SoCalGas fails to promptly produce the Boots & Coots employees requested for interview by Blade in a California venue of Blade's choosing by April 15, 2019, I shall have no choice but to authorize Blade to make adverse inferences in its RCA with regards to its unanswered questions. Moreover, with this letter, SoCalGas's written representation is requested, signed by one of its officers under penalty of perjury and violation of Commission Rule of Practice and Procedure Rule 1.1, that it has provided, and will continue to provide complete and accurate responses to all of Blade's data requests. Finally, with regards to its initial response to Blade's 2016 Data Request, SoCalGas

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[9] Requirements that apply to both SoCalGas and Boots & Coots in this instance include California Public Utilities Code Sections 311 and 315, which give the Commission authority to issue subpoenas for the attendance of witnesses, including Boots & Coots, in any inquiry related to causes of accidents occurring within California upon the property of any public utility, including SoCalGas, or directly or indirectly arising from or connected with its maintenance or operation.

[10] See for example, D.15-04-024, *Order Instituting Investigation on the Commissions Own Motion into the Operations & Practices of Pac. Gas & Elec. Co. to Determine Violations of Pub. Util. Code Section 451, Gen. Order 112, & Other Applicable Standards, Laws, Rules & Regulations in Connection with the San Bruno Explosion & Fire on September 9, 2010. Order Instituting Investigation on the Commissions Own Motion into the Operations & Practices of Pac. Gas & Elec.* (Apr. 9, 2015) 2015 WL 1687684, at p. 136, including fn 606, citing *Cedars-Sinai Medical Center v. Superior Court* (1998) 18 Cal.4th 1, 11-13 (listing remedies for spoliation of evidence).

[11] *Id.* ("In particular, there are a number of nontort remedies that seek to punish and deter the intentional spoliation of evidence. Chief among these is the evidentiary inference that evidence which one party has destroyed or rendered unavailable was unfavorable to that party. This evidentiary inference, currently set forth in Evidence Code section 413 and in the standard civil jury instructions, has a long common law history. (See The Pizarro (1817) 15 U.S. (2 Wheat.) 227, 240 [4 L. Ed. 226] (per Story, J.); 2 McCormick on Evidence (4th ed. 1992) § 265, pp. 191-192; 2 Wigmore on Evidence (Chadbourn rev. 1979) §§ 278, 291, pp. 133, 221; Maguire & Vincent, Admissions Implied From Spoliation or Related Conduct (1935) 45 Yale L.J. 226.) For example, in the case of Armory v. Delamirie (1722 K.B.) 93 Eng. Rep. 664, a chimney sweep sought to recover a jewel he had given to a jeweler for appraisal. When the jeweler failed to produce the jewel at trial, the court instructed the jury "that unless the [jeweler] did produce the jewel, and shew it not to be of the finest water, they should presume the strongest against him, and make the value of the best jewels the measure of their damages ...." (Ibid.) This court, too, has long recognized the appropriateness of this inference. (Fox v. Hale & Norcross S. M. Co. (1895) 108 Cal. 369, 415-417 [41 P. 308].)")

shall explain when it determined its initial response was inadequate, why it was inadequate, why it waited until this month to provide the additional data, whether the initial data was valid, and why or why not. SoCalGas's lack of cooperation will and has impaired Blade's ability to deliver a complete RCA in a timely fashion. The timely and complete cooperation of SoCalGas and its contractors, Halliburton, and Boots & Coots, with Blade's requests is imperative to Blades' ability to complete its RCA of the largest natural gas leak in California's history.[12] Therefore, pursuant to California Public Utilities Code Sections 311, 314, 315, 316, 451, 581, 582, 701 and 702, I direct SoCalGas to make certain that Blade's requests are responded to in a timely and complete manner.

I am also shocked that, the same week as its data dump to Blade, SoCalGas submitted a request to modify the existing injection and withdrawal protocols at Aliso.

In summary, SoCalGas is requested to do the following:

- Make all Boots & Coots employees requested by Blade available for Blade to interview by April 15, 2019;

- Provide written explanation regarding the lateness of the data and document dump by SoCalGas to Blade by April 15, 2019;

- Provide a written declaration from a SoCalGas officer under penalty of perjury and subject to Commission Rule of Practice and Procedure Rule 1.1 that SoCalGas's data responses to Blade are complete, by April 15, 2019.

Sincerely,

Alice Stebbins

Alice Stebbins
Executive Director
California Public Utilities Commission

[12] Not to mention said cooperation comporting with the broad discovery rights the Commission has over SoCalGas and its contractors.

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

July 11, 2018 **CONFIDENTIAL**

Mr. Bret Lane
President and Chief Operating Officer
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013

SUBJECT: Memorialization of Southern California Gas Company's (SoCalGas) Failure to Cooperate with Safety and Enforcement Division (SED) in SED's Preliminary Investigation

Dear Mr. Lane:

I have been informed that SoCalGas is not producing certain of its own contractors for SED to examine under oath, even though SED has requested that SoCalGas produce them to appear at the California Public Utilities Commission (Commission) headquarters in San Francisco, CA. Specifically, SED has requested SoCalGas produce its contractors from Halliburton's subsidiary, Boots and Coots, that were hired as part of SoCalGas's efforts to kill well SS-25. In response to SED's request, SED's counsel learned from SoCalGas's counsel on or about the week of June 18, 2018 that SoCalGas would produce only one of these contractors to talk with SED investigators and attorneys, either by phone, or in Houston.

By not producing all of these requested individuals in person at the Commission headquarters, SoCalGas is not cooperating with SED's direction in this preliminary investigation for two main reasons. First, California Public Utilities Code Section 702[1] requires:

> Every public utility shall obey and comply with every order, decision, direction, or rule made or prescribed by the commission in the matters specified in this part, or any other matter in any way relating to or affecting its business as a public utility, and shall do everything necessary or proper to secure compliance therewith by all of its officers, *agents*, and employees. (Emphasis added.)

Recognizing and applying Section 702,[2] the California Supreme Court has held:

[1] All future references to sections of the California Public Utilities Code shall be referenced in shorthand as "Section."

[2] *Snyder v. Southern Cal. Edison Co.*, 44 Cal.2d 793, 796.

> Where the law imposes a definite, affirmative duty upon one by reason of his relationship with others, whether as an owner or proprietor of land or chattels or in some other capacity, such persons can not escape liability for a failure to perform the duty thus imposed by entrusting it to an independent contractor. . . . It is immaterial whether the duty thus regarded as 'nondelegable' be imposed by statute, charter or by common law. *Id.* at 800.

SoCalGas has suggested an agency relationship with Boots and Coots via the attached privilege log (Attachment A), where it specifically asserted attorney-client privilege over multiple communications between SoCalGas and Boots and Coots personnel.[3],[4] Then, SoCalGas refused to produce some of those same Boots and Coots personnel for examination under oath on the basis that they were neither employees nor agents of SoCalGas. Asserting attorney-client privilege over an agent, but then hiding behind the non-employee status of that agent undermines the Commission's jurisdiction, and the specific direction to produce Boots and Coots pursuant to Section 702. SoCalGas's position also evades SED's investigation and discovery rights.[5] If SoCalGas's position was allowed, SoCalGas would be encouraged to consistently hire contractors to do all of its regulated work so as to avoid providing information about the nature of that work to the Commission. Such a result is particularly dire given the Commission's concern regarding safety, and in the specific context of SoCalGas's safety-related Aliso Canyon incident on October 23, 2015.

Second, SoCalGas has a contract with Halliburton Energy Services, Inc. (Halliburton) to perform well services, known as the Southern California Gas Company Master Well Services Agreement (Agreement). In that Agreement, Halliburton has agreed to defend SoCalGas against any liabilities for third party claims.[6] Moreover, because SoCalGas contracted with Halliburton to perform services on its Aliso Canyon Wells in the Agreement, *Snyder* requires application of Sections 702, 311 and 314 to Halliburton in the same fashion that those sections apply to SoCalGas. Given that authority, the Agreement means that SoCalGas must produce the indicated Halliburton employees as if they were employees of SoCalGas.

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[3] See Attachment A, SoCalGas Privilege attorney-client Log in Response to SED Data Request 16 Question 3. For example, SoCalGas asserts attorney-client privilege over communications between SoCalGas and Boots and Coots in entries 3, 5, 7, 9, 12, 13, 14, 16, 23, 29, 30, 53 and 54.

[4] SED does not agree that SoCalGas has an attorney client relationship with Boots and Coots in many and possibly all of these entries. In one case, entry 14 includes a communication only between Bret Lane, Danny Clayton and Danny Walzel. To SED's understanding, none of these individuals are attorneys.

[5] For examples of SED's discovery authority, *see*, See also Cal Pub. Util. Code §314, which states in part, "The commission, each commissioner, and any officer of the commission or any employee authorized to administer oaths may examine under oath any officer, *agent*, or employee of a public utility in relation to its business and affairs." (Emphasis added.) *See also*, Cal. Pub. Util. Code §311. "The commission, each commissioner, the executive director, and the assistant executive directors may administer oaths, certify to all official acts, and issue subpoenas for the attendance of witnesses and the production of papers, waybills, books, accounts, documents, and testimony in any inquiry, investigation, hearing, or proceeding in any part of the state."

[6] See Attachment B, Agreement p. 6 of 30, Section 15.1(b).

Pursuant to its regulatory authority over SoCalGas, SED requires certain Halliburton and Boots and Coots employees who worked on efforts to kill wells at Aliso to be present at the California Public Utilities Commission (Commission) headquarters in San Francisco.

SED puts SoCalGas on notice that it is formally requesting SoCalGas produce at the Commission headquarters in San Francisco the following individuals from Boots and Coots:

Danny Clayton
Danny Walzel
James Kopecky
Mike Baggett

If SED has misunderstood SoCalGas's position, and SoCalGas is willing to cooperate with SED's preliminary investigation by producing the requested individuals, please let us know in writing. We would be happy to coordinate with you to accommodate schedules as much as practicable.

As another gesture of cooperation on SoCalGas's part, SED is requesting that SoCalGas make public the Agreement with Halliburton and Boots and Coots, and its attorney-client privilege log, both of which are attached to this letter. In the interest of transparency, SED is also requesting that SoCalGas agree that all aspects of this letter can be made public. Please advise in writing whether SoCalGas is willing to cooperate with these requests.

If you have any questions, please contact Nicholas Sher and Darryl Gruen.

Sincerely,

/s/ ELIZABETA MALASHENKO
Elizaveta Malashenko
Director-Safety and Enforcement Division, CPUC

cc:
Lee Palmer, Deputy Director – Safety and Enforcement Division
Kenneth Bruno, Program Manager – Safety and Enforcement Division
Jimmie Cho, Senior Vice President
Rodger Schwecke, VP Storage & Transmission Gas
Sabina Chlorefine-Counsel, SoCalGas

ATTACHMENT A

DOC #	Prod Beg CPUC	FROM	TO	CC	BCC	DATE	DESCRIPTION	PRIVILEGE BASIS
1		Nancy.Renteria@LW.com	lportillo@boots-coots.com	Michael.Romey@LW.com; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Howes, Marlin E. <MHowes@semprautilities.com>		11/12/2015 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
2						11/12/2015 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
3		Lane, Bret <tpjbl@enova.com>	Danny Walzel <dwalzel@boots-coots.com>; Danny Clayton <dclayton@boots-coots.com>			11/17/2015 8:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
4						11/17/2015 8:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
5		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/22/2015 8:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
6						11/22/2015 8:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
7		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/27/2015 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
8						11/27/2015 6:58	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
9		Cardiff, Steven G <SCardiff@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

10						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
11						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
12		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
13		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
14		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/30/2015 8:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
15						11/30/2015 8:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
16		JLane@semprautilities.com	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
17		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>		12/4/2015 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

18		Cardiff, Steven G <SCardiff@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Danny Walzel <dwalzel@boots-coots.com>	Baker, Phil E. <PBaker@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		12/4/2015 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
19						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
20						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
21						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
22		Lane, Bret <tpjbl@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/7/2015 10:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
23		John Hatteberg <jhatteberg@boots-coots.com>	Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Lane, Bret <JLane@semprautilities.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
24						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

25						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
26						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
27		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
28		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/9/2015 5:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
29	AC_CPUC_0172250	Schwecke, Rodger <RSchwecke@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
30	AC_CPUC_0172252	Schwecke, Rodger <rschwecke@enova.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
31						12/9/2015 15:36	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

32						12/10/2015 11:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
33		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 7:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
34		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/11/2015 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
35		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/11/2015 12:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
36		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 12:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
37						12/16/2015 5:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
38		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Alan.Gosse@Halliburton.com; Kevin.Bautista@halliburton.com; Kimberly.Barber@Halliburton.com; John Hatteberg <jhatteberg@boots-coots.com>; Wayne.Courville@boots-coots.com	De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Steve Cardiff <cardiffsr@gmail.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		12/18/2015 16:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
39						12/18/2015 16:09	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
40		Jim LaGrone <Jim.LaGrone@boots-coots.com>	donwshackelford@yahoo.com; Lane, Bret <JLane@semprautilities.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>			12/20/2015 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

41		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
42	AC_CPUC_0173646	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
43		John Hatteberg <jhatteberg@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
44		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
45	AC_CPUC_0173657	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
46		John Hatteberg <jhatteberg@boots-coots.com>	Wayne Courville <Wayne.Courville@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/21/2015 10:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
47						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
48						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
49						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
50						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

51						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
52						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
53		Alan Gosse <Alan.Gosse@Halliburton.com>	Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Don Laribee <Don.Laribee@Halliburton.com>; Joseph Letzkus <Joseph.Letzkus@halliburton.com>; Kaleb Bean <Kaleb.Bean@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Lawrence Albitre <Larry.Albitre@Halliburton.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Eddy Hinds <Eddy.Hinds@Halliburton.com>	John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		12/21/2015 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
54		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
55		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

56		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
57		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
58		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/28/2015 14:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
59	AC_CPUC_0174272	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/29/2015 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
60		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Bud Curtis <bcurtis@boots-coots.com>		1/3/2016 5:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
61						1/3/2016 5:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
62		JLane@semprautilities.com	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
63						1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

64						1/3/2016 8:53	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
65		Lane, Bret <tpjbl@enova.com>	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
66						1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
67						1/3/2016 8:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
68		Snyder, Hal <HSnyder@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
69		Snyder, Hal <hsnyder@enova.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
70		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Arriola, Dennis <DArriola@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		1/5/2016 11:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
71						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

72						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
73						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
74						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
75		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>; 'Steve Cardiff' <cardiffsr@gmail.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		1/6/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
76		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>			1/10/2016 13:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
77						1/10/2016 13:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
78		Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com); Arash Haghshenas <arash@boots-coots.com>			1/10/2016 16:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

79						1/10/2016 16:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
80		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		1/11/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
81						1/11/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
82	AC_CPUC_0176003	Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			1/11/2016 12:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
83	AC_CPUC_0166905	Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com)			1/11/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

84		Rodriguez, Sonia <srodrig3@enova.com>	Navin, Neil <NNavin@semprautilities.com>; gregory.hisel@fire.lacounty.gov; Robert Salgado (rsalgado@dir.ca.gov); kcrook@arbinc.com; Mario.Tresierras@fire.lacounty.gov; McGurk, Scott@DOC <Scott.McGurk@conservation.ca.gov>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Kysar, Scott <SKysar@semprautilities.com>; matthewson.epuna@cpuc.ca.gov; william.mcmechen@aecom.com; Lawrence.Kathryn@epa.gov; MNazemi1@aqmd.gov; Cho, Jimmie I <JCho@semprautilities.com>; Cocker, Philip <Philip.Cocker@fire.lacounty.gov>; Cynthia.Ishikawa@dot.gov; Kenneth Crook	scott.walker@conservation.ca.gov; kenneth.bruno@cpuc.ca.gov; Kerns, Barry <BKerns@semprautilities.com>; Mike Baggett (mbaggett@boots-coots.com); ctrombettas@dir.ca.gov; Ibay, Isaac <IIbay@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; tdraper@arbinc.com; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/14/2016 14:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
85						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
86						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

87						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
88		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; stephen.yench@flour.com	Andrews, Larry J <LAndrews@semprautilities.com>		1/18/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
89						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
90						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
91		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

92		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

93		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

94		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
95		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/1/2016 16:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
96		Van de Putte, Todd <tvandepu@enova.com>	Don Shackelford <donwshackelford@yahoo.com>			2/1/2016 16:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

97	AC_CPUC_0169648	Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 6:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
98		Egbert, Thomas <tegbert@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	'arash@boots-coots.com'		2/4/2016 9:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
99						2/4/2016 9:13	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
100		Arash Haghshenas <arash@boots-coots.com>	Egbert, Thomas <TEgbert@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 9:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
101		Unspecified Sender	Arash Haghshenas <arash@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

102		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
103						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

104		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
105						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

106		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
107						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

108		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
109						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

110		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
111						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

112		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
113						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

114		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
115						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

116		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
117						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

118		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
119						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

120		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
121						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
122		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 8:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
123						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
124						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

125						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
126						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
127		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
128		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
129		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 10:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
130						2/5/2016 10:03	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
131		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
132						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
133		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

134						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
135		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; John Wright <john.wright@bearco-intl.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Pete Slagel <pete@slagel.net>; John Hatteberg <jhatteberg@boots-coots.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd (TVandePutte@semprautilities.com)		2/6/2016 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
136						2/6/2016 9:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
137		Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/6/2016 10:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
138		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			2/6/2016 16:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
139		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/7/2016 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

140		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/7/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
141		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>			2/7/2016 8:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
142		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
143						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
144						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
145						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
146						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
147		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
148						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

149						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
150						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
151						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
152		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
153		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
154		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
155		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
156						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
157		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd (TVandePutte@semprautilities.com)	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger (RSchwecke@semprautilities.com)		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

158						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
159	AC_CPUC_0165819	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
160	AC_CPUC_0165828	Lane, Bret <tpjbl@enova.com>	Cho, Jimmie I (JCho@semprautilities.com); Schwecke, Rodger (RSchwecke@semprautilities.com); Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
161		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Egbert, Thomas <TEgbert@semprautilities.com>	'Arash Haghshenas' <arash@boots-coots.com>		2/8/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
162	AC_CPUC_0165837	Lane, Bret <JLane@semprautilities.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
163	AC_CPUC_0165839	Lane, Bret <tpjbl@enova.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
164	AC_CPUC_0165844	Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
165	AC_CPUC_0165841	Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

166	AC_CPUC_0170162	Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>	Schwecke, Rodger (RSchwecke@sempra utilities.com)		2/9/2016 5:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
167	AC_CPUC_0165847	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/9/2016 8:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
168		Lane, Bret <JLane@semprautilities.com>	John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/9/2016 15:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

169						2/9/2016 15:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
170	AC_CPUC_0165850	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
171	AC_CPUC_0165851	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
172	AC_CPUC_0165860	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
173	AC_CPUC_0165869	Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>; Chris Yeung <Chris.Yeung@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
174	AC_CPUC_0165872	Chris Yeung <Chris.Yeung@Halliburton.com>	Don Shackelford <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
175		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			2/11/2016 13:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

176						2/11/2016 13:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
177		Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/12/2016 8:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
178		Van de Putte, Todd <tvandepu@enova.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
179		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
180		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
181		JLane@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

182		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
183		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
184		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

185		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
186		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

187		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
188		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
189		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

190		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
191		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

192		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
193		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

194		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
195		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

196		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
197		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>	Michael Noel <Mike.Noel@Halliburton.com>; Sera, Travis <TSera@semprautilities.com>		3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

198		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
199		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

200		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
201		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

202		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
203		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
204		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

205		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
206		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Guy Fox <gfox@boots-coots.com>			3/14/2016 18:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
207		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
208		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
209		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
210		Navin, Neil <nnavin@enova.com>	Guy Fox <gfox@boots-coots.com>			3/15/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

211		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
212		Navin, Neil <NNavin@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
213		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
214		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
215		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

216		Navin, Neil <nnavin@enova.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
217		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
218		Navin, Neil <NNavin@semprautilities.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
219		Navin, Neil <nnavin@enova.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
220		Unspecified Sender	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
221						3/16/2016 9:34	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
222						3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
223		Navin, Neil <nnavin@enova.com>	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
224						3/16/2016 9:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
225						3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

226		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 13:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
227		Carl Cramm <Carl.Cramm@boots-coots.com>	NNavin@semprautilities.com	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>		3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
228						3/18/2016 13:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
229						3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
230		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>			3/18/2016 13:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
231		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 5:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
232		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 7:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

233		Unspecified Sender	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
234		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
235		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

236		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
237		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 12:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
238		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Guy Fox <gfox@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
239		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 14:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
240		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 3:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

241		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
242		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
243						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
244						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
245						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
246						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

247		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Rodger Schwecke <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
248						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
249						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
250						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
251						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
252		Doug Derr <dderr@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>			3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

253		Navin, Neil <nnavin@enova.com>	Navin,Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Hamze,Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
254		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 21:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
255		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

256		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
257		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
258		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

259		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
260		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
261		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
262		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

263		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
264		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 6:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
265		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

266		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
267		Tracy, Jill <jtracy@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
268		JTracy@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
269		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

270		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
271		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
272						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
273		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
274						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
275						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

276		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		3/28/2016 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
277						3/28/2016 8:13	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
278		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/28/2016 8:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

279		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
280		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

281		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
282		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
283						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
284						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
285		Guy Fox <gfox@boots-coots.com>	Navin, Neil (NNavin@semprautilities.com); tvandeputte@semprautilities.com	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

286						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
287						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
288		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/4/2016 11:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
289		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			4/4/2016 11:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
290		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
291		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
292		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
293		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
294		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			4/5/2016 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

295						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
296						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
297		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. (CBrandy@semprautilities.com)	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
298						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
299						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
300		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
301						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
302						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
303		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
304		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rubin, Jonathan <JRubin@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

305		Van de Putte, Todd <TVandePutte@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
306		Van de Putte, Todd <tvandepu@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
307		Unspecified Sender	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
308		Navin, Neil <NNavin@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
309		Rubin, Jonathan <JRubin@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>			4/5/2016 15:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
310		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
311		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
312		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
313		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

314		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 17:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
315		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Chechitelli, Frank <FChechitelli@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/6/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
316		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>		4/6/2016 10:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
317		Chechitelli, Frank <FChechitelli@semprautilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Andy Reif <Andy.Reif@halliburton.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony		4/6/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

318						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
319						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
320		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
321		Tracy, Jill <jtracy@enova.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

322		Unspecified Sender	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
323		Tracy, Jill <JTracy@semprautilities.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

324		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
325		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 10:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
326						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

327						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
328		John Walters - B&C <jwalters@boots-coots.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/7/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
329		Unspecified Sender	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

330		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
331		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
332		Unspecified Sender	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
333		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

334		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn (GLaFevers@semprautilities.com); Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
335						4/11/2016 7:29	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
336						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
337						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
338						4/11/2016 7:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
339		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
340						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
341						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
342						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
343						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

344		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
345						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
346						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
347						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
348						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
349		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
350						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
351						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
352						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
353						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

354		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
355		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
356		Gates, Beth A. <BAGates@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
357		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 8:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
358		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
359		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
360		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

361		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
362		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
363		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
364		Rubin, Jonathan <JRubin@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Phipps, Krista L <KPhipps@semprautilities.com>		4/11/2016 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
365		Van de Putte, Todd <tvandepu@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
366						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
367						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
368						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
369						4/11/2016 14:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

370		Unspecified Sender	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
371						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
372						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
373						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
374		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
375		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

376		Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
377		Tracy, Jill <jtracy@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
378		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
379		Unspecified Sender	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

380						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
381						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
382						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
383						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
384						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
385						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

386						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
387						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
388						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
389						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
390						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
391						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

392						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
393						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
394		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
395						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
396						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
397						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

398						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
399						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
400						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
401						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
402						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
403						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

404						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
405						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
406						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
407						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
408						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
409		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>		4/14/2016 12:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

410		Arash Haghshenas <arash@boots-coots.com>	Hassan, Kim <KHassan@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
411		Hassan, Kim <KHassan@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/14/2016 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
412		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
413		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
414		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
415		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

416		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
417		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
418		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
419		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
420		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 14:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
421		Navin, Neil <NNavin@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
422		Navin, Neil <nnavin@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

423						4/14/2016 18:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
424		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
425		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
426		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

427		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

428		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

429		Shapiro, Daniel <DShapiro@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager <jtager@henkels.com>; Kysar, Scott	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

430		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

431		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

432		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
433		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
434						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
435						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
436						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
437						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

438		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
439						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
440						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
441						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
442						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
443		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
444						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
445						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
446						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
447						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
448		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

449		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
450		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
451		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
452		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		4/18/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
453		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
454						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
455		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
456						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
457		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
458						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

459		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
460						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
461						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
462						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
463						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
464		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
465						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
466						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
467						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
468						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
469		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
470						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
471		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

472						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
473		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/18/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
474		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
475		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
476		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>		4/19/2016 9:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
477		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>		4/20/2016 6:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
478		Navin, Neil <NNavin@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
479		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
480	AC_CPUC_0183950	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

481	AC_CPUC_0183952	Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
482	AC_CPUC_0183948	Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
483		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
484						4/25/2016 8:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
485		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
486						4/25/2016 8:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
487		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

488		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
489		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

490		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
491		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

492		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
493		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

494		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
495		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

496		Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
497		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

498		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
499		Tracy, Jill <jtracy@enova.com>	'Levine, Randall Mark' <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
500		Tracy, Jill <jtracy@enova.com>	Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
501		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
502		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

503		Van de Putte, Todd <tvandepu@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
504		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
505		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dozier, Mike <MDozier@semprautilities.com>	DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; DL_Wellsure <DL_Wellsure@halliburton.com>		4/26/2016 8:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
506						4/26/2016 8:19	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
507		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

508		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
509		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/26/2016 14:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
510		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
511						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

512		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
513						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
514		Navin, Neil <nnavin@enova.com>	Tracy, Jill <JTracy@semprautilities.com >; La Fevers, Glenn <GLaFevers@semprautilities. com>	James LaGrone (jim.lagrone@boots-coots.com)		4/27/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
515						4/27/2016 12:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
516		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
517						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
518		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
519						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

520		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
521		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
522						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
523		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

524		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
525		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			5/5/2016 5:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
526		Van de Putte, Todd <tvandepu@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			5/5/2016 6:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
527		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; 'Blake, Thomas FCL' <TBlake@fugro.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; Bo Burris <bburris@boots-coots.com>		5/6/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

528						5/6/2016 10:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
529		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
530		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
531		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn (GLaFevers@sempra utilities.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>		5/24/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
532						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
533						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
534						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
535						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
536						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
537		Petrizzo, Hilary E <HPetrizzo@semprautili ties.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilit ies.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

538						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
539		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilities.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
540						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
541		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>	'Haley McIntosh' <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
542						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
543		Unspecified Sender	Wayne Courville <Wayne.Courville@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
544						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
545		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			6/13/2016 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
546						6/13/2016 7:27	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
547		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
548						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

549		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
550						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
551		Unspecified Sender	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; rgomez@boots-coots.com			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
552						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
553		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
554						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

555		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer (JOrellana2@sempra utilities.com)		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
556						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
557		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com >; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer <JOrellana2@sempra utilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

558		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
559		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
560		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
561		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
562						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
563		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

564						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
565		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
566						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
567		Tracy, Jill <JTracy@semprautilitie s.com>	La Fevers, Glenn <GLaFevers@semprautilities. com>; Navin, Neil <NNavin@semprautilities.com >; McMahon, Thomas D. <TMcMahon@semprautilities. com>; Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.c om>; Hamze, Firas <FHamze@semprautilities.co m>; Andrews, Larry J <LAndrews@semprautilities.c om>; Smith, Christopher J <CSmith8@semprautilities.co m>			7/22/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
568						7/22/2016 11:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

569		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>		7/25/2016 11:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
570						7/25/2016 11:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
571		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
572		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
573		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 18:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
574		La Fevers, Glenn <glafever@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			8/8/2016 18:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
575						8/10/2016 16:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
576		Jim LaGrone <Jim.LaGrone@boots-coots.com>	John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Dominick Bellotte <Dominick.Bellotte@halliburton.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 17:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

577		Dominick Bellotte <Dominick.Bellotte@halliburton.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 20:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
578		Haley McIntosh <hmmcintosh@jonesday.com>	jim.lagrone@boots-coots.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
579						8/18/2016 10:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
580		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 11:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
581						8/18/2016 11:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
582		Eliasian, Maghdi <maghdi.eliasian@morganlewis.com>	Haley McIntosh <hmmcintosh@jonesday.com>; Frescas, Arturo <AFrescas@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

583		Frescas, Arturo <AFrescas@semprautilities.com>	'Eliasian, Maghdi' <maghdi.eliasian@morganlewis.com>; Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
584		Haley McIntosh <hmmcintosh@jonesday.com>	mdozier@semprautilties.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		8/18/2016 14:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
585						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
586						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
587		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>			8/23/2016 11:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
588		Ng, Deana M <dmng@enova.com>	Ng, Deana M <DNg@semprautilities.com>; Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

589		Ng, Deana M <DNg@semprautilities.com>	Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
590		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/24/2016 12:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
591		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
592		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
593		Bill Whitney/Blade <BWhitney@blade-energy.com>	Bill Whitney/Blade <BWhitney@blade-energy.com>; Jim.LaGrone@boots-coots.com; Andrews, Larry J <LAndrews@semprautilities.com>; Nigel Alvares/Blade <NAlvares@blade-energy.com>; Randall L Rudolf/Blade <rrudolf@blade-energy.com>; Rolando.Gomez@boots-coots.com; Van de Putte, Todd <TVandePutte@semprautilities.com>; Aliso Canyon IDT ConfRoom 972-712-8400/Corporate <Aliso_Canyon_IDT_ConfRoom_972-712-8400/Corporate@mail.blade-energy.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ravi Krishnamurthy/Blade <ravimk@blade-energy.com>		8/29/2016 11:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

594		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
595						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
596		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
597						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
598		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
599						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

600		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
601						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
602						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
603						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
604						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

605						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
606		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
607						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
608						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
609						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
610						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

611						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
612		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
613						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
614						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
615						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

616						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
617						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
618		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
619						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
620						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

621						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
622		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
623						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
624						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
625						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

626		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
627						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
628						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
629						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
630		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

631						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
632						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
633						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
634		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
635						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

636						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
637						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
638		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
639						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
640						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

641						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
642		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
643						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
644						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
645		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

646						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
647						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
648		Orellana, Jennifer <jorella2@enova.com>	Orellana,Jennifer <JOrellana2@semprautilities.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; Navin,Neil <NNavin@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Van de Putte,Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/2/2016 3:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
649		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer <JOrellana2@sempra utilities.com>		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

650		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
651		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
652		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
653		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
654		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
655		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
656		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

657		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
658		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
659		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
660		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

661		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
662		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
663		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

664		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
665						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
666		Tracy, Jill <jtracy@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
667						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
668		Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

669						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
670		Navin, Neil <NNavin@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
671		Van de Putte, Todd <tvandepu@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
672		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
673		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

674		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
675		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
676		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
677		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando.Gomez@boots-coots.com			9/11/2016 16:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
678		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 18:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
679		GLaFevers@semprautilities.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
680		La Fevers, Glenn <glafever@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
681		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			9/12/2016 5:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
682		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

683		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
684		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>		9/12/2016 6:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
685						9/12/2016 6:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
686	AC_CPUC_0186107	Unspecified Sender	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
687	AC_CPUC_0186437	La Fevers, Glenn <glafever@enova.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

688	AC_CPUC_0186327	La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
689	AC_CPUC_0186547	Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
690						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
691	AC_CPUC_0186659	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
692						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
693	AC_CPUC_0186661	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

694						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
695		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
696		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
697						9/12/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
698		Hamze, Firas <tpfhh@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>			9/12/2016 14:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
699		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/20/2016 10:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
700		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
701		La Fevers, Glenn <glafever@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 12:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

702		La Fevers, Glenn <glafever@enova.com>	Rolly Gomez (rgomez@boots-coots.com); Jim LaGrone <Jim.LaGrone@boots-coots.com>; timmy.ludeman@weatherford.com			9/23/2016 7:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
703						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
704						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
705		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
706						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
707						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
708						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
709						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
710						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
711						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
712						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

713						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
714						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
715						9/23/2016 7:21	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
716		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
717						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
718						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
719						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
720	AC_CPUC_0187359	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/26/2016 15:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

721	AC_CPUC_0187371	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
722						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
723	AC_CPUC_0187375	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy,Jill; Navin,Neil; Dentici,Roberto; Van de Putte,Todd; McMahon,Thomas D.; Jim.LaGrone@boots-coots.com; Rolly Gomez; Hamze,Firas; Andrews,Larry J	Schwecke,Rodger; La Fevers,Glenn		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
724						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

725	AC_CPUC_0187365	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
726						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
727	AC_CPUC_0187373	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
728						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

729	AC_CPUC_0187381	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 18:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
730	AC_CPUC_0187448	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/28/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
731		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dentici, Roberto <RDentici@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/28/2016 18:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

732	AC_CPUC_0187459	Dentici, Roberto <719373e031c64d8596e05b6c846ac744-dentici, roberto@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
733	AC_CPUC_0187462	Dentici, Roberto <RDentici@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

734	AC_CPUC_0187477	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
735	AC_CPUC_0187473	Unspecified Sender	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

736	AC_CPUC_0187485	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
737	AC_CPUC_0187500	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

738	AC_CPUC_0187503	JTracy@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
739	AC_CPUC_0187512	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

740	AC_CPUC_0187516	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
741	AC_CPUC_0187519	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

742	AC_CPUC_0187522	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
743	AC_CPUC_0187546	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
744						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

745	AC_CPUC_0187550	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
746						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
747	AC_CPUC_0187543	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
748						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

749	AC_CPUC_0187553	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
750						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
751	AC_CPUC_0187604	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

752	AC_CPUC_0187614	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
753		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
754						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
755		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

756		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
757		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
758						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

759		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
760		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@sempr autilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
761						10/6/2016 9:25	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
762		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

763						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
764						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
765		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
766		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
767						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

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769						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
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771						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
772						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

773						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
774						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
775						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
776						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
777		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

778		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
779		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
780		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
781		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

782						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
783		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
784						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
785		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

786		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
787		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
788						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

789		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
790		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@sempr autilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
791						10/6/2016 9:28	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
792		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

793						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
794						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
795		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
796		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
797						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

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800						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
801						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
802						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

803						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
804						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
805						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
806						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
807		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

808		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
809		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
810		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
811		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

812						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
813	AC_CPUC_0187632	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
814	AC_CPUC_0187618	JTracy@semprautilities.com	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

815	AC_CPUC_0187660	Tracy, Jill <jtracy@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
816	AC_CPUC_0187646	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

817	AC_CPUC_0187687	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
818	AC_CPUC_0187697	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

819	AC_CPUC_0187704	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

820	AC_CPUC_0187712	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
821	AC_CPUC_0187790	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

822	AC_CPUC_0187797	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
823	AC_CPUC_0187801	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
824		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			12/5/2016 7:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
825	AC_CPUC_0188174	Van de Putte, Todd <tvandepu@enova.com>	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

826		Unspecified Sender	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
827						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
828						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
829						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
830						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
831						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

832						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
833						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
834						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
835						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
836						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
837						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

838						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
839						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
840						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
841	AC_CPUC_0188214	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			1/31/2017 15:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
842		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/1/2017 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
843	AC_CPUC_0188216	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/1/2017 8:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
844		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/13/2017 10:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

845						2/13/2017 10:37	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
846		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
847		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
848		McMahon, Thomas D. <TMcMahon@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	John Garner <Jgarner@boots-coots.com>		2/13/2017 19:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
849		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/15/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

850		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/15/2017 11:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
851		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/15/2017 11:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
852		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
853		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
854						2/17/2017 21:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

855	AC_CPUC_0188320	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/20/2017 20:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
856		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
857						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
858						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
859						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

860		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
861		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
862						2/21/2017 17:07	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
863		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
864		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 10:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

865		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
866		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
867		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 14:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
868	AC_CPUC_0188467	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
869	AC_CPUC_0188469	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

870		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
871	AC_CPUC_0188471	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 13:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
872		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
873						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
874						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

875		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
876						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
877						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
878		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			3/3/2017 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
879						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

880						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
881		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/3/2017 11:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
882		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
883		Van de Putte, Todd <tvandepu@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
884		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
885		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Rick Gentges <rgentges@rcp.com>; Elaine Froneberger <EFroneberger@rcp.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>		3/13/2017 9:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

886						3/13/2017 9:08	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
887		Jim LaGrone <Jim.LaGrone@boots-coots.com>	ndodoo@semprautiliteis.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; John Garner <Jgarner@boots-coots.com>		3/15/2017 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
888						3/15/2017 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
889	AC_CPUC_0188480	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/17/2017 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
890	AC_CPUC_0188483	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			3/20/2017 8:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
891	AC_CPUC_0188486	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/20/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
892		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>		5/2/2017 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

893		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Jim.LaGrone@boots-coots.com; Rolando.Gomez@boots-coots.com	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>; Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/3/2017 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
894		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
895		Dodoo, Nii Amoo <dnamoo@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
896		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>			5/11/2017 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
897		Kitson, Amy <awahl@enova.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
898		Kitson, Amy <AKitson@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
899		Navin, Neil <nnavin@enova.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
900		Navin, Neil <NNavin@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
901		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/11/2017 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

902		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/11/2017 14:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
903		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
904		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
905		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
906		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>		5/22/2017 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
907		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			5/26/2017 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
908		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 8:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
909		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 9:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
910		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
911		JCerrillos@semprautilities.com	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
912		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			6/1/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

913		Cerrillos, Jorge <tpjsc@enova.com> - on behalf of - Egan, Jason W <jwegan@enova.com>	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
914		JCerrillos@semprautilities.com	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
915		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	mmunoz@boots-coots.com	Cerrillos, Jorge <JCerrillos@semprautilities.com>		6/13/2017 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
916		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/11/2017 6:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
917						7/11/2017 6:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
918		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
919						7/12/2017 6:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
920		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
921						7/12/2017 6:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
922		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		7/13/2017 14:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
923						7/13/2017 14:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

924		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Sharepoint <Sharepoint@semprautilities.com>; SempraHelp <SempraHelp@sempra.com>	Tran, Johnny Q <JQTran@semprautilities.com>; Cerrillos, Jorge <JCerrillos@semprautilities.com>; mmunoz@boots-coots.com		7/18/2017 6:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
925	AC_CPUC_0188530	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/8/2017 22:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
926	AC_CPUC_0188539	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
927	AC_CPUC_0188548	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

928	AC_CPUC_0188557	Schwecke, Rodger <RSchwecke@semprautilities.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
929	AC_CPUC_0188558	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

930	AC_CPUC_0188560	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
931	AC_CPUC_0188562	TMcMahon@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

ATTACHMENT B

DOC #	Prod Beg CPUC	FROM	TO	CC	BCC	DATE	DESCRIPTION	PRIVILEGE BASIS
1		Nancy.Renteria@LW.com	lportillo@boots-coots.com	Michael.Romey@LW.com; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Howes, Marlin E. <MHowes@semprautilities.com>		11/12/2015 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
2						11/12/2015 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
3		Lane, Bret <tpjbl@enova.com>	Danny Walzel <dwalzel@boots-coots.com>; Danny Clayton <dclayton@boots-coots.com>			11/17/2015 8:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
4						11/17/2015 8:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
5		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/22/2015 8:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
6						11/22/2015 8:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
7		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/27/2015 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
8						11/27/2015 6:58	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
9		Cardiff, Steven G <SCardiff@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

10						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
11						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
12		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
13		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
14		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/30/2015 8:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
15						11/30/2015 8:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
16		JLane@semprautilities.com	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
17		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>		12/4/2015 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

18		Cardiff, Steven G <SCardiff@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Danny Walzel <dwalzel@boots-coots.com>	Baker, Phil E. <PBaker@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		12/4/2015 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
19						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
20						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
21						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
22		Lane, Bret <tpjbl@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/7/2015 10:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
23		John Hatteberg <jhatteberg@boots-coots.com>	Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Lane, Bret <JLane@semprautilities.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
24						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

25						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
26						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
27		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
28		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/9/2015 5:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
29	AC_CPUC_0172250	Schwecke, Rodger <RSchwecke@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
30	AC_CPUC_0172252	Schwecke, Rodger <rschwecke@enova.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
31						12/9/2015 15:36	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

32						12/10/2015 11:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
33		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 7:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
34		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/11/2015 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
35		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/11/2015 12:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
36		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 12:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
37						12/16/2015 5:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
38		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Alan.Gosse@Halliburton.com; Kevin.Bautista@halliburton.com; Kimberly.Barber@Halliburton.com; John Hatteberg <jhatteberg@boots-coots.com>; Wayne.Courville@boots-coots.com	De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Steve Cardiff <cardiffsr@gmail.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		12/18/2015 16:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
39						12/18/2015 16:09	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
40		Jim LaGrone <Jim.LaGrone@boots-coots.com>	donwshackelford@yahoo.com; Lane, Bret <JLane@semprautilities.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>			12/20/2015 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

41		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
42	AC_CPUC_0173646	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
43		John Hatteberg <jhatteberg@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
44		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
45	AC_CPUC_0173657	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
46		John Hatteberg <jhatteberg@boots-coots.com>	Wayne Courville <Wayne.Courville@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/21/2015 10:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
47						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
48						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
49						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
50						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

51						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
52						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
53		Alan Gosse <Alan.Gosse@Halliburton.com>	Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Don Laribee <Don.Laribee@Halliburton.com>; Joseph Letzkus <Joseph.Letzkus@halliburton.com>; Kaleb Bean <Kaleb.Bean@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Lawrence Albitre <Larry.Albitre@Halliburton.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Eddy Hinds <Eddy.Hinds@Halliburton.com>	John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		12/21/2015 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
54		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
55		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

56		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
57		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
58		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/28/2015 14:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
59	AC_CPUC_0174272	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/29/2015 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
60		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Bud Curtis <bcurtis@boots-coots.com>		1/3/2016 5:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
61						1/3/2016 5:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
62		JLane@semprautilities.com	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
63						1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

64						1/3/2016 8:53	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
65		Lane, Bret <tpjbl@enova.com>	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
66						1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
67						1/3/2016 8:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
68		Snyder, Hal <HSnyder@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
69		Snyder, Hal <hsnyder@enova.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
70		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Arriola, Dennis <DArriola@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		1/5/2016 11:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
71						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

72						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
73						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
74						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
75		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>; 'Steve Cardiff' <cardiffsr@gmail.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		1/6/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
76		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>			1/10/2016 13:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
77						1/10/2016 13:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
78		Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com); Arash Haghshenas <arash@boots-coots.com>			1/10/2016 16:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

79						1/10/2016 16:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
80		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		1/11/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
81						1/11/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
82	AC_CPUC_0176003	Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			1/11/2016 12:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
83	AC_CPUC_0166905	Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com)			1/11/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

84		Rodriguez, Sonia <srodrig3@enova.com>	Navin, Neil <NNavin@semprautilities.com>; gregory.hisel@fire.lacounty.gov; Robert Salgado (rsalgado@dir.ca.gov); kcrook@arbinc.com; Mario.Tresierras@fire.lacounty.gov; McGurk, Scott@DOC <Scott.McGurk@conservation.ca.gov>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Kysar, Scott <SKysar@semprautilities.com>; matthewson.epuna@cpuc.ca.gov; william.mcmechen@aecom.com; Lawrence.Kathryn@epa.gov; MNazemi1@aqmd.gov; Cho, Jimmie I <JCho@semprautilities.com>; Cocker, Philip <Philip.Cocker@fire.lacounty.gov>; Cynthia.Ishikawa@dot.gov; Kenneth Crook	scott.walker@conservation.ca.gov; kenneth.bruno@cpuc.ca.gov; Kerns, Barry <BKerns@semprautilities.com>; Mike Baggett (mbaggett@boots-coots.com); ctrombettas@dir.ca.gov; Ibay, Isaac <IIbay@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; tdraper@arbinc.com; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/14/2016 14:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
85						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
86						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

87						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
88		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; stephen.yench@flour.com	Andrews, Larry J <LAndrews@semprautilities.com>		1/18/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
89						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
90						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
91		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

92		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

93		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

94		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
95		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/1/2016 16:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
96		Van de Putte, Todd <tvandepu@enova.com>	Don Shackelford <donwshackelford@yahoo.com>			2/1/2016 16:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

97	AC_CPUC_0169648	Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 6:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
98		Egbert, Thomas <tegbert@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	'arash@boots-coots.com'		2/4/2016 9:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
99						2/4/2016 9:13	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
100		Arash Haghshenas <arash@boots-coots.com>	Egbert, Thomas <TEgbert@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 9:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
101		Unspecified Sender	Arash Haghshenas <arash@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

102		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
103						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

104		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
105						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

106		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
107						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

108		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
109						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

110		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
111						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

112		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
113						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

114		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
115						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

116		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
117						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

118		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
119						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

120		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
121						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
122		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 8:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
123						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
124						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

125						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
126						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
127		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
128		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
129		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 10:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
130						2/5/2016 10:03	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
131		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
132						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
133		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

134						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
135		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; John Wright <john.wright@bearco-intl.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Pete Slagel <pete@slagel.net>; John Hatteberg <jhatteberg@boots-coots.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd (TVandePutte@semprautilities.com)		2/6/2016 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
136						2/6/2016 9:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
137		Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/6/2016 10:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
138		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			2/6/2016 16:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
139		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/7/2016 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

140		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com> ; Don Shackelford <donwshackelford@yahoo.co m>			2/7/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
141		Don Shackelford <donwshackelford@yah oo.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Lane, Bret <JLane@semprautilities.com>			2/7/2016 8:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
142		Van de Putte, Todd <tvandepu@enova.com >	Lane, Bret <JLane@semprautilities.com> ; Don Shackelford <donwshackelford@yahoo.co m>; Schwecke, Rodger <RSchwecke@semprautilities .com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
143						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
144						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
145						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
146						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
147		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com> ; Don Shackelford <donwshackelford@yahoo.co m>; Schwecke, Rodger <RSchwecke@semprautilities .com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
148						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

149						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
150						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
151						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
152		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
153		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
154		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
155		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
156						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
157		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd (TVandePutte@semprautilities.com)	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger (RSchwecke@semprautilities.com)		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

158						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
159	AC_CPUC_0165819	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
160	AC_CPUC_0165828	Lane, Bret <tpjbl@enova.com>	Cho, Jimmie I (JCho@semprautilities.com); Schwecke, Rodger (RSchwecke@semprautilities.com); Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
161		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Egbert, Thomas <TEgbert@semprautilities.com>	'Arash Haghshenas' <arash@boots-coots.com>		2/8/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
162	AC_CPUC_0165837	Lane, Bret <JLane@semprautilities.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
163	AC_CPUC_0165839	Lane, Bret <tpjbl@enova.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
164	AC_CPUC_0165844	Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
165	AC_CPUC_0165841	Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

166	AC_CPUC_0170162	Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>	Schwecke, Rodger (RSchwecke@sempra utilities.com)		2/9/2016 5:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
167	AC_CPUC_0165847	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/9/2016 8:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
168		Lane, Bret <JLane@semprautilities.com>	John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/9/2016 15:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

169						2/9/2016 15:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
170	AC_CPUC_0165850	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
171	AC_CPUC_0165851	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
172	AC_CPUC_0165860	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
173	AC_CPUC_0165869	Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>; Chris Yeung <Chris.Yeung@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
174	AC_CPUC_0165872	Chris Yeung <Chris.Yeung@Halliburton.com>	Don Shackelford <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
175		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			2/11/2016 13:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

176						2/11/2016 13:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
177		Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/12/2016 8:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
178		Van de Putte, Todd <tvandepu@enova.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
179		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
180		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
181		JLane@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

182		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
183		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
184		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

185		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
186		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

187		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
188		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
189		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

190		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
191		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

192		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
193		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

194		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
195		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

196		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
197		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>	Michael Noel <Mike.Noel@Halliburton.com>; Sera, Travis <TSera@semprautilities.com>		3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

198		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
199		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

200		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
201		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

202		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
203		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
204		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

205		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
206		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Guy Fox <gfox@boots-coots.com>			3/14/2016 18:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
207		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
208		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
209		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
210		Navin, Neil <nnavin@enova.com>	Guy Fox <gfox@boots-coots.com>			3/15/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

211		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
212		Navin, Neil <NNavin@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
213		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
214		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
215		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

216		Navin, Neil <nnavin@enova.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
217		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
218		Navin, Neil <NNavin@semprautilities.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
219		Navin, Neil <nnavin@enova.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
220		Unspecified Sender	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
221						3/16/2016 9:34	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
222						3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
223		Navin, Neil <nnavin@enova.com>	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
224						3/16/2016 9:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
225						3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

226		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 13:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
227		Carl Cramm <Carl.Cramm@boots-coots.com>	NNavin@semprautilities.com	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>		3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
228						3/18/2016 13:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
229						3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
230		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>			3/18/2016 13:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
231		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 5:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
232		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 7:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

233		Unspecified Sender	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
234		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
235		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

236		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
237		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 12:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
238		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Guy Fox <gfox@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
239		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 14:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
240		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 3:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

241		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
242		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
243						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
244						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
245						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
246						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

247		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Rodger Schwecke <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
248						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
249						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
250						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
251						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
252		Doug Derr <dderr@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>			3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

253		Navin, Neil <nnavin@enova.com>	Navin,Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Hamze,Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
254		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 21:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
255		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

256		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
257		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
258		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

259		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
260		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
261		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
262		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

263		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
264		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 6:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
265		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

266		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
267		Tracy, Jill <jtracy@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
268		JTracy@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
269		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

270		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
271		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
272						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
273		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
274						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
275						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

276		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		3/28/2016 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
277						3/28/2016 8:13	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
278		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/28/2016 8:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

279		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
280		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

281		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
282		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
283						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
284						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
285		Guy Fox <gfox@boots-coots.com>	Navin, Neil (NNavin@semprautilities.com); tvandeputte@semprautilities.com	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

286						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
287						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
288		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/4/2016 11:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
289		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			4/4/2016 11:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
290		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
291		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
292		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
293		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
294		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			4/5/2016 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

295						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
296						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
297		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. (CBrandy@semprautilities.com)	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
298						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
299						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
300		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
301						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
302						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
303		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
304		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rubin, Jonathan <JRubin@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

305		Van de Putte, Todd <TVandePutte@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
306		Van de Putte, Todd <tvandepu@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
307		Unspecified Sender	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
308		Navin, Neil <NNavin@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
309		Rubin, Jonathan <JRubin@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>			4/5/2016 15:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
310		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
311		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
312		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
313		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

314		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 17:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
315		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Chechitelli, Frank <FChechitelli@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/6/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
316		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>		4/6/2016 10:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
317		Chechitelli, Frank <FChechitelli@semprautilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Andy Reif <Andy.Reif@halliburton.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony		4/6/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

318						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
319						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
320		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
321		Tracy, Jill <jtracy@enova.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

322		Unspecified Sender	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
323		Tracy, Jill <JTracy@semprautilities.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

324		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
325		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 10:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
326						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

327						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
328		John Walters - B&C <jwalters@boots-coots.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/7/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
329		Unspecified Sender	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

330		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
331		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
332		Unspecified Sender	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
333		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

334		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn (GLaFevers@semprautilities.com); Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
335						4/11/2016 7:29	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
336						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
337						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
338						4/11/2016 7:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
339		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
340						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
341						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
342						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
343						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

344		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
345						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
346						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
347						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
348						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
349		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
350						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
351						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
352						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
353						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

354		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
355		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
356		Gates, Beth A. <BAGates@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
357		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 8:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
358		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
359		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
360		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

361		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
362		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
363		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
364		Rubin, Jonathan <JRubin@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Phipps, Krista L <KPhipps@semprautilities.com>		4/11/2016 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
365		Van de Putte, Todd <tvandepu@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
366						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
367						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
368						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
369						4/11/2016 14:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

370		Unspecified Sender	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
371						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
372						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
373						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
374		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
375		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

376		Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
377		Tracy, Jill <jtracy@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
378		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
379		Unspecified Sender	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

380						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
381						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
382						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
383						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
384						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
385						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

386						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
387						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
388						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
389						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
390						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
391						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

392						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
393						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
394		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
395						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
396						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
397						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

398						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
399						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
400						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
401						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
402						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
403						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

404						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
405						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
406						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
407						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
408						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
409		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>		4/14/2016 12:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

410		Arash Haghshenas <arash@boots-coots.com>	Hassan, Kim <KHassan@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
411		Hassan, Kim <KHassan@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/14/2016 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
412		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
413		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
414		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
415		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

416		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
417		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
418		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
419		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
420		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 14:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
421		Navin, Neil <NNavin@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
422		Navin, Neil <nnavin@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

423						4/14/2016 18:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
424		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
425		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
426		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

427		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

428		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

429		Shapiro, Daniel <DShapiro@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager <jtager@henkels.com>; Kysar, Scott	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

430		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

431		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

432		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
433		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
434						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
435						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
436						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
437						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

438		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
439						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
440						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
441						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
442						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
443		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
444						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
445						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
446						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
447						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
448		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

449		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
450		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
451		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
452		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		4/18/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
453		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
454						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
455		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
456						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
457		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
458						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

459		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
460						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
461						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
462						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
463						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
464		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
465						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
466						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
467						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
468						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
469		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
470						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
471		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

472						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
473		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/18/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
474		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
475		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
476		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>		4/19/2016 9:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
477		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>		4/20/2016 6:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
478		Navin, Neil <NNavin@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
479		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
480	AC_CPUC_0183950	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

481	AC_CPUC_0183952	Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
482	AC_CPUC_0183948	Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
483		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
484						4/25/2016 8:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
485		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
486						4/25/2016 8:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
487		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

488		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
489		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

490		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
491		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

492		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
493		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

494		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
495		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

496		Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
497		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

498		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
499		Tracy, Jill <jtracy@enova.com>	'Levine, Randall Mark' <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
500		Tracy, Jill <jtracy@enova.com>	Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
501		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
502		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

503		Van de Putte, Todd <tvandepu@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
504		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
505		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dozier, Mike <MDozier@semprautilities.com>	DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; DL_Wellsure <DL_Wellsure@halliburton.com>		4/26/2016 8:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
506						4/26/2016 8:19	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
507		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

508		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
509		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/26/2016 14:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
510		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
511						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

512		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
513						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
514		Navin, Neil <nnavin@enova.com>	Tracy, Jill <JTracy@semprautilities.com >; La Fevers, Glenn <GLaFevers@semprautilities. com>	James LaGrone (jim.lagrone@boots-coots.com)		4/27/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
515						4/27/2016 12:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
516		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
517						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
518		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
519						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

520		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
521		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
522						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
523		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

524		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
525		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			5/5/2016 5:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
526		Van de Putte, Todd <tvandepu@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			5/5/2016 6:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
527		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; 'Blake, Thomas FCL' <TBlake@fugro.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; Bo Burris <bburris@boots-coots.com>		5/6/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

528						5/6/2016 10:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
529		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
530		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
531		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn (GLaFevers@sempra utilities.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>		5/24/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
532						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
533						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
534						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
535						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
536						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
537		Petrizzo, Hilary E <HPetrizzo@semprautili ties.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilit ies.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

538						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
539		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilities.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
540						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
541		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>	'Haley McIntosh' <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
542						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
543		Unspecified Sender	Wayne Courville <Wayne.Courville@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
544						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
545		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			6/13/2016 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
546						6/13/2016 7:27	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
547		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
548						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

549		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
550						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
551		Unspecified Sender	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; rgomez@boots-coots.com			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
552						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
553		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
554						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

555		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
556						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
557		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

558		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
559		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
560		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
561		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
562						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
563		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

564						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
565		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
566						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
567		Tracy, Jill <JTracy@semprautilitie s.com>	La Fevers, Glenn <GLaFevers@semprautilities. com>; Navin, Neil <NNavin@semprautilities.com >; McMahon, Thomas D. <TMcMahon@semprautilities. com>; Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.c om>; Hamze, Firas <FHamze@semprautilities.co m>; Andrews, Larry J <LAndrews@semprautilities.c om>; Smith, Christopher J <CSmith8@semprautilities.co m>			7/22/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
568						7/22/2016 11:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

569		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>		7/25/2016 11:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
570						7/25/2016 11:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
571		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
572		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
573		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 18:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
574		La Fevers, Glenn <glafever@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			8/8/2016 18:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
575						8/10/2016 16:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
576		Jim LaGrone <Jim.LaGrone@boots-coots.com>	John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Dominick Bellotte <Dominick.Bellotte@halliburton.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 17:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

577		Dominick Bellotte <Dominick.Bellotte@halliburton.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 20:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
578		Haley McIntosh <hmmcintosh@jonesday.com>	jim.lagrone@boots-coots.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
579						8/18/2016 10:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
580		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 11:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
581						8/18/2016 11:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
582		Eliasian, Maghdi <maghdi.eliasian@morganlewis.com>	Haley McIntosh <hmmcintosh@jonesday.com>; Frescas, Arturo <AFrescas@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

583		Frescas, Arturo <AFrescas@semprautilities.com>	'Eliasian, Maghdi' <maghdi.eliasian@morganlewis.com>; Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
584		Haley McIntosh <hmmcintosh@jonesday.com>	mdozier@semprautilties.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		8/18/2016 14:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
585						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
586						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
587		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>			8/23/2016 11:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
588		Ng, Deana M <dmng@enova.com>	Ng, Deana M <DNg@semprautilities.com>; Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

589		Ng, Deana M <DNg@semprautilities.com>	Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
590		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/24/2016 12:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
591		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
592		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
593		Bill Whitney/Blade <BWhitney@blade-energy.com>	Bill Whitney/Blade <BWhitney@blade-energy.com>; Jim.LaGrone@boots-coots.com; Andrews, Larry J <LAndrews@semprautilities.com>; Nigel Alvares/Blade <NAlvares@blade-energy.com>; Randall L Rudolf/Blade <rrudolf@blade-energy.com>; Rolando.Gomez@boots-coots.com; Van de Putte, Todd <TVandePutte@semprautilities.com>; Aliso Canyon IDT ConfRoom 972-712-8400/Corporate <Aliso_Canyon_IDT_ConfRoom_972-712-8400/Corporate@mail.blade-energy.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ravi Krishnamurthy/Blade <ravimk@blade-energy.com>		8/29/2016 11:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

594		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
595						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
596		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
597						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
598		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
599						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

600		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
601						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
602						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
603						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
604						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

605						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
606		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
607						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
608						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
609						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
610						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

611						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
612		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
613						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
614						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
615						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

616						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
617						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
618		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
619						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
620						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

621						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
622		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
623						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
624						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
625						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

626		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
627						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
628						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
629						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
630		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

631						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
632						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
633						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
634		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
635						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

636						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
637						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
638		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
639						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
640						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

641						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
642		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
643						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
644						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
645		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

646						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
647						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
648		Orellana, Jennifer <jorella2@enova.com>	Orellana,Jennifer <JOrellana2@semprautilities.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; Navin,Neil <NNavin@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Van de Putte,Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/2/2016 3:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
649		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

650		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
651		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
652		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
653		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
654		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
655		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
656		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

657		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
658		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
659		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
660		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

661		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
662		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
663		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

664		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
665						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
666		Tracy, Jill <jtracy@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
667						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
668		Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

669						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
670		Navin, Neil <NNavin@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
671		Van de Putte, Todd <tvandepu@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
672		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
673		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

674		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
675		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
676		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
677		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando.Gomez@boots-coots.com			9/11/2016 16:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
678		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 18:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
679		GLaFevers@semprautilities.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
680		La Fevers, Glenn <glafever@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
681		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			9/12/2016 5:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
682		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

683		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
684		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>		9/12/2016 6:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
685						9/12/2016 6:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
686	AC_CPUC_0186107	Unspecified Sender	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
687	AC_CPUC_0186437	La Fevers, Glenn <glafever@enova.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

688	AC_CPUC_0186327	La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
689	AC_CPUC_0186547	Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
690						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
691	AC_CPUC_0186659	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
692						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
693	AC_CPUC_0186661	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

694						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
695		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
696		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
697						9/12/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
698		Hamze, Firas <tpfhh@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>			9/12/2016 14:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
699		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/20/2016 10:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
700		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
701		La Fevers, Glenn <glafever@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 12:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

702		La Fevers, Glenn <glafever@enova.com>	Rolly Gomez (rgomez@boots-coots.com); Jim LaGrone <Jim.LaGrone@boots-coots.com>; timmy.ludeman@weatherford.com			9/23/2016 7:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
703						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
704						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
705		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
706						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
707						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
708						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
709						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
710						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
711						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
712						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

713						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
714						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
715						9/23/2016 7:21	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
716		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
717						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
718						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
719						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
720	AC_CPUC_0187359	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/26/2016 15:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

721	AC_CPUC_0187371	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
722						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
723	AC_CPUC_0187375	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy,Jill; Navin,Neil; Dentici,Roberto; Van de Putte,Todd; McMahon,Thomas D.; Jim.LaGrone@boots-coots.com; Rolly Gomez; Hamze,Firas; Andrews,Larry J	Schwecke,Rodger; La Fevers,Glenn		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
724						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

725	AC_CPUC_0187365	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
726						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
727	AC_CPUC_0187373	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
728						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

729	AC_CPUC_0187381	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 18:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
730	AC_CPUC_0187448	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/28/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
731		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dentici, Roberto <RDentici@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/28/2016 18:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

732	AC_CPUC_0187459	Dentici, Roberto <719373e031c64d8596e05b6c846ac744-dentici, roberto@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
733	AC_CPUC_0187462	Dentici, Roberto <RDentici@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

734	AC_CPUC_0187477	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
735	AC_CPUC_0187473	Unspecified Sender	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

736	AC_CPUC_0187485	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
737	AC_CPUC_0187500	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

738	AC_CPUC_0187503	JTracy@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
739	AC_CPUC_0187512	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

740	AC_CPUC_0187516	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
741	AC_CPUC_0187519	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

742	AC_CPUC_0187522	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
743	AC_CPUC_0187546	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
744						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

745	AC_CPUC_0187550	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
746						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
747	AC_CPUC_0187543	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
748						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

749	AC_CPUC_0187553	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
750						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
751	AC_CPUC_0187604	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

752	AC_CPUC_0187614	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
753		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
754						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
755		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

756		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
757		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
758						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

759		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
760		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
761						10/6/2016 9:25	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
762		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

763						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
764						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
765		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
766		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
767						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

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769						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
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771						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
772						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

773						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
774						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
775						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
776						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
777		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

778		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
779		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
780		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
781		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

782						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
783		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
784						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
785		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

786		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
787		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
788						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

789		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
790		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@sempr autilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
791						10/6/2016 9:28	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
792		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

793						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
794						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
795		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
796		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
797						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

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801						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
802						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

803						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
804						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
805						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
806						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
807		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

808		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
809		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
810		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
811		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

812						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
813	AC_CPUC_0187632	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
814	AC_CPUC_0187618	JTracy@semprautilities.com	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

815	AC_CPUC_0187660	Tracy, Jill <jtracy@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
816	AC_CPUC_0187646	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

817	AC_CPUC_0187687	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
818	AC_CPUC_0187697	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

819	AC_CPUC_0187704	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

820	AC_CPUC_0187712	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
821	AC_CPUC_0187790	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

822	AC_CPUC_0187797	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
823	AC_CPUC_0187801	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
824		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			12/5/2016 7:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
825	AC_CPUC_0188174	Van de Putte, Todd <tvandepu@enova.com>	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

826		Unspecified Sender	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
827						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
828						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
829						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
830						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
831						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

832						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
833						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
834						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
835						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
836						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
837						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

838						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
839						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
840						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
841	AC_CPUC_0188214	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			1/31/2017 15:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
842		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/1/2017 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
843	AC_CPUC_0188216	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/1/2017 8:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
844		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/13/2017 10:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

845						2/13/2017 10:37	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
846		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
847		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
848		McMahon, Thomas D. <TMcMahon@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	John Garner <Jgarner@boots-coots.com>		2/13/2017 19:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
849		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/15/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

850		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/15/2017 11:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
851		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/15/2017 11:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
852		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
853		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
854						2/17/2017 21:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

855	AC_CPUC_0188320	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/20/2017 20:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
856		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
857						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
858						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
859						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

860		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
861		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
862						2/21/2017 17:07	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
863		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
864		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 10:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

865		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
866		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
867		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 14:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
868	AC_CPUC_0188467	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
869	AC_CPUC_0188469	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

870		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
871	AC_CPUC_0188471	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 13:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
872		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
873						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
874						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

875		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
876						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
877						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
878		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			3/3/2017 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
879						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

880						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
881		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/3/2017 11:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
882		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
883		Van de Putte, Todd <tvandepu@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
884		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
885		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Rick Gentges <rgentges@rcp.com>; Elaine Froneberger <EFroneberger@rcp.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>		3/13/2017 9:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

886						3/13/2017 9:08	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
887		Jim LaGrone <Jim.LaGrone@boots-coots.com>	ndodoo@semprautiliteis.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; John Garner <Jgarner@boots-coots.com>		3/15/2017 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
888						3/15/2017 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
889	AC_CPUC_0188480	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/17/2017 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
890	AC_CPUC_0188483	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			3/20/2017 8:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
891	AC_CPUC_0188486	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/20/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
892		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>		5/2/2017 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

893		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Jim.LaGrone@boots-coots.com; Rolando.Gomez@boots-coots.com	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>; Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/3/2017 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
894		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
895		Dodoo, Nii Amoo <dnamoo@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
896		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>			5/11/2017 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
897		Kitson, Amy <awahl@enova.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
898		Kitson, Amy <AKitson@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
899		Navin, Neil <nnavin@enova.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
900		Navin, Neil <NNavin@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
901		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/11/2017 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

902		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/11/2017 14:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
903		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
904		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
905		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
906		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>		5/22/2017 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
907		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			5/26/2017 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
908		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 8:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
909		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 9:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
910		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
911		JCerrillos@semprautilities.com	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
912		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			6/1/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

913		Cerrillos, Jorge <tpjsc@enova.com> - on behalf of - Egan, Jason W <jwegan@enova.com>	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
914		JCerrillos@semprautilities.com	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
915		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	mmunoz@boots-coots.com	Cerrillos, Jorge <JCerrillos@semprautilities.com>		6/13/2017 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
916		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/11/2017 6:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
917						7/11/2017 6:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
918		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
919						7/12/2017 6:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
920		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
921						7/12/2017 6:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
922		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		7/13/2017 14:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
923						7/13/2017 14:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

924		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Sharepoint <Sharepoint@semprautilities.com>; SempraHelp <SempraHelp@sempra.com>	Tran, Johnny Q <JQTran@semprautilities.com>; Cerrillos, Jorge <JCerrillos@semprautilities.com>; mmunoz@boots-coots.com		7/18/2017 6:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
925	AC_CPUC_0188530	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/8/2017 22:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
926	AC_CPUC_0188539	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
927	AC_CPUC_0188548	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

928	AC_CPUC_0188557	Schwecke, Rodger <RSchwecke@semprautilities.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
929	AC_CPUC_0188558	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

930	AC_CPUC_0188560	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
931	AC_CPUC_0188562	TMcMahon@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

PRE-FORMAL INQUIRY INTO SOUTHERN CALIFORNIA GAS COMPANY'S MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015	**SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH** **Public Utilities Code Sections 311(a) and 314(a)** **SUBPOENA TO PROVIDE DOCUMENTS** **Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791**

TO: Danny Clayton

1. Pursuant to sections 311(a), 314, 314(a), 314.5, 581, 582, 584, 701, 702, and 1791 *et seq.* of the California Public Utilities Code,

2. You are:

   a. ☒ Ordered to appear in person on August 8 and 9, 2018, at 10:00 a.m. at 505 Van Ness Avenue, San Francisco, CA 94102.

   b. ☒ Ordered to produce the documents described in Attachment A at least three full business days prior to the personal appearances described herein, i.e., at or before August 1, 2018. The personal attendance of the custodian and other qualified witnesses and the production of the original records is required by this subpoena.

   c. ☐ Not required to appear in person if you produce copies of the documents described in **Declaration in Support of Subpoena** to the person named in item 4, below, prior to the date and time indicated above.

3. If you have been subpoenaed as a witness, you are entitled to witness fees and mileage actually traveled, as provided by law. You may request one day's witness and mileage fees for travel to and from the place you are required to appear. You may demand these fees a t the time of service from the process server or from the party or attorney requesting the subpoena. If they are not paid or tendered at that time, or unless the subpoena was obtained by the Commission staff, you are not required to appear (Public Utilities Code Section 1791).

4. IF YOU HAVE ANY QUESTIONS ABOUT THIS SUBPOENA, OR YOU WANT TO BE CERTAIN WHETHER YOUR PRESENCE IS REQUIRED, CONTACT THE FOLLOWING PERSON:

   Name: Nicholas Sher, CPUC Staff Counsel Telephone: 415-703-4232

DISOBEDIENCE OF THIS SUBPOENA MAY BE PUNISHED AS CONTEMPT BY THIS COMMISSION.

By order of the Public Utilities Commission of the State of California.

Dated this 13th day of July, 2018.

Alice Stebbins

By: Alice Stebbins
Title: Executive Director

DECLARATION IN SUPPORT OF SUBPOENA

I, Nicholas Sher, declare as follows:

1. I am an attorney duly licensed to practice before all courts of the State of California and am employed as a staff attorney for the California Public Utilities Commission (Commission). My business address is 505 Van Ness Avenue, San Francisco, California.

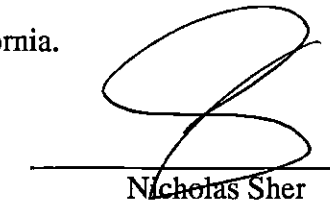
2. The California Constitution and the Public Utilities Code confer jurisdiction on the Commission to regulate public utilities in California in a number of areas, specifically, Public Utilities Code § 315 requires the Commission to "investigate the cause of all accidents occurring within this State upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable."

3. On October 23, 2015, a gas leak was discovered at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility (Aliso Canyon).

4. The CPUC understands that in or around November 2015, SoCalGas retained Halliburton, specifically a division of Halliburton called Boots & Coots, to help kill the gas leak at SoCalGas' Aliso Canyon facility.

5. Danny Clayton of Boots & Coots Services, a division of Halliburton, may have important information that would help the CPUC as it investigates the cause of the Aliso Canyon gas leak. The CPUC understands that Mr. Clayton is/was an agent of SoCalGas and was present at the Aliso Canyon facility in or around November 2015 and the ensuing days, and was actively involved in attempting to "kill" the leaking well.

Executed under penalty of perjury under the laws of the State of California, on this 13th day of July, 2018, in San Francisco, California.



Nicholas Sher
Staff Counsel
California Public Utilities Commission

ATTACHMENT A

Required Documents to Produce by August 1, 2018 in Advance of August 8 and 9, 2018 Examination Under Oath of Mr.

Please provide the following documentation to the attention of: Messrs. Nicholas Sher and Darryl Gruen, 505 Van Ness Avenue, Room 4300C, San Francisco, Ca 94102.

Any and all notes, communications, texts, etcetera, relating to the Aliso Canyon Natural Gas Storage leak as set forth in the subpoena.

PROOF OF SERVICE

I am employed with the California Public Utilities Commission and I am over 18 years of age. My business address is 505 Van Ness Ave., San Francisco, CA 94102.

On July 13th, 2018, I caused to be mailed by U.S. Mail and Email the following documents:

- **SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH ON DANNY CLAYTON**

to:

Sabina Clorfeine, Attorney
Southern California Gas Company
555 W 5th St
Los Angeles, CA 90013
SClorfeine@semprautilities.com

Executed under penalty of perjury of perjury under the laws of the State of California, on this 13th day of July, 2018 at San Francisco, California.

/s/ *Nicholas Sher*

Nicholas Sher

CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

PRE-FORMAL INQUIRY INTO SOUTHERN CALIFORNIA GAS COMPANY'S MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015	**SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH** **Public Utilities Code Sections 311(a) and 314(a)** **SUBPOENA TO PROVIDE DOCUMENTS** **Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791**

TO: Mike Bagget

1. Pursuant to sections 311(a), 314, 314(a), 314.5, 581, 582, 584, 701, 702, and 1791 *et seq.* of the California Public Utilities Code,

2. You are:

   a. ☒ Ordered to appear in person on August 8 and 9, 2018, at 10:00 a.m. at 505 Van Ness Avenue, San Francisco, CA 94102.

   b. ☒ Ordered to produce the documents described in Attachment A at least three full business days prior to the personal appearances described herein, i.e., at or before August 1, 2018. The personal attendance of the custodian and other qualified witnesses and the production of the original records is required by this subpoena.

   c. ☐ Not required to appear in person if you produce copies of the documents described in **Declaration in Support of Subpoena** to the person named in item 4, below, prior to the date and time indicated above.

3. If you have been subpoenaed as a witness, you are entitled to witness fees and mileage actually traveled, as provided by law. You may request one day's witness and mileage fees for travel to and from the place you are required to appear. You may demand these fees a t the time of service from the process server or from the party or attorney requesting the subpoena. If they are not paid or tendered at that time, or unless the subpoena was obtained by the Commission staff, you are not required to appear (Public Utilities Code Section 1791).

4. IF YOU HAVE ANY QUESTIONS ABOUT THIS SUBPOENA, OR YOU WANT TO BE CERTAIN WHETHER YOUR PRESENCE IS REQUIRED, CONTACT THE FOLLOWING PERSON:

   Name: Nicholas Sher, CPUC Staff Counsel Telephone: 415-703-4232

DISOBEDIENCE OF THIS SUBPOENA MAY BE PUNISHED AS CONTEMPT BY THIS COMMISSION.

By order of the Public Utilities Commission of the State of California.

Dated this 13th day of July, 2018.

Alice Stebbins

By: Alice Stebbins
Title: Executive Director

DECLARATION IN SUPPORT OF SUBPOENA

I, Nicholas Sher, declare as follows:

1. I am an attorney duly licensed to practice before all courts of the State of California and am employed as a staff attorney for the California Public Utilities Commission (Commission). My business address is 505 Van Ness Avenue, San Francisco, California.

2. The California Constitution and the Public Utilities Code confer jurisdiction on the Commission to regulate public utilities in California in a number of areas, specifically, Public Utilities Code § 315 requires the Commission to "investigate the cause of all accidents occurring within this State upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable."

3. On October 23, 2015, a gas leak was discovered at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility (Aliso Canyon).

4. The CPUC understands that in or around November 2015, SoCalGas retained Halliburton, specifically a division of Halliburton called Boots & Coots, to help kill the gas leak at SoCalGas' Aliso Canyon facility.

5. Mike Baggett of Boots & Coots Services, a division of Halliburton, may have important information that would help the CPUC as it investigates the cause of the Aliso Canyon gas leak. The CPUC understands that Mr. Baggett is/was an agent of the Southern California Gas Company and was present at the Aliso Canyon facility in or around November 2015 and the ensuing days, and was actively involved in attempting to "kill" the leaking well.

Executed under penalty of perjury under the laws of the State of California, on this 13th day of July, 2018, in San Francisco, California.

Nicholas Sher
Staff Counsel
California Public Utilities Commission

ATTACHMENT A

Required Documents to Produce by August 1, 2018 in Advance of August 8 and 9, 2018 Examination Under Oath of Mr.

Please provide the following documentation to the attention of: Messrs. Nicholas Sher and Darryl Gruen, 505 Van Ness Avenue, Room 4300C, San Francisco, Ca 94102.

Any and all notes, communications, texts, etcetera, relating to the Aliso Canyon Natural Gas Storage leak as set forth in the subpoena.

PROOF OF SERVICE

I am employed with the California Public Utilities Commission and I am over 18 years of age. My business address is 505 Van Ness Ave., San Francisco, CA 94102.

On July 13th, 2018, I caused to be mailed by U.S. Mail and Email the following documents:

- **SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH ON MIKE BAGGET**

to:

Sabina Clorfeine, Attorney
Southern California Gas Company
555 W 5th St
Los Angeles, CA 90013
SClorfeine@semprautilities.com

Executed under penalty of perjury of perjury under the laws of the State of California, on this 13th day of July, 2018 at San Francisco, California.

/s/ *Nicholas Sher*

Nicholas Sher

CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

PRE-FORMAL INQUIRY INTO SOUTHERN CALIFORNIA GAS COMPANY'S MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015	**SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH** **Public Utilities Code Sections 311(a) and 314(a)** **SUBPOENA TO PROVIDE DOCUMENTS** **Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791**

TO: Danny Walzel

1. Pursuant to sections 311(a), 314, 314(a), 314.5, 581, 582, 584, 701, 702, and 1791 *et seq.* of the California Public Utilities Code,

2. You are:

   a. ☒ Ordered to appear in person on August 8 and 9, 2018, at 10:00 a.m. at 505 Van Ness Avenue, San Francisco, CA 94102.

   b. ☒ Ordered to produce the documents described in Attachment A at least three full business days prior to the personal appearances described herein, i.e., at or before August 1, 2018. The personal attendance of the custodian and other qualified witnesses and the production of the original records is required by this subpoena.

   c. ☐ Not required to appear in person if you produce copies of the documents described in **Declaration in Support of Subpoena** to the person named in item 4, below, prior to the date and time indicated above.

3. If you have been subpoenaed as a witness, you are entitled to witness fees and mileage actually traveled, as provided by law. You may request one day's witness and mileage fees for travel to and from the place you are required to appear. You may demand these fees a t the time of service from the process server or from the party or attorney requesting the subpoena. If they are not paid or tendered at that time, or unless the subpoena was obtained by the Commission staff, you are not required to appear (Public Utilities Code Section 1791).

4. IF YOU HAVE ANY QUESTIONS ABOUT THIS SUBPOENA, OR YOU WANT TO BE CERTAIN WHETHER YOUR PRESENCE IS REQUIRED, CONTACT THE FOLLOWING PERSON:

   Name: Nicholas Sher, CPUC Staff Counsel Telephone: 415-703-4232

DISOBEDIENCE OF THIS SUBPOENA MAY BE PUNISHED AS CONTEMPT BY THIS COMMISSION.

By order of the Public Utilities Commission of the State of California.

Dated this 13th day of July, 2018.

Alice Stebbins

By: Alice Stebbins
Title: Executive Director

DECLARATION IN SUPPORT OF SUBPOENA

I, Nicholas Sher, declare as follows:

1. I am an attorney duly licensed to practice before all courts of the State of California and am employed as a staff attorney for the California Public Utilities Commission (Commission). My business address is 505 Van Ness Avenue, San Francisco, California.

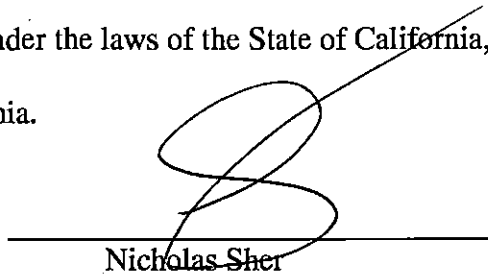
2. The California Constitution and the Public Utilities Code confer jurisdiction on the Commission to regulate public utilities in California in a number of areas, specifically, Public Utilities Code § 315 requires the Commission to "investigate the cause of all accidents occurring within this State upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable."

3. On October 23, 2015, a gas leak was discovered at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility (Aliso Canyon).

4. The CPUC understands that in or around November 2015, SoCalGas retained Halliburton, specifically a division of Halliburton called Boots & Coots, to help kill the gas leak at SoCalGas' Aliso Canyon facility.

5. Danny Clayton of Boots & Coots Services, a division of Halliburton, may have important information that would help the CPUC as it investigates the cause of the Aliso Canyon gas leak. The CPUC understands that Mr. Walzel is/was an agent of the Southern California Gas Company and was present at the Aliso Canyon facility in or around November 2015 and the ensuing days, and was actively involved in attempting to "kill" the leaking well.

Executed under penalty of perjury under the laws of the State of California, on this 13th day of July, 2018, in San Francisco, California.



Nicholas Sher
Staff Counsel
California Public Utilities Commission

ATTACHMENT A

Required Documents to Produce by August 1, 2018 in Advance of August 8 and 9, 2018 Examination Under Oath of Mr.

Please provide the following documentation to the attention of: Messrs. Nicholas Sher and Darryl Gruen, 505 Van Ness Avenue, Room 4300C, San Francisco, Ca 94102.

Any and all notes, communications, texts, etcetera, relating to the Aliso Canyon Natural Gas Storage leak as set forth in the subpoena.

PROOF OF SERVICE

I am employed with the California Public Utilities Commission and I am over 18 years of age. My business address is 505 Van Ness Ave., San Francisco, CA 94102.

On July 13th, 2018, I caused to be mailed by U.S. Mail and Email the following documents:

- **SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH ON DANNY WALZEL**

to:

Sabina Clorfeine, Attorney
Southern California Gas Company
555 W 5th St
Los Angeles, CA 90013
SClorfeine@semprautilities.com

Executed under penalty of perjury of perjury under the laws of the State of California, on this 13th day of July, 2018 at San Francisco, California.

/s/ *Nicholas Sher*

Nicholas Sher

CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

PRE-FORMAL INQUIRY INTO SOUTHERN CALIFORNIA GAS COMPANY'S MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015	**SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH** **Public Utilities Code Sections 311(a) and 314(a)** **SUBPOENA TO PROVIDE DOCUMENTS** **Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791**

TO: James Kopecky

1. Pursuant to sections 311(a), 314, 314(a), 314.5, 581, 582, 584, 701, 702, and 1791 *et seq.* of the California Public Utilities Code,

2. You are:

   a. ☒ Ordered to appear in person on August 8 and 9, 2018, at 10:00 a.m. at 505 Van Ness Avenue, San Francisco, CA 94102.

   b. ☒ Ordered to produce the documents described in Attachment A at least three full business days prior to the personal appearances described herein, i.e., at or before August 1, 2018. The personal attendance of the custodian and other qualified witnesses and the production of the original records is required by this subpoena.

   c. ☐ Not required to appear in person if you produce copies of the documents described in **Declaration in Support of Subpoena** to the person named in item 4, below, prior to the date and time indicated above.

3. If you have been subpoenaed as a witness, you are entitled to witness fees and mileage actually traveled, as provided by law. You may request one day's witness and mileage fees for travel to and from the place you are required to appear. You may demand these fees a t the time of service from the process server or from the party or attorney requesting the subpoena. If they are not paid or tendered at that time, or unless the subpoena was obtained by the Commission staff, you are not required to appear (Public Utilities Code Section 1791).

4. IF YOU HAVE ANY QUESTIONS ABOUT THIS SUBPOENA, OR YOU WANT TO BE CERTAIN WHETHER YOUR PRESENCE IS REQUIRED, CONTACT THE FOLLOWING PERSON:

   Name: Nicholas Sher, CPUC Staff Counsel Telephone: 415-703-4232

DISOBEDIENCE OF THIS SUBPOENA MAY BE PUNISHED AS CONTEMPT BY THIS COMMISSION.

By order of the Public Utilities Commission of the State of California.

Dated this 13th day of July, 2018.

Alice Stebbins

By: Alice Stebbins
Title: Executive Director

DECLARATION IN SUPPORT OF SUBPOENA

I, Nicholas Sher, declare as follows:

1. I am an attorney duly licensed to practice before all courts of the State of California and am employed as a staff attorney for the California Public Utilities Commission (Commission). My business address is 505 Van Ness Avenue, San Francisco, California.

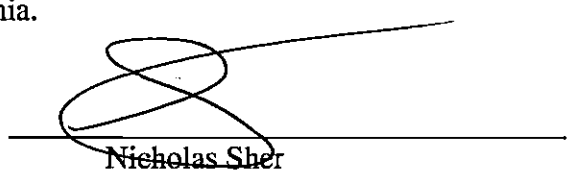
2. The California Constitution and the Public Utilities Code confer jurisdiction on the Commission to regulate public utilities in California in a number of areas, specifically, Public Utilities Code § 315 requires the Commission to "investigate the cause of all accidents occurring within this State upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable."

3. On October 23, 2015, a gas leak was discovered at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility (Aliso Canyon).

4. The CPUC understands that in or around November 2015, SoCalGas retained Halliburton, specifically a division of Halliburton called Boots & Coots, to help kill the gas leak at SoCalGas' Aliso Canyon facility.

5. James Kopecky of Boots & Coots Services, a division of Halliburton, may have important information that would help the CPUC as it investigates the cause of the Aliso Canyon gas leak. The CPUC understands that Mr. Kopecky is/was an agent of the Southern California Gas Company and was present at the Aliso Canyon facility in or around November 2015 and the ensuing days, and was actively involved in attempting to "kill" the leaking well.

Executed under penalty of perjury under the laws of the State of California, on this 13th day of July, 2018, in San Francisco, California.



Nicholas Sher
Staff Counsel
California Public Utilities Commission

ATTACHMENT A

Required Documents to Produce by August 1, 2018 in Advance of August 8 and 9, 2018 Examination Under Oath of Mr.

Please provide the following documentation to the attention of: Messrs. Nicholas Sher and Darryl Gruen, 505 Van Ness Avenue, Room 4300C, San Francisco, Ca 94102.

Any and all notes, communications, texts, etcetera, relating to the Aliso Canyon Natural Gas Storage leak as set forth in the subpoena.

PROOF OF SERVICE

I am employed with the California Public Utilities Commission and I am over 18 years of age. My business address is 505 Van Ness Ave., San Francisco, CA 94102.

On July 13th, 2018, I caused to be mailed by U.S. Mail and Email the following documents:

- **SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH ON JAMES KOPECKY**

to:

Sabina Clorfeine, Attorney
Southern California Gas Company
555 W 5th St
Los Angeles, CA 90013
SClorfeine@semprautilities.com

Executed under penalty of perjury of perjury under the laws of the State of California, on this 13th day of July, 2018 at San Francisco, California.

/s/ *Nicholas Sher*

Nicholas Sher

Sabina Clorfeine
Assistant General Counsel

555 W. Fifth Street, Suite 1400
Los Angeles, CA 90013

Tel: (213) 244-4475
Fax: (213) 629-9620
SClorfeine@semprautilities.com

CONFIDENTIAL

July 13, 2018

BY E-MAIL AND U.S. MAIL

Mr. Nicholas Sher
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3296

Mr. Darryl Gruen
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3296

RE: Southern California Gas Company's Response to California Public Utilities Commission Letter dated July 11, 2018

Dear Mr. Sher and Mr. Gruen:

I am writing on behalf of Southern California Gas Company ("SoCalGas") in response to Ms. Malashenko's letter dated July 11, 2018 regarding SoCalGas' purported failure to cooperate with the Safety and Enforcement Division's ("SED") Preliminary Investigation.

First and foremost, SoCalGas has at all times cooperated—and will continue to cooperate—with SED's investigation of the SS-25 gas leak. However, as SoCalGas has previously stated, it is legally unable to produce current and former employees of an independent, out-of-state, third-party corporation for examination before SED at the California Public Utilities Commission ("Commission") headquarters in San Francisco.[1]

SoCalGas has cooperated to the best of its ability with SED's request for an interview with Boots & Coots through discussions with Halliburton, Boots & Coots' parent corporation. SoCalGas has in fact obtained Halliburton's agreement to produce Boots & Coots personnel for such an

[1] Other than Halliburton's limited provision of services to SoCalGas as an independent contractor, SoCalGas and Halliburton are entirely unaffiliated. SoCalGas does not own and holds no interest in Halliburton or any of its subsidiaries, and vice-versa.

interview. SoCalGas has also provided SED with contact information for Halliburton's outside counsel and worked diligently to produce non-privileged information in its custody, control or possession related to Boots & Coots' work regarding the gas leak. In fact, Halliburton has agreed that its current employees can be interviewed via phone, video conference or in person in Houston by the Commission.

I recall that in mid-May 2015, SED requested that SoCalGas contact Halliburton to request that two specific Boots & Coots employees participate in an interview with SED. SoCalGas complied with SED's request by contacting Halliburton's Assistant General Counsel and not only asking, but encouraging Boots & Coots to submit to an interview with SED regarding the well kill operation, and offered to facilitate such an interview. Halliburton responded that it was willing to cooperate with SED's investigation and submit to an interview, either telephonically or in person at Boots & Coots' base of operations in Houston, but that it was not willing to travel to California. Boots & Coots noted that one of the two individuals who SED identified was located in their Houston office, and the other was retired.

SoCalGas has had several follow up discussions with Halliburton, most recently earlier today following receipt of your July 11, 2018 letter. In that conversation, Halliburton confirmed that it will produce its current employees via phone, video conference or in person in Houston for an examination under oath by the Commission. Halliburton indicated that it is willing to do so informally without receiving a subpoena from the Commission. Halliburton's attorney stated that it is very difficult to produce its former employees at all. During our conversation, Haliburton indicated that it is now willing to reconsider whether it will agree to produce its current Houston employees (Danny Walzel and Mike Baggett) in San Francisco. I expect to hear from them early next week and will notify you both of their decision.

SoCalGas understands that the terms Boots & Coots has offered to participate in an interview are not acceptable to SED, and SoCalGas is doing everything that it can to try to facilitate that request. As I have previously explained in my June 29, 2018 email to both of you, and as further set forth below, SoCalGas simply cannot, as either a legal or practical matter, compel the employees and former employees of an unaffiliated, out-of-state corporation to appear before a regulatory body as SoCalGas' own witnesses. Thus, SoCalGas is not refusing to cooperate, it simply does not have the ability to satisfy SED's specific demand.

SoCalGas does not dispute that California Public Utilities Code section 702 requires that it "obey and comply" with Commission directives and "do everything necessary or proper to secure compliance therewith by all of its officers, agents, and employees." However, section 702 does not require that SoCalGas undertake actions that are beyond its legal ability and control. Nor does section 702, nor any other provision of the Public Utilities Code, give SoCalGas authority to control or produce employees from other independent companies. In fact, SoCalGas has no such control over Halliburton and Boots & Coots. While it has made numerous attempts to facilitate voluntary interviews in accordance with SED's specifications SoCalGas cannot as a

legal or practical matter compel Boots & Coots personnel to appear in San Francisco. Nor is it legally authorized to accept service of subpoenas for Halliburton's current or former employees.

SED's letter references *Snyder v. Southern Cal. Edison Co.* (1955) 44 Cal.2d 793 for the proposition that SoCalGas has a legal obligation to compel Boots & Coots to send its employees to California to be interviewed. *Snyder,* however, does not concern or address a utility's discovery obligations with respect to employees of an independent and unaffiliated contractor. Rather, *Snyder* holds that a utility cannot escape third-party liability by delegating duties to a contractor – it is inapplicable to SoCalGas' ability to produce another company's current or former employees. *Id.* at 800.

California law neither permits nor requires a company to produce for deposition witnesses that it does not control. *See*, *e.g.*, *Maldonado v. Superior Court* (2002) 94 Cal.App.4th 1390, 1398 (the attendance and testimony of a non-party deponent requires the service on the deponent of a deposition subpoena under CCP § 2020). In *Maldonado*, the court held that, in the context of a deposition of a corporation's person most qualified, a corporation need not—and in fact cannot—compel an individual formerly affiliated with the corporation to appear. *Id.* Rather, the only way to compel the attendance of an unaffiliated third-party at a deposition is via the service of a subpoena to the witness by the deposing party. *Id.* In the analogous situation in *Maldonado*, the court found that plaintiff employees in an employment discrimination action were not entitled to have their employer, in response to deposition notice, produce former employees as deposition witnesses, even if those former employees were far more knowledgeable about the litigation than anyone currently employed by the employer. Similarly, here, SoCalGas cannot be compelled to produce employees and former employees of Boots & Coots. Unlike its own currently employed employees, which SoCalGas can and must produce for SED examinations under oath (and has, in fact, done multiple times in connection with the SS-25 gas leak, including producing on short notice its President and Chief Operating Officer), SoCalGas cannot order Boots & Coots personnel to follow SoCalGas' directives. Again, SoCalGas has asked for Boots & Coots' cooperation and Boots & Coots has offered it, albeit not in precisely the manner that SED prefers. There is nothing else SoCalGas can do to compel Boots & Coots' employees or former employees to fly to California to appear for an interview.

Next, SED contends that because SoCalGas has asserted a (limited) agency relationship with Boots & Coots, during a limited period of time, for the purposes of preserving privilege over certain communications, SoCalGas must *ipso facto* be required to produce Boots & Coots under section 702. The fact that Boots & Coots may be deemed SoCalGas' agent, during a limited period of time, for the limited purpose of assessing attorney-client privilege does not, however, make Boots & Coots SoCalGas' agent in other contexts. That does not change the fact that the two Boots & Coots employees requested by SED were, at all times during the incident, employees of Boots & Coots which was acting as an independent contractor to SoCalGas under a separate contractual agreement.

Contrary to your claim that SoCalGas is trying to "evade[]" SED's investigation and discovery rights" by delegating work to contractors, SoCalGas has in fact cooperated fully with SED's request and arranged for SED to interview Boots & Coots, albeit not on SED's preferred terms. In addition, there is nothing that prevents SED from exercising its own authority to subpoena Boots & Coots directly. California Public Utilities Code section 311(a) states that "[t]he commission . . . may . . . issue subpoenas for the attendance of witnesses and the production of papers, waybills, books, accounts, documents, and testimony in any inquiry, investigation, hearing, or proceeding in any part of the state."[2]

SED also erroneously contends that Halliburton's indemnification of SoCalGas in the Master Well Services Agreement means that SoCalGas can and must produce the Boots & Coots personnel. The relevant agreement for purposes of the Boots & Coots work at SS 25, however, is the Standard Services Agreement, dated October 30, 2015, not the Master Well Services Agreement. The Standard Services Agreement, which was entered into during the leak and governed Boots & Coots' work on the well kill operations following the leak, provides that SoCalGas will indemnify Halliburton. More importantly, the contractual indemnification provisions, under either contract, obligate the indemnitor to provide legal defense for, or reimburse legal defense related costs of, the indemnitee, subject to limitations. They do not grant either party the ability to demand production of or otherwise control the other party's employees for examination by a third party.

Finally, SoCalGas would like to further understand SED's request to make public certain documents including this letter. At this time, however, without a further understanding of the request – which seems contrary to prior discussions with SED's counsel – SoCalGas respectfully declines SED's request to make public the information identified in SED's July 11, 2018 letter. SoCalGas maintains its position that the information designated as confidential was appropriate and consistent with applicable Commission rules. SoCalGas also notes that the privilege log attached to SED's letter was superseded by the amended privilege log produced to SED on May 24, 2018.

[2] *See also* Commission Rule 10.2 (authorizing the issuance of subpoenas in proceedings before the Commission).

Because SoCalGas has in fact cooperated with SED's request and obtained Halliburton's agreement to submit to an SED interview, and for the other reasons stated above, SoCalGas respectfully requests that SED withdraw its letter.

Sincerely,

/s/ Sabina Clorfeine
Sabina Clorfeine
Assistant General Counsel
SOUTHERN CALIFORNIA GAS COMPANY

cc:
Bret Lane, President and Chief Operating Officer, SoCalGas
Jimmie Cho, Senior Vice President Customer Service and Distribution Operations
Rodger Schwecke, Senior Vice President, Gas Transmission, Storage and Engineering
Elizaveta Malashenko, Director – Safety and Enforcement Division, CPUC
Arocles Aguilar, General Counsel, CPUC
Kenneth Bruno, Program Manager, CPUC
Lee Palmer, Deputy Director – Safety and Enforcement Division, CPUC

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

DECLARATION OF RODGER R. SCHWECKE REGARDING CONFIDENTIALITY OF CERTAIN DATA/DOCUMENTS PURSUANT TO D.17-09-023

I, Rodger R. Schwecke, do declare as follows:

1. I am Senior Vice President, Gas Transmission, Storage and Engineering for Southern California Gas Company ("SoCalGas"). I have reviewed the confidential information included within SoCalGas' letter to counsel for the CPUC-Safety and Enforcement Division dated July 13, 2018, submitted concurrently herewith (the "SoCalGas Letter 71318"). I am personally familiar with the facts in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or information and belief.

2. I hereby provide this Declaration in accordance with Decision ("D.") 17-09-023 and General Order ("GO") 66-D to demonstrate that the confidential information ("Protected Information") provided in the SoCalGas Letter 71318 is within the scope of data protected as confidential under applicable law.

3. In accordance with the narrative justification described in Attachment A, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 13th day of July, 2018, at Los Angeles, California.

Rodger R. Schwecke
Senior Vice President
Gas Transmission, Storage and Engineering

ATTACHMENT A

SoCalGas Request for Confidentiality
on the following information in its SoCalGas' letter to counsel for the CPUC-Safety and Enforcement Division dated July 13, 2018

Location of Protected Information	Legal Citations	Narrative Justification
SoCalGas Letter 71318	CPRA Exemption, Gov't Code § 6254(k) ("Records, the disclosure of which is exempted or prohibited pursuant to federal or state law") • *See, e.g.*, D.11-01-036, 2011 WL 660568 (2011) (agreeing that confidential prices and contract terms specifically negotiated with a program vendor is proprietary and commercially sensitive and should remain confidential) • *Valley Bank of Nev. v. Superior Court*, 15 Cal.3d 652, 658 (1975) (financial information is protected – especially of non-parties)	The information provided is proprietary and represents and contains proprietary, commercially sensitive, trade secrets, and/or content not intended for public disclosure.

SoCalGas
A Sempra Energy utility

Southern California Gas Company Standard Services Agreement

PROJECT:	Standard Senson 25	
		MAIL ORIGINAL INVOICE TO
CONTRACTOR:	HALLIBURTON ENERGY SERVICES	Southern California Gas Company
	P O BOX 301341, DALLAS, TX, 75303-1341, United States of America	**ACCOUNTS PAYABLE**
		P .O. BOX 30777 **Los Angeles, CA - 90030**

This Standard Service Agreement ("Agreement") is made effective as of October 30, 2015 between Southern California Gas Company (“Company”) and HALLIBURTON ENERGY SERVICES (“Contractor”).

The Parties hereby agree as follows:

1. SCOPE

Contractor shall perform, at its own proper cost and expense, in the most substantial and skillful manner, to the satisfaction of Company, the following generally described services ("Services"):

Boots & Coots' have been requested by SoCalGas to submit a proposal for the evolving well control situation on Standard Senson 25. Due to the ever changing conditions at the well, it is hard to give a definitive work scope. Boots & Coots will help provide workable and safe solutions:

- Mobilize one (1) Sr. Well Control Engineer, one (1) Sr. Well Control Specialists, and one (1) Well Control Specialist from Houston to California for Well Control services and forward planning.
- Upon arrival on location they will meet with the SoCalGas command team to discuss ongoing planning requirements and deliverables and determine the level of rates applicable for this specific well event

Note: It is difficult to estimate the number of days required for a successful completion of the project, due to uncertainty with well conditions and necessary equipment. Boots & Coots personnel will only work under safe and assessed conditions with the correct control and mitigation measures in place.

The main focus is to not allow the situation to worsen or escalate. Work through the situation in a safe, chronological order for the successful killing operation.

The service will be on a daily rate on a portal to portal basis from our base in Houston as per the pricing table included in this proposal.

In the unlikely event of the situation degrading or worsening it may be necessary to mobilize other specialized well control support.

All information regarding the project will remain confidential as always with our services.

2. PROJECT LOCATION

Aliso Canyon
12801 Tampa Avenue
Northridge, CA 91326

3. AUTHORIZED REPRESENTATIVES

Company designates the individual or individuals named below as Company Representatives for all matters relating to the performance of the Services. The actions taken by the Company Representatives shall be deemed acts of the Company. Company may at any time upon written notice to Contractor change the designated Company Representative.

Company Representative: Todd Van De Putte

Contractor designates the individual or individuals named below as Contractor Representative for all matters relating to the performance of Services. The actions taken by Contractor Representative shall be deemed acts of Contractor. Contractor Representative or designated superintendent shall be at the jobsite at all times during the Services. Contractor may at any time upon written notice to Company change the designated Contractor Representative.

Contractor Representative: Leonardo J. Portillo

4. COMPENSATION

Contractor shall be compensated for the Services at the rates set forth in the COMPENSATION SCHEDULE attached hereto in an amount Not-To-Exceed ("NTE") $[redacted] Contractor shall notify Company in writing when the costs incurred under this Agreement equal ninety percent (90%) of [redacted]. Company will not be required to pay Contractor for the Services in excess of the NTE amount unless and until, at Company's sole option, Company elects in writing to increase the NTE amount.

Contractor agrees to accept as full compensation for satisfactory performance of the Services the following labor rates and factors – SCHEDULE D – COMPENSATION.

5. COMMENCEMENT AND COMPLETION OF SERVICES

This Agreement shall commence as of October 30, 2015 and shall be in full force and effect through December 31, 2015, unless terminated earlier or extended by Company in accordance with the terms of this Agreement. Contractor agrees to commence and perform the Services in accordance with the requests of Company Representative identified herein. The nature of the Services is such that timely performance is critical to the orderly progress of related work and to the operating schedule of Company.

6. INVOICING INSTRUCTIONS

All invoices submitted must reference the Agreement number (5660044243) and the Invoice Contact (Todd Van De Putte) and have complete support documentation of all charges incurred, including any data required to calculate fees or variable rate changes, plus support documentation for any authorized reimbursable expenses by category.

Contractor may submit invoices via e-mail to:

SCG Accounts Payable: AP_Invoices_SCG@semprautilities.com

7. PAYMENT

Company shall make payment Net 30 Days after receipt and approval of an undisputed invoice to the following address:

P O BOX 301341, DALLAS, TX, 75303-1341, United States of America

Company offers additional discounted payment terms to Contractor pursuant to Contractor's enrollment through Ariba's online platform, which is Company's approved third-party payment platform. If Contractor is enrolled in Ariba's online platform as of the Effective Date, such discounted payment terms shall supersede those set forth in this Section during the period that Contractor maintains its enrollment. If Contractor enrolls in the Ariba online platform and selects certain discounted payment terms after the Effective Date, such discounted payment terms shall supersede those set forth in this Section as of the date of Contractor's enrollment in the Ariba online platform until the date that Contractor is no longer enrolled therein.

8. AUTOMATED CLEARINGHOUSE (ACH) PAYMENT METHOD

Upon enrollment by Contractor, Company shall make payments as automated clearinghouse transactions. Prior to Contractor's enrollment, Company shall make all payments by check to Contractor's address set forth above.

9. SAFETY NOTICE

If applicable, Company shall provide Contractor with SCHEDULE C - SEMPRA UTILITIES SAFETY NOTICE attached hereto. Contractor shall initial this notice where required and comply with its terms.

10. COMPLETE AGREEMENT

This Agreement, including all Schedules attached hereto and which are incorporated by reference, constitutes the complete and entire Agreement between the parties and supersedes any previous communications, representations or agreements, whether oral or written, with respect to the subject matter hereof. There are no additions to, or deletions from, or changes in, any of the provisions hereof, and no understandings, representations or agreements concerning any of the same, which are not expressed herein. **THE PARTIES HEREBY AGREE THAT NO TRADE USAGE; PRIOR COURSE OF DEALING OR COURSE OF PERFORMANCE UNDER THIS AGREEMENT SHALL BE A PART OF THIS AGREEMENT OR SHALL BE USED IN THE INTERPRETATION OR CONSTRUCTION OF THIS AGREEMENT.** The following Schedules are attached hereto and incorporated herein by this reference:

SCHEDULE A - GENERAL TERMS AND CONDITIONS

SCHEDULE B - REIMBURSABLE EXPENSES

SCHEDULE C - SAFETY NOTICE FOR CONTRACTORS

IN WITNESS WHEREOF, the parties have executed this Agreement as of October 30, 2015**.**

Southern California Gas Company		HALLIBURTON ENERGY SERVICES	
By:	_____	**By:**	_____
Name:	_____	**Name:**	_____
Title:	_____	**Title:**	_____

SCHEDULE A

Signed in duplicate originals.

_____ (CUSTOMER)

By _____

Title _____

Date _____

HALLIBURTON ENERGY SERVICES, INC.

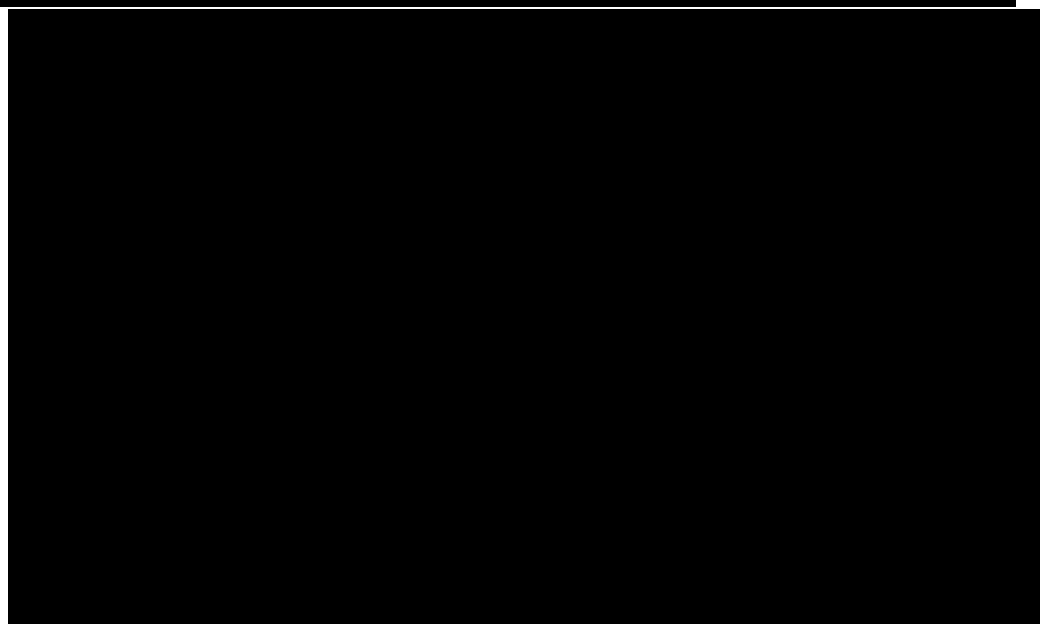
By Randy Yeager

Title VP Rockies

Date 10-27-15

Please remit signed copy to:

US Regional Counsel
Halliburton Energy Services, Inc.
P.O. Box 60087
Houston, TX 77205-0087



Signed in duplicate originals.

_____ (CUSTOMER)	HALLIBURTON ENERGY SERVICES, INC.
By Scott Runyan	By _____
Title Vice President-Gas Operations	Title _____
Date 10/25/2015	Date _____

Please remit signed copy to:

US Regional Counsel
Halliburton Energy Services, Inc.
P.O. Box 42810
Houston, TX 77242-2810

SCHEDULE B
REIMBURSABLE EXPENSES

All invoices for reimbursable expenses shall include the Agreement Number, an itemized listing supported by copies of the original bills, invoices, expense accounts and other miscellaneous supporting data. All authorized travel either to San Diego/Los Angeles or from San Diego/Los Angeles to other locations shall be approved in writing in advance by Company Representative. Travel time shall NOT be reimbursed except for travel during normal/regular business hours.

1. **Auto Mileage**

Auto mileage shall be reimbursed at $0.55 per mile, or at the current rate as specified by the United States Internal Revenue Service.

2. **Air Travel**

Airfares shall be reimbursed based on the most direct route at coach class travel rates. Upgrading (coach to a higher class) of airline tickets shall only be reimbursed when approved by Contract Manager, and only when the business schedule requires immediate travel and only higher class accommodations are available. Downgrading (exchange) of airline ticket where Contractor receives financial or personal gain shall NOT permitted. If a trip is postponed, reservations shall be canceled immediately. Contractor shall provide copies of passenger receipts to Company to receive travel expense reimbursement. Travel arrangements shall be made as early as possible (preferably three [3] weeks) to take advantage of advance reservation rates.

3. **Combining Business Travel with Personal Travel**

Contractor may combine personal travel with Company business only if the personal travel does NOT increase the reimbursable cost to Company.

4. **Air Travel Insurance**

Company shall NOT pay for air travel insurance.

5. **Accommodations**

Company shall reimburse hotel room fees at preferred corporate or contract rates. Company may reimburse hotel room fees at the standard rate based on single room occupancy in cases where a corporate or contract rate is NOT available.

6. **Laundry**

Any laundry and dry cleaning charges shall ONLY be paid if Contractor is on travel for Company assignment for a period in excess of six (6) consecutive days.

7. **Entertainment**

Company shall NOT pay for the rental of premium channel movies, use of health club facilities or other forms of entertainment.

8. **Meals**

Meals shall be reimbursed on an actual cost basis up to a maximum of $50.00 (Fifty Dollars) per day of travel. Itemized receipts are required and shall be submitted for all meals in the form of a credit card receipt or cash register tape. Company shall NOT pay for alcoholic beverages. In lieu of itemizing meal expenses and submitting receipts, Contractor may claim a standard $31.00 (Thirty-One Dollars) per diem for the duration of the business travel.

9. **Telephone Usage**

Contractor shall submit support documentation regarding all telephone calls charged to Company. The support documentation shall include the name of the party being called and the purpose of the call. Company shall NOT pay for additional business calls unless directly related to this Agreement. Personal telephone calls shall NOT be reimbursed.

10. **Ground Transportation**

Public transportation shall be utilized whenever possible, however if necessary, rental car expenses shall be reimbursed for authorized travel only. Cab fare (on a shared basis whenever possible) is reimbursable. Receipts shall be required to document all ground transportation charges.

11. **Car Rental**

If authorized, Company shall reimburse reasonable car rental charges including gas actually purchased for authorized travel ONLY. Contractor shall be required to rent at an economy car level classification or equivalent, unless the size or purpose of the group using the vehicle dictates a larger size in accordance with the following table:

Travelers	**Classification**
1-2	Economy/Compact
3	Medium/Intermediate
4-5	Full Size/Standard
6-8	Van

Contractor shall fuel rental cars prior to rental return as rental companies normally add a large surcharge to refueling services.

12. **Parking**

Contractor shall be reimbursed at cost for reasonable parking expenses incurred in the performance of Services while on Company business.

13. **Tolls and Fees**

Contractor shall be reimbursed at cost for reasonable transportation-related toll and fees incurred in the performance of Services while on Company business.

14. **Baggage Handling**

Contractor shall be reimbursed for baggage handling service fees at standard reasonable rates.

15. **Other Business Expenses**

Any business supplies, equipment rental, reprographics and facsimile expenses shall be reimbursed at cost when traveling on Company business.

16. **Non-Allowable Expenses**

Company shall NOT provide any reimbursement for travel expenses for family members, personal items, charitable contributions, or for any other type of reimbursable.

SCHEDULE C
SAFETY NOTICE FOR CONTRACTORS

Legal **- Safety Notice for Contractors**

Project/Service: _____Date: _____

Job Location (s):_____

Facility Location: _____

Job Duration – from: _____ to: _____ (Date)

Company Contact List:

Contact Identification (include Name of Individual)	**Telephones**	**Contact Identification (include Name of Individual)**	**Telephones**
Legal Representative:	Office: Cell:	Facility Service Main Number:	Office: Cell:
Security:	Office: Cell:	Contractor Administrator:	Office: Cell:
Facility Manager:	Office: Cell:	Environmental Specialist:	Office: Cell:
Facility Maintenance:	Office: Cell:	Safety Representative:	Office: Cell:

	Telephones	**Title and Name**	**Telephones**
Contractor Owner/General Manager:	Office: Cell:	Foreman:	
Manager/Supervisor:	Office: Cell:	Safety/Environmental Representative:	
Other:	Office:		

	Cell:		

This Notice is to be issued to each Contractor at a pre–job meeting or other pre–work conference or the safety tailgate meeting before commencing work on the first day of the project. One Notice may be used for multiple projects if the projects present similar hazards or risks as determined by the Legal Representative. Specific safety issues shall be discussed. The Contractor will initial that he/she understands each section and sign the completed Notice. The Notice is to be discussed by the Contractor with each employee who will be working on the job. The Contractor will receive a copy of the Notice, with the original being filed in the appropriate facility office.

1. **Emergency Notification System.** The emergency notification system at this facility or property includes:

_____

and will be used to announce serious or life threatening conditions on site (i.e., fire, earthquake, or emergency evacuation). The competent employee making the announcement will give necessary information regarding type and location of the emergency. Contractors are required to follow instructions given.

In the event of an emergency evacuation, contractors are required to move in an orderly fashion to the Emergency Staging Area located at:

_____

Attached is a facility map that shows emergency exits and staging area. Contractors are required to account for all personnel, report personnel count, and report any missing persons with last known location, injuries, or other issues to the site emergency coordinator. Contractors are not to leave the emergency staging area until instructed to do so.

_____ Applicable_____ Not Applicable

Initials: _____

2. **Facility Phones.** Outside phone lines can be accessed by dialing "9" or _____ and the number you desire including area code if outside of calling area. *If it becomes necessary to secure site phone lines, the Contractor will notify the Company's facility manager or representative*. Note: Company phone usage by the Contractor is limited to urgent or emergency needs. Cell phone usage is prohibited in many areas of Storage Fields and Compressor Stations.

_____ Applicable_____ Not Applicable

Initials: _____

3. **Personal Protective Equipment.** The Contractor is responsible for providing its employees with all the required personal protective equipment (e.g., hard hats, safety glasses, gloves, hearing protection, personal fall protection, etc.).

Initials: _____

4. **No Smoking.** Smoking is not permitted in any Company building or vehicle. Designated smoking areas are:

_____

Initials: _____

5. **Non-English Speaking Personnel.** Non-English speaking personnel are the Contractor's responsibility and must have an English speaking / English-reading interpreter with them at all times.

Initials: _____

6. **Contractors' Injury and Illness Prevention Program.** Contractors when required shall have a written Injury and Illness Prevention Program per Title 8, California Code of Regulations, General Industry Safety Orders, Section 3203. The Company reserves the right to request proof (at any time) of the Injury and Illness Prevention Program.

Initials: _____

NOTE: Receipt of the Contractor's Injury and Illness Prevention Plan and/or the safety and health plan only signifies that the plans generally conform to the requirements of the contract and NOT Legal approval of the plans. It does not relieve the Contractor of the responsibility for providing employees with a safe and healthful work environment.

7. **Registration with Veriforce LLC**. Prior to commencement of DOT–covered work, the Contractor must register with Veriforce LLC (Legal DOT Drug and Alcohol program and OpQual compliance review agent) and complete an OpQual and Drug & Alcohol Program Compliance Review.

_____ Applicable_____ Not Applicable

Initials: _____

8. **Anti-Drug and Alcohol Misuses Prevention Program.** The Contractor shall have a written Anti-Drug and Alcohol Misuses Prevention Program. The Contractor shall have a written Anti-Drug and Alcohol Misuses Prevention Program that meets the requirements of all applicable regulations, including but not limited to 49 CFR, Part 40, Part 199, and Part 382, as it may apply. The Contractor shall ensure it, or its agent(s), i.e., Third Party Consortiums, comply with and conduct random drug and/or alcohol testing in accordance with 49 CFR Part 40, Part

199, and Part 382, as it may apply. In addition, proper review, reporting, and enforcement of drugs and/or alcohol testing of incidents meeting the post-accident criteria of 49 CFR Part 40, Part 199, and Part 382 has been discussed. The Contractor shall notify the Company Drug and Alcohol Testing Program Administrator of any and all incidents requiring Post Accident Testing and reports compliance.

_____ Applicable_____ Not Applicable

Initials: _____

9. **Operator Qualification Program.** The Contractor shall have a written and accepted Operator Qualification Plan on file that meets the requirements of all applicable regulations, including but not limited to Title 49, Code of Federal Regulation Part 192.801 through 192.809. Contractors must identify the scope of work and covered services/tasks they will provide to the Company(s) prior to commencement of DOT–covered tasks. Contractors must contact the Operator Qualification Department (OpsQual–Admin@semprautilities.com) and register with Veriforce, LLC, the Company's Contractor Compliance Review Agent, to initiate a DOT compliance review. Contact the Operator Qualification Department for additional information.

_____ Applicable_____ Not Applicable

Initials: _____

10. **Hazardous Materials.** Safety Data Sheets are available for hazardous substances used at the Company's facilities. Contact the Legal Representative for assistance for copies of SDS if necessary.

• Proposition 65 chemicals may be present when working on Legal facilities and signs may be posted stating "WARNING: This area contains chemicals known to the State of California to cause cancer, and birth defects or other reproductive harm."

• Naturally Occurring Radioactive Materials (NORM) may be present in the gas and associated sludge and liquids in the pipelines.

• The Contractor must have prior approval from the Company's Environmental Services and Safety and Health departments before bringing on site any hazardous substances that might create an exposure to Legal Company employees or an impact to the environment.

• Prior to the start of a job or project, the Contractor will disclose any and all hazardous materials use with the Legal Representative.

NOTE 1: Within 5 working days prior to use, the Contractor must provide notice in advance of planned uses of any odor-producing substances (e.g., petroleum or chemical-based building materials, solvents or cleaners) and dust or smoke-producing activities that may cause Legal employee or public concerns or discomfort. An action plan must be coordinated with Legal representatives, including Safety and Health, and affected site

management to prevent employee or public exposure and avoid unplanned interruption of work.

NOTE 2: Within 5 working days prior to use, where there is the potential for Legal employees to be exposed to hazardous materials used by contractor, Legal representative shall contact Safety and Health for a product review to ensure the safety of our Company employees and the public.

NOTE 3: In cases where Legal purchases hazardous materials for contractors to use, these products must go through the SEPA – Safety & Environmental Product Approval Process.

NOTE 4: In cases where the Contractor will be storing hazardous materials at Company facilities or project locations, it is the Legal representative's responsibility to inspect that area for proper storage of compatible materials.

_____ Applicable_____ Not Applicable

Initials: _____

11. **Asbestos–Containing Construction Materials.** No asbestos–containing construction materials (ACCM) shall be used for construction or left at Legal sites.

_____ Applicable_____ Not Applicable

Initials: _____

12. **Asbestos Containing Materials (ACM)**. If the facility where the Contractor will work has ACM, the Contractor understands the asbestos notification letter and applicable list of ACM and/or asbestos sample results provided by the Legal Representative, and understands not to disturb ACM or any material without asbestos content determined and documented unless specifically contracted and authorized by Legal for that work.

_____ Applicable_____ Not Applicable

Initials: _____

13. **Surface Coatings containing Lead or Other Metals.** Any potential lead (Pb) exposure hazards and lead and other metals in surface coating exposure hazards must be identified. All painted surfaces shall be assumed to contain lead and other metals unless shown otherwise by sampling and analysis. If lead or other metals are encountered, contractor and the Company will determine who will be responsible for removing them in compliance with applicable regulations. The Contractor may, at the discretion of the Company, disturb/remove less than 100 square feet of surface coatings containing lead, arsenic, cadmium, hexavalent chromium and/or mercury, providing the Contractor (a) submits their written Cal/OSHA compliant lead safety program to the Legal Representative prior to work on lead–containing materials, (b) generates no visible

dust emissions, and (c) manages waste in accordance with regulations and requirements (if any) of Legal Environmental Services.

Below is a listing of potential lead containing materials or lead and other metals in surface-coatings:

_____

The contractor shall be provided with this notice (including lead concentrations when known):

Lead, as well as other metals including but not limited to arsenic, cadmium hexavalent chromium and mercury, are commonly present in paint at varying concentrations in painted surfaces. Therefore, as an employer, you are expected to comply with all applicable regulations for protection of the workers and the environment, including but not limited to Cal/OSHA, prior to and during disturbance or removal of lead or other metal containing paint. Lead, arsenic, cadmium and chromium VI are substances known to the State of California to cause cancer /or birth defects and other reproductive harm.

_____ Applicable_____ Not Applicable

Initials: _____

14. **Proposition 65 Chemicals**. The Contractor shall not create at the work site an environmental or occupational exposure to Proposition 65 listed chemicals unless the Contractor provides the required Proposition 65 warning to Legal and other persons who may be exposed. If the work site creates occupational exposure to Proposition 65 chemicals, contact the Field Environmental Representative or Safety and Health Department Hazard Communication Administrator for instructions on attaching information on Proposition 65 chemicals to this notice.

_____ Applicable_____ Not Applicable

Initials: _____

15. **Handling and Disposal of Contractor's Hazardous Materials.** Proper handling and disposal of hazardous materials that the Contractor brings on–site, including primary and secondary chemical labeling, location of the Contractor's SDS, is required of the Contractor.

_____ Applicable_____ Not Applicable

Initials: _____

16. **Confined Space Program.** The Contractor understands the requirement of working in permit required confined spaces and will comply with all applicable laws and regulations involving confined spaces. The Contractor will verify to the Legal Representative they have a

permit required confined space program and have received information on Legal permit–required confined spaces that may be entered (including hazards, precautions) and will debrief after the entry with the Legal Representative regarding hazards of the entry.

_____ Applicable_____ Not Applicable

Initials: _____

17. **Hot Work Permit.** The Contractor understands the requirements to obtain an Legal hot work permit or to issue a hot work permit after Legal Representative approval and to comply with any permit requirements use of open flame, torch or welding equipment. The Contractor will comply with all the applicable laws and regulations required with these permits.

_____ Applicable_____ Not Applicable

Initials: _____

18. **Crane Lifting Plan.** The Contractor has lifting plan for cranes, including side booms if applicable, and will comply with all applicable laws and regulations involving cranes.

_____ Applicable_____ Not Applicable

Initials: _____

19. **Naturally Occurring Radioactive Materials – NORM.** The Contractor understands the requirement/guidelines of working with NORMs and will comply with all applicable laws and regulations dealing with safety and radiation.

_____ Applicable_____ Not Applicable

Initials: _____

20. **Safety Rules/Stop The Job.** The Contractor acknowledges that its employees must follow applicable safety rules while on Company facilities and properties. If an unsafe work condition or activity is identified, anyone working onsite has the authority to stop the job. All work will immediately cease once the Stop The Job is declared until the involved Contractor(s) have done a thorough investigation, remediated the unsafe situation, determined it is safe and communicated this to the SCG Representative and all affected employees. It is also the expectation that the Contractor's employees will abide by the Contractor's safety rules at all times. Known potential hazards at Company facilities and properties that have the potential to impact the Contractor's employees have been communicated to the Contractor. Such items may include but not limited to, equipment operations, energized electrical systems, fall hazards, etc.

_____ Applicable_____ Not Applicable

Initials: _____

21. **Reporting of Incidents.** Contractor will immediately report to the Legal Representative any project–related incidents resulting in fires, hazardous situations, hazardous substance releases, OSHA recordable occupational injuries and illness, serious near misses, any injury or property damage involving the public and Stop The Job actions. A preliminary written report will be submitted within 10 working days followed with a final report within a reasonable time frame thereafter, to the Legal Representative, who will then forward it to the designated Field Safety Advisor.

_____ Applicable_____ Not Applicable

Initials: _____

22. **Agency Inspections.** Contractor will immediately notify Legal Representative of any governmental agency (Cal/OSHA, Health Dept. etc.) incident, complaint, inspection and any "Notice of Violation" or "Notice to Comply" issued by a government agency at the Contractor's job site. Any environmental related issue must be reported to the Environmental Representative. Contractor shall not provide any information to the government representative, unless otherwise instructed to by the Legal representative.

_____ Applicable_____ Not Applicable

Initials: _____

23. **Special Safety Concerns and Hazard Assessment (Related to the specific job)**.

Specific Job Location:
_____
Special Safety Concern:
_____
Specific Job Location:
_____
Special Safety Concern:
_____
Special Job Location:
_____
Special Safety Concern:
_____
Special Job Location:
_____
Special Safety Concern:
_____

Note: *Contractors are responsible for obtaining all needed permits prior to working, such as applicable shoring, and trenching permits. For confined space entry, any potential hazards, testing and evaluation procedure, elimination or control of hazards, entry requirements, entry permits and plans for emergencies must be discussed prior to work beginning. Who will be responsible for testing and evaluation procedures must be determined prior to any job beginning (i.e., Contractor or Company). The Company reserves the right to review or request proof of the Contractor's confined space training and compliance program.*

Initials: _____

Emergency Telephone Numbers and Address:
The nearest hospital address and number is:

_____
_____
The Company facility address is:

_____
_____

For medical and fire emergencies, please contact 911. The Contractor understands the proper reporting of fires, hazardous situations, hazardous substance releases, incidents, OSHA recordable occupational injuries and illnesses, and serious near misses. The Contractor also understands the proper review, reporting and enforcement of drug and/or alcohol testing of incidents meeting the post–accident criteria of CFR Title 49, Part 40, Part 199 and Part 382.

By signing this Safety Notice for Contractors, the Contractor agrees to follow the applicable requirements as outlined in this document. Failure to do so may result in work stoppage and/or termination of contract.

Copies of the Safety Notice for Contractors must be maintained pursuant to the company's file retention policy.

Contractor Representative Name:	Legal Representative's Name:
Contractor Representative Phone Number:	Legal Representative's Phone Number:
Signature of Contractor:	Signature of Legal Representative:
Date Form Completed:	Date Form Signed:

SCHEDULE D
COMPENSATION

2. Pricing

Item	Reference No.	Description of Services/Personnel	Level	Unit	Unit Rate (USD)
		Sr. Well Control Specialist			
1	700012		Level One (1)	Per man, per day	[redacted]
2	700013		Level Two (2)	Per man, per day	
3	700014		Level Three (3)	Per man, per day	
4	700015		Level Four (4)	Per man, per day	
		Well Control Specialist			
5	700016		Level One (1)	Per man, per day	
6	700017		Level Two (2)	Per man, per day	
7	700018		Level Three (3)	Per man, per day	
8	700019		Level Four (4)	Per man, per day	
		Sr. Well Control Engineer			
9	700021		Level One (1)	Per man, per day	
10	700022		Level Two (2)	Per man, per day	
11	700023		Level Three (3)	Per man, per day	
12	700024		Level Four (4)	Per man, per day	
		HSE Specialist			
13	700029		Level One (1)	Per man, per day	
14	700030		Level Two (2)	Per man, per day	
15	700032		Level Three (3)	Per man, per day	
16	700033		Level Four (4)	Per man, per day	
17	700265	**Offshore Personnel Surcharge,**		Per man, per day	
18	[redacted] All travel and related ground transportation per person.			Per man	[redacted]

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

Pre-Formal Inquiry into California Gas Management, Practices and Procedures Related To The Aliso Canyon Incident in October, 2015.

EXAMINATION UNDER OATH OF DANNY WALZEL and JAMES KOPECKY

CONFIDENTIAL

REPORTER'S TRANSCRIPT
San Francisco, California
August 8, 2018
Pages 1 - 152

Reported by: Doris Huaman, CSR No. 10538
Andrea Ross, CSR No. 7896
Shannon Ross, CSR No. 8916

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA
SAN FRANCISCO, CALIFORNIA

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA

IN THE MATTER OF THE PRE-FORMAL INQUIRY INTO CALIFORNIA GAS MANAGEMENT, PRACTICES AND PROCEDURES RELATED TO THE ALISO CANYON INCIDENT IN OCTOBER, 2015

Appearances:

(Examination Under Oath, August 8, 2018)

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BE IT REMEMBERED THAT, by Consent of the Witness, and on Wednesday, August 8, 2018, commencing at the hour of 10:10 a.m. thereof, at the offices of the CALIFORNIA PUBLIC UTILITIES COMMISSION, 505 Van Ness Avenue, Room 4300, San Francisco, California 94102, before ANDREA L. ROSS, CSR No. 7896; SHANNON M. ROSS, CSR No. 8916; and DORIS HUAMAN, CSR No. 10538, personally appeared

(DANNY WALZEL),

called as a witness herein, who, being first duly sworn, was thereupon examined and interrogated as hereinafter set forth, and

(JAMES KOPECKY),

called as a witness herein, who, being first duly sworn, was thereupon examined and interrogated as hereinafter set forth

* * * * *

EXAMINATION

BY MR. GRUEN:

Q For starters, why don't we go around the room and just identify your name and spell your name, please, for the record. We'll ask everyone to do it and then your title and then the name of the entity who you work for.

My name is Darryl Gruen, D-a-r-r-y-l, G-r-u-e-n. I'm an attorney for

the Safety and Enforcement Division of the California Public Utilities Commission.

MS. ROSE: My name is Julietta Rose, J-u-l-i-e-t-t-a, R-o-s-e. I am a law clerk for the legal division.

MR. BRUNO: My name is Kenneth Bruno. I'm the program manager of gas safety branch, Safety and Enforcement Division here at the California Public Utilities Commission.

MR. SHER: Nicholas Sher, S-h-e-r, with the Safety and Enforcement Division, attorney.

MR. HOLTER: Randy Holter, R-a-n-d-y, H-o-l-t-e-r. I work for the Safety and Enforcement Division. I'm a senior utilities engineer specialist.

MS. PENNINGTON-HILL: Kaitlyn Pennington-Hill, K-a-i-t-l-y-n, P-e-n-n-i-n-g-t-o-n hyphen H-i-l-l, attorney for Halliburton.

MR. HELSLEY: Michael Helsley, M-i-c-h-a-e-l, H-e-l-s-l-e-y, attorney at Wanger Jones Helsley and an attorney for Halliburton and Boots & Coots.

WITNESS KOPECKY: A James Kopecky, K-o-p-e-c-k-y. I'm a well control specialist for Halliburton, Boots & Coots.

WITNESS WALZEL: A Danny Walzel,

D-a-n-n-y, W-a-l-z-e-l, well patrol engineer for Boots & Coots, Halliburton.

MR. GRUEN: Q Mr. Kopecky and Mr. Walzel, thank you very much for being here today. We appreciate that. We understand that you're here voluntarily and you're here with your counsel voluntarily. I just -- I spoke with counsel off the record and just wanted to clarify for the record, we understand that what we discuss today, just the actual points of discussion today, that there's an agreement to keep that, keep the points for the discussion confidential.

Counsel, did I capture that right?

MR. HELSLEY: Yeah, that's fine. I agree with that.

MR. GRUEN: Okay.

MR. HELSLEY: Also, I just want to let everyone know that SoCalGas, they were -- they helped bring the witnesses here today and helped facilitate this. Just wanted to let -- I just wanted to put that on the record.

MR. GRUEN: Q Appreciate that. Thank you. Let's see. With that, just a couple of points of clarification before I turn it over to Ms. Rose.

Gentlemen, Mr. Kopecky and

Mr. Walzel, do you have any concerns with sharing information related to your work at Aliso Canyon on well access 25 today?

WITNESS KOPECKY: A No.

WITNESS WALZEL: A No.

Q Do you have any interest in sharing the information, sharing information related to your work, on well access 25 today, anything that you want to share with us?

WITNESS WALZEL: A What do you mean by interest?

Q Is there anything that you want to tell us from your work, related to your work?

WITNESS WALZEL: A Just your questions.

WITNESS KOPECKY: A Yeah.

Q Okay, we'll move forward with the questions absolutely, okay. With that, Ms. Rose is going to ask you a little bit about your background related to why you are qualified to do what you did on well access 25. So with that, go ahead, Ms. Rose.

MS. ROSE: Thank you.

EXAMINATION

BY MS. ROSE:

Q So how would you describe what you do in general at your job?

WITNESS KOPECKY: A You want to go

first, Danny?

Q Or individually if it's quite different.

WITNESS WALZEL: A Yes, you know, customers call us when they're having well control issues and, you know, anything from underground blow-outs to surface blow-outs to circulating out of keg, you know, pressure control, call us out to resolve the issue.

WITNESS KOPECKY: A As well control specialist, I work under a broad direction of the senior well control specialist typically on any well control event, the types that Danny mentioned.

Q Okay. So more kind of individual issues versus just well interventions?

WITNESS KOPECKY: A We also do well interventions.

Q Okay, thank you. How did you -- how did you become a well control engineer, well control specialist? What kind of training did you get?

WITNESS KOPECKY: A I have a -- prior to joining Boots & Coots in 2004, I had a 20-year surface wellhead equipment background.

Q Okay.

A And I work for Boots & Coots in

different capacities throughout the world on different well control events. I joined the well control group, I believe, five years ago or six as a well control specialist.

WITNESS WALZEL: A I started at Boots & Coots in 2002. I was hired after graduating Texas A&M University with a petroleum engineering degree and, you know, and since then, I've worked in just about every aspect of what Boots & Coots does. I've been doing it for 16 years.

Q Okay. So you've worked there before it was bought by Halliburton?

WITNESS KOPECKY: A Yes.

WITNESS WALZEL: A Yes.

Q Can you describe, if at all, how the company has changed since Halliburton acquired it?

WITNESS KOPECKY: A Pertaining to?

Q Your experience as an employee, management, direction, just -- if nothing comes to mind, then that's fine too.

A Well, there certainly have been changes I can't really grasp, but I think it's just, you know, it's being part of a larger company.

WITNESS WALZEL: A Yeah, I would say it's, you know, our day-to-day work we do in

the field hasn't changed.

Q Okay.

WITNESS KOPECKY: A I agree.

Q Okay, thank you. So you obviously specialize in well control. Do you work on a lot of gas well leaks in particular?

WITNESS WALZEL: A Yes.

Q About how many would you say you've worked on in the past year?

WITNESS KOPECKY: A In the past year?

Q Yes, about, yeah --

A Well --

Q Yeah --

(Crosstalk.)

WITNESS KOPECKY: A Probably four.

Q Okay.

WITNESS WALZEL: A I've worked on one gas blowout this year.

Q Okay. And where were they?

WITNESS KOPECKY: A Columbia.

WITNESS WALZEL: A Columbia.

Q Okay.

WITNESS KOPECKY: A Columbia, Trinidad-Tobago, and can't recall. South Texas.

Q Okay.

A And I don't recall if France was in this year or just the end --

Q Okay, but --

A -- the end of last year --

Q Okay, but recently though?

WITNESS WALZEL: A Oh, you mean like this calendar year?

Q Yeah or -- no, just the past year give or take, you know.

A Trying to think of which ones I did at the end of last year. Yeah, I can't recall any gas leaks towards the end of last year.

Q And how many of them, if any, were like Aliso, like SS-25, maybe not in terms of the longevity of the leak but, you know, the way the well was.

WITNESS WALZEL: A Columbia was just like it.

Q Just like it?

A Yes.

Q Okay. How so?

(Crosstalk.)

THE REPORTER: Excuse me, gentlemen, we need to do this one at a time, please. Thank you.

WITNESS KOPECKY: A As Danny was saying and I interrupted him, it was a broach to the surface.

MS. ROSE: Q Okay. Did it have a

similar kind of underlying geology as well?

WITNESS KOPECKY: A No.

WITNESS WALZEL: A No.

Q No, okay. Have you worked on many that had a similar underlying geology?

WITNESS KOPECKY: A Let me -- I'm going to clarify. When I said no about the geology, it was not a storage well.

Q Okay.

A Okay.

Q So they are actually just extracting the gas for the first time?

WITNESS KOPECKY: A I think the well was temporarily abandoned in Columbia, wasn't it?

Q Okay.

WITNESS WALZEL: A They weren't producing it at the time.

Q Okay. So going back to your background a little bit, would you say that you have some expertise at killing leaky wells?

WITNESS WALZEL: A Yes.

WITNESS KOPECKY: A Yes.

Q And what in particular makes -- kind of gives you that expertise versus, say, someone that manages a field?

WITNESS WALZEL: A I would say what --

just the -- a lot of what we do is, you know, you gain the experience just from doing it.

Q Okay.

A We've learned from, you know, guys that worked at Reddit Air for 30, 40 years, you know, 50 years plus experience.

Q Yeah.

A You know, with our -- obviously the petroleum background, engineering background, and then learning it in the field.

Q Okay.

WITNESS KOPECKY: A And, yeah, I'd add that's what differentiates us is quality of our engineers.

Q The quality in terms of kind of experience?

A Experience, yes.

Q Okay. Do you get specialized training? Is it more that you just kind of going along to jobs and eventually pick up more understanding or anything?

A Well, and again, I'm not an engineer but we do attend types of training, a lot of it required. But you gain the most experience not in the classroom but in the field.

Q Okay.

WITNESS WALZEL: A Yeah.

Q Like working with people that are more senior or just confronting your problems?

A All the aboves, working with people that have done it and going out and actually doing it.

Q Thanks. And why would you say that you and your colleagues that went to Aliso Canyon for SS-25 were qualified to handle that particular gas leak?

A Just the experience of having done it before.

WITNESS KOPECKY: A I agree.

Q Have you ever testified in court as, like, an expert witness or anything like that?

WITNESS KOPECKY: A No.

WITNESS WALZEL: A No.

Q So for each of you, can you describe the last well that you worked on, kind of like what kind of well, where was it, how did you make a decision about how to deal with it, you know, what happened when you got there, that kind of thing.

WITNESS WALZEL: A Well, the last one I was involved with was in Columbia. It had broke the surface. There was gas and oil, water coming up 200 foot from the well. And

we -- it ended up -- it ended up bridging and we got a snubbing unit and went in and set cement plugs and --

Q I'm sorry, could you --

A So bridging with -- essentially the well plugged itself off on its own.

Q Okay.

A It was making a lot of sand.

Q Okay.

A And plugged up with sand.

Q Okay. And how soon was that after you got there?

A I don't know the exact date how many days --

Q Yeah.

A -- but within a week, week and a half it bridged when we started flowing it to relieve the pressure.

Q Okay. And when you showed up, what -- like, what did you do? Like, did you ask for information, did you go survey the well? Like, what's your thought process when you got to that well?

A Well, they had provided drilling records, you know, kind of a -- yeah, what they were, you know, what they were planning on doing, which was, I believe, put P and A in the well, plug and abandon. We did a site

survey and we ordered out equipment to pumps and, you know, kill fluids, installed additional --

(Crosstalk.)

THE REPORTER: Excuse me, folks, I can't take you both down at the same time. Thank you.

WITNESS WALZEL: A Installed additional valves on the wellhead, ordered a snubbing unit from the US. And then as we were just getting ready to rig up the snubbing unit is when the well bridged. So we used the snubbing unit to go in and clean it out and set cement plugs.

MS. ROSE: Q Okay. And did you -- is there kind of a -- when you get to the well, and you say, okay, this is a well, it's leaking, you know, it's a certain kind of well, is there any kind of like formula that you use or is it more just intuition? Like, how do you decide what you're going to do?

WITNESS WALZEL: A Well, I mean, you know, there's the formulas to figure out kill fluids and volumes. And then a lot of it is -- and we also ordered out wireline equipment, you know. A lot of it is running logs to, diagnostic logs, to find flow paths, holes.

Q When you say diagnostic logs, are those like past records or future --

A No, yeah, we get out there and run them.

Q Okay.

A Typically it would be moist temperature logs, gyros, spinner logs, you know, those would be the main --

Q Okay.

A -- the main three that we run.

Q Okay. And then based on the results of those, you decide --

A Right.

Q -- how you're going to approach the well. Okay. Do you find it useful to talk to the people that actually work on the field who haven't dealt with the well in the past or not so much?

A Yes.

Q Yes, okay. And what kind of information would you ask them?

A You know, just drilling, you know, well history --

WITNESS KOPECKY: A Formation pressure.

WITNESS WALZEL: A Formation pressure.

WITNESS KOPECKY: A Tubular data.

WITNESS WALZEL: A Tubular data,

wellhead equipment, pressure ratings, stuff like that.

Q Okay. And that's all -- that all sounds like information you could also get from a written record or not so often?

WITNESS KOPECKY: A Well, we -- although we may ask, we always ensure it's going to be confirmed by written record --

Q Okay.

A -- if at all possible.

Q Okay. Okay. Okay. Thank you. Could you describe the last well you worked on.

A Well, I was on the well with Danny --

Q Okay.

A -- in Columbia.

Q Okay.

A Participated in that. I don't think I'm really -- I was in Trinidad-Tobago on a well kill, but I don't think -- it was a different situation and I don't think I'm at liberty to --

Q Okay.

A -- because of confidentiality with that client.

Q Okay. Is there a recent kill, well kill, that you can talk about?

A The one prior to that would have been Columbia.

Q Okay. Okay. Thank you. So the one in Columbia, would you say that that was kind of a standard or typical well kill?

A Well, it bridged itself.

Q It bridged itself. Is that normal?

WITNESS WALZEL: A Sometimes it happens; sometimes it doesn't. Every well -- no two are the same when we show up.

Q Okay.

WITNESS KOPECKY: A As Danny said, it's typically not typical.

Q Okay.

A What I mean by that is no two are exactly the same. They're all unique scenarios.

Q Are there any kind of criteria that you would use that even just thinking about it for yourselves to kind of group them like, oh, this is a certain type or anything like that?

WITNESS WALZEL: A Other than surface blowout, underground blowout, broach, you know.

Q Okay.

A That's how you can classify them --

Q Yeah.

A -- but then each one has its own set of problems, you know, that you go through the diagnostics and, you know, there's no, you know, just every kill is different.

Q Okay. Fair enough. When you show up, are there any -- is there anything that you do typically to either figure out what you're going to do or first steps?

WITNESS KOPECKY: A First steps typically when we show up in a well control event is to ensure we secure the area, ensure safety of personnel and accountability.

Q Okay.

A And then clear any hazardous material from the area that could be the hot zone, if you will, that could be impacted such as fuel tanks or oxygen acetylene type bottles, anything that could escalate the situation.

Q Okay. And then what would you do after that?

A Try to get an evaluation of the situation.

Q Okay. And that would be through?

A Visual.

Q Visual, visual evaluation. And does that actually really inform what you

choose to do next? I don't know, I mean I've never been to a well.

A I mean it allows you to set your zones, your exclusion zones.

Q What's an exclusion zone?

A Well, there are areas that you don't allow any personnel in.

Q Okay.

A And then there's warm zones that you can have personnel in viewing, preparing to go into the hot zone or coming out, exiting the hot zone. And then you've got your areas that you can assemble equipment, things of that nature.

Q Okay. So this is all kind of securing the area safety. And then once that kind of work is complete, how do you start evaluating the well itself?

WITNESS WALZEL: A Well, like James said, visual, can you see where the flow is coming from, are we going to have access to the wellhead, conditions of the wellhead. As I said earlier, you can get access to the wellhead, you know, are we going to be able to put pump lines on it, rig up coil tubing units, wireline units.

Q Coil what?

A Coil tubing, you know, equipment to

go in and do the well intervention.

WITNESS KOPECKY: A Remediate.

WITNESS WALZEL: A Remediate.

Q Okay. And then is this the time at which you also runs those logs and maybe look at a well history or is that later?

A Well, I mean if there's information, then we'll review that. Sometimes it takes a little while to run the logs, you know, days or by the time you get equipment, source the equipment, so, yeah, look at the logs, order out equipment.

Q Okay.

WITNESS KOPECKY: A I agree.

Q Okay. And do you typically ask to speak to any one kind of person or to see any kind of record when you show up?

A Well, we would typically identify the incident commander.

Q Okay. And what do you talk to them about?

A Well, again, we don't own the well.

Q Yeah.

A But we're there to make recommendations.

Q Uh-huh.

A So we would talk to him about what they have in mind, you know, again, about

accountability of personnel, those type of issues initially.

Q Okay. Is there anyone else that you make it a priority to speak to?

WITNESS WALZEL: A Well, I mean just each company, you know, if there's engineers, geologists, just anybody that will have information.

Q Okay, okay. And --

WITNESS KOPECKY: A And, again, just for clarification, when I say we, we seek out this individual, we talk to this individual. A lot of times we're included in those meetings. Sometimes we're not. It's done by the senior --

Q Okay.

A -- personnel of Boots & Coots on location.

Q Okay. And as far as records or information that you look for when you show up, is there anything that you typically look for?

WITNESS WALZEL: A I think we've already --

Q Yeah.

A Well history --

Q Well history, okay.

A Tubulars.

Q Okay, okay. I just want to make sure.

A Yes.

Q Okay, thank you. I think I'm good.

MR. GRUEN: Thank you, Ms. Rose.

EXAMINATION (resumed)

BY MR. GRUEN:

Q Appreciate that. Thanks for that. A couple things just to follow up on. I take your point that each incident is different. What I heard earlier, too, is that there's some similarities between Columbia, what happened in Columbia, and then what happened in SS-25.

I think you had mentioned that one was -- that those were a surface breach. So to that point, they were similar.

WITNESS WALZEL: A Similar, yeah.

Q Even though I'm sure there were lots of differences, too, to your point. So just walking through that, is -- and then the bridging in Columbia would have been different --

A Right.

Q -- than SS-25. What else between Columbia and SS-25, if anything, was similar?

A That there was a broach to surface. That was pretty much all that was similar.

WITNESS KOPECKY: A I think that's the only similarity.

Q Okay, thank you. All right, so just to talk a little bit about -- I'm going to ask you to maybe, if you can as best you can, and I know it's three years ago approximately so it's been a little time and I'll work with you to help try and jog your memory if you can't remember.

I think most people might -- their memories might start to fade about what happened three years ago so I get that. But having said that, to the best you can, what I'd like to ask you to do is give us an understanding of in your experience from when you first started, when you first learned about SS-25 and the incident there, to give us as best you can a timeline in your experience of what happened including how you learned, and then the different well kill attempts that you had.

I recognize that's really broad. It may take a little bit of time to do that. So just maybe if we could start kind of at the beginning sort of and I'll ask questions about how you learned and if we could walk forward in time from there to when you finished up, so I'll -- this is just kind of

a high point. I'll start to ask questions about that.

But I just wanted to kind of give you an idea up front to where I'm going on this. So maybe with that, if you could, as best you can remember, approximately when -- and I'm not going to hold you to the exact date -- but approximately when did you first learn about the incident, did each of you learn about the incident at SS-25?

A Well, I'll begin. I won't be -- unfortunately I won't be able to get very far with the timeline.

Q Okay.

A But I initially -- I took the phone call for the SS-25 at approximately by memory 8:00, 8:30 Houston time. And I conferred with the gentleman that had phoned me with SoCal. We determined that we were going to need to mobilize. I contacted my employer or, excuse me, my direct supervisor, the well control manager, and we determined that we would send the senior well control specialist, a well control engineer, and myself initially.

Q Okay.

A And we departed on the first available commercial flight the next morning

early because we did look into a charter, but we wouldn't have been able to address anything in the dark hours and we arrived as early as possible so the charter wasn't beneficial.

Q And just a couple clarifications about that. When you said 8:00 to 8:30, was that in the morning or the evening?

A Oh, evening, I'm sorry, p.m., yes.

Q That's okay. Do you remember who the gentleman was at SoCalGas who called you?

A I don't recall exactly but I do recall it was a gentleman by the name of Todd Van Putte maybe.

Q Van de Putte?

A Maybe, something.

Q Okay, that's helpful. And do you remember how soon after the incident that phone call happened?

A No, I do not remember.

Q That question suggests I'm asking you to be precise for three years ago and I'm not, so let me just clarify. Would it have been within hours or days after the incident first happened?

A My recollection it would be hours maximum.

Q Hours maximum. That's helpful.

Okay, thank you. And so then you would have taken a charter then or you did take a charter the day -- the morning after the incident happened?

A We flew commercial in the morning.

Q Flew commercial the morning after the incident happened?

A Correct.

Q Okay, I follow. Thank you. And when you talked about the different -- I think you mentioned a well control manager and a well control specialist. You decided that certain personnel should come out. Which individuals were those?

A A senior well control specialist, myself, and Danny.

Q And what was the name of the senior well control specialist?

A Danny Clayton.

Q Danny Clayton, thank you. Okay. And so when you first were on the phone -- actually let me -- so you get out to Aliso Canyon field after the charter. Am I following that right? You went right to the field?

A Yes, we did.]

Q What was the first thing you did when you got to the field?

WITNESS KOPECKY: A Again, I recall -- and, again, I'm going by memory. I recall we attended a briefing.

Do you agree, Danny?

We attended a briefing prior to going to the wellsite on Aliso Canyon, the briefing on the current situation and safety concerns.

Q Okay. And the way I'm asking is -- I appreciate that if you want to jump in at any time. I'm asking -- I'm looking at Mr. Kopecky, but it's really directed to both of you, so feel free to jump in.

WITNESS WALZEL: A Okay.

Q So when you talk about the safety concerns, do you remember what specifically they were -- what was discussed at that meeting?

WITNESS KOPECKY: Of course, we weren't really aware because we hadn't seen the well, but the safety concerns to our knowledge, or that were communicated to us was methane gas leak.

Q Okay. Anything else?

A And not for health reasons, but for as an ignition, possible source.

Q I see. Okay. So that the surface breach, was it identified as a surface breach

at that point?

WITNESS WALZEL: A Yes. I mean --

WITNESS KOPECKY: A Yeah. That was the reason for the phone call, the initial call.

Q Got it. Got it. So the initial phone call would have identified the surface breach, and due to the surface breach then there was concern about ignition, there was enough gas being released into the atmosphere, there were concerns about ignition?

WITNESS WALZEL: A Anytime there's gas, you know, whether it's a little or any -- it's always a --

Q I follow. Thank you.

WITNESS KOPECKY: A Right.

Q Let me back up to what else on the phone call -- what were the things identified on the initial phone call to you that made you say, Hey, we better get out there.

WITNESS KOPECKY: A The fact that there was a broach to surface.

Q Okay.

A Ever slight as it may have been at the time, there was still a major concern.

Q Okay. After the safety meeting, what -- so they had identified the surface

breach to you. Did they -- did either in the phone call or the safety meeting, can you describe more the problem that they had described to you.

WITNESS WALZEL: A I mean, it was, you know, there's a gas, you know, release and then we went and looked at it, you know, and did an observation of the well, and, you know -- you know, I mean, they just described, you know, what they last saw up there, and we went and looked at it and confirmed it.

Q So you observed what they had told you?

WITNESS WALZEL: A Right.

Q Did you observe anything different than what they told you?

A No.

WITNESS KOPECKY: No.

Q What did you observe up there?

WITNESS WALZEL: A Well, we went and looked at it and, you know, there was - there was an asphalt pad on location, you know, around the well, and I recall there was a couple cracks in the asphalt, and you could see gas fumes coming up out of it.

Q Okay. And were you both there when you went up to see the condition?

WITNESS KOPECKY: A Yes. And as Danny mentioned, you could see the gas. You had to -- you had to really look. There were small fissures, cracks, and then it wasn't any major discharge visually at that time.

Q Okay. I think you had talked about doing an evaluation after doing a visual. That's kind of one of the common things you mentioned to Ms. Rose is what you do -- what you've done commonly.

So at what point did you do your evaluation on SS-25?

WITNESS WALZEL: A First day. As soon as we got there.

Q What did you do as part of your -- what did you do as your evaluation on SS-25?

WITNESS WALZEL: A Went and looked at the well and looked at the site.

Q What did you decide in terms of -- what did you find? And what did you think had to be done as a result of your observation?

WITNESS KOPECKY: A That the well would have to be killed.

Q So let's go through the well-kill attempts. And I understand there are a few, and if we can -- you know, I think there were -- my understanding was there were a

number of them. So I'd like to just walk-through, as best you can remember, the different well-kill attempts.

So after you first got there, can you talk about the first well-kill attempt.

WITNESS WALZEL: A Yes. I mean, yeah, we, you know, we ordered out equipment - pumps, pump iron, choke manifolds, you know - got all the unnecessary equipment off location, and we pumped down -- we lined up to pump down the tubing, and I can't -- I can't recall the specifics of how -- how much we pumped. You know, we set the -- I believe all the wellhead equipment was 5,000 PSI pressure rating. So we set a safety limit somewhere around 4,300 pump PSI, and we pumped on it, and -- but I couldn't tell you how many barrels, but we deemed that it was, you know -- we shut down to regroup and talk about it because it wasn't, you know, going as expected.

Q How did you decide how many barrels to pump and what PSI you were going -- what pressure you were going to use in order to pump them and all that stuff?

WITNESS WALZEL: A Right. So, obviously, the faster you pump, the more pressure you're going to have.

Q Uh-huh.

WITNESS WALZEL: A So we tried to pump as fast, you know -- see what we could pump before we exceeded the safety limit and pressure and then -- but like I said, I can't recall how many barrels we pumped or when we shut down or I don't remember -- I don't remember the specifics of how many barrels we pumped.

MR. BRUNO: May I jump in real quick?

MR. GRUEN: Sure. Okay.

EXAMINATION

BY MR. BRUNO:

Q Mr. Walzel, and Mr. Kopecky, I want to back up just a bit, and I want to get a few clarifications before we get to the first well-kill attempt.

When you could see fissures, could you also smell gas; do you recall? Could you smell the odorant?

WITNESS WALZEL: A I can't remember if I could smell it, or, you know, I remember it was windy; so, you know, I can't recall if I could smell it or not that day.

WITNESS KOPECKY: A I'm in agreement with Danny. As a matter of fact, now that he mentions it, which you're all probably aware,

it's typically windy at all times up on the mountains there, apparently.

I don't recall any memory of smelling any -- I forget what the additive is called.

Q Yes, sir. I understand.

What about the concentration of gas; when we're first seeing the gas coming through the fissures, was that a concentration of gas that was explosive, or do you recall?

WITNESS KOPECKY: A I don't recall. We work a lot in 90, 100 percent LEL. It didn't seem to be a large concentration of gas. It -- we weren't concerned with the ignition in the immediate area, especially with the wind.

Q And by 90 percent LEL, you mean you weren't quite at the lower explosive limit?

WITNESS WALZEL: No.

WITNESS KOPECKY: No. No. I say we work in those environments all the time, and with my experience, this wasn't an explosive environment when we initially went up to observe.

Q Yes, sir. Thank you. Thank you for that. Would you consider -- if I use the term "blow-out," does that mean anything to

you?

WITNESS KOPECKY: A Certainly.

WITNESS WALZEL: A Yeah. I mean, the definition of a "blow-out" is an uncontrolled flow or release --

WITNESS KOPECKY: A To the atmosphere.

WITNESS WALZEL: A -- or underground.

Q So at the time of the phone call, am I understanding, it was already a blow-out at that point?

WITNESS KOPECKY: A Whenever it broached the surface.

WITNESS WALZEL: A Correct.

Q Thank you for that. I just have one more.

You mentioned the incident commander is one of the first things you do around the safety meeting. Had you met the incident commander at that point?

WITNESS KOPECKY: A I don't recall. I'm familiar with the incident commander. We met a lot of people upon arrival. I don't recall who the incident commander was at that time. At that time. At that particular time.

Q But do you recall meeting an incident commander?

WITNESS KOPECKY: A Yes -- no, I don't

know that I met him on the first day because I don't recall there was so many titles, meeting a lot of people. We were concerned with getting a chance to look at the well, but, no. I did meet an incident commander throughout the job thereafter.

Q Yes, sir. And then, if I understand, I'm just going back to decision-making. Did I understand you correctly that the incident commander makes decisions, but you guys are providing the recommendations? Did I pick that up correctly?

WITNESS KOPECKY: A I think broadly, yes. Again, what I stated earlier is that we don't -- typically, and I'm referring to other jobs as well, when we go on location, we don't take control, if you will.

We're governed, if you will, by whomever the customer representative is. We're there to make recommendations, and they know that that is our expertise.

Q Yes, sir. Okay. I'm going to throw out a name and just to the best of your recollection, just kind of trying to identify the incident commander. Does the name Jimmy Cho jog any memory?

WITNESS KOPECKY: A I recall meeting

Jimmy.

WITNESS WALZEL: A Yes.

Q Do you think he may have been the incident commander?

WITNESS WALZEL: A Well, initially -- I don't recall, but the incident commander throughout the majority, you know, throughout -- what I believe was Bret.

WITNESS KOPECKY: A Correct.

Q By Bret, do you mean Bret Lane?

WITNESS KOPECKY: Yes.

WITNESS WALZEL: Yes. I couldn't remember his last name.

Q So he was in the capacity of -- by "he," I mean Mr. Lane. He was in the capacity of either being incident commander or making decisions?

WITNESS WALZEL: Yes.

WITNESS KOPECKY: I'm assuming -- not assuming. I know his entire team.

MR. BRUNO: Q Yes, sir. Understand.

EXAMINATION (resumed)

BY MR. GRUEN:

Q As incident commander with his team, Bret Lane was making the final decisions about how to proceed on the well-kill attempts.

WITNESS KOPECKY: A I don't know that to be fact.

Q Okay. Would you make recommendations to Bret Lane and his team about how to proceed well-kill attempts?

WITNESS WALZEL: A Yes.

Q Were the recommendations followed?

WITNESS WALZEL: A Yes. Well, yeah.

Q Any changes that they made to the recommendations?

WITNESS WALZEL: A I mean, I can't remember if there was, you know, any changes off the top of my head right now.

Q Do you remember any personnel from SoCalGas who talked the recommendations through with you before you made them with Mr. Lane's team?

WITNESS KOPECKY: A I was not involved in the meetings with any of the recommendations.

WITNESS WALZEL: Yes. I mean, I was -- typically, I would be, like, present at the morning meeting, and, you know, like I said, our team was in the meetings. You know, I mean, it was kind of, you know, meet in the trailer, talk about what we would like to do, and come up with a formula and go out and do our pump job.

Q Who was your team leader?

WITNESS WALZEL: A His name was Danny Clayton.

Q Danny Clayton, yeah.

And so how would you come up with a recommendation to SoCalGas?

And when I ask, I mean, did you come up with a recommendation among the Boots & Coots team first, and then present it to SoCal?

WITNESS KOPECKY: A I don't believe -- I wasn't involved in strategy.

Q Okay.

WITNESS WALZEL: A Yeah, I mean, you know, let's try to pump on it and rig up a pump on it, and, you know, with the kill-weight fluids, and, you know, make an attempt at trying to kill it.

Q And that was a conversation you had with Danny Clayton to figure that out?

WITNESS WALZEL: A Yeah. I mean, really, when we got there, that was the first, you know -- you know, we got to pump on it to kill it.

Q Right. Right. Yeah. So I'm following you on the strategy of how to do it. I'm just trying to get at who was kind of in the -- who you talked to first in order

to figure out how.

A I can't -- I don't remember who I talked to first.

Q Okay. Okay. Someone within Boots & Coots first or was it kind of an overall meeting with SoCalGas and Boots & Coots to figure out how to do it?

A Well, you know, it was always kind of overall, you know, group, you know, discussion.

Q Okay.

A Weigh out pros and cons and consequences to come up with the best plan.

EXAMINATION

BY MR. BRUNO:

Q Mr. Wetzel --

WITNESS WALZEL: Walzel.

Q -- Walzel. I'm sorry. I'm sorry, sir.

Or, Mr. Kopecky, just to clarify, I think you mentioned you had to pump on it to kill it?

WITNESS WALZEL: A Right.

Q What are you trying to achieve there? You are pumping some medium down?

A Yeah.

Q Can you kind of describe that

process. Like, what are you trying to...

A Well, yeah, to, you know, to kill a well you need to have hydrostatic equal to or higher than the reservoir pressure. So from that, you can come up with how many pounds-per-gallon fluid you need, and then, you know, on a well that's flowing, you know, you kill it with mud weight and pump rate.

So, you know, part of the initial pump was, you know, if it works, it works. If it doesn't, it might give us some information to, you know, use in the future attempts.

Q You mentioned reservoir pressure. Is that a number that you guys calculate or is that a number that was given to you by SoCalGas?

A It was a number given to us.

Q So is that an important input for the first well-kill attempt?

I mean, did you -- I'm understanding it to be almost like, you know, do your best to design it, to overcome it. I don't want to put words in your mouth --

WITNESS WALZEL: A Right.

Q And then see what happens?

WITNESS WALZEL: A Well, not "to see what happens," but, you know, we know our --

you know, come up with our kill weight. You know, we didn't know -- or you know, the variables would be if, you know, we could pump and overcome -- you know, get enough hydrostatic in the well bore to maintain the reservoir pressure.

Q And when that number was given to you, was it verbal or was it written or a record?

WITNESS WALZEL: A Well, I know it was verbal and there might -- some record, you know, written down somewhere.

Q Just based on your experience, is that reservoir pressure reasonable? I mean, did it sound reasonable?

A I mean, you know, as far as reasonable, I mean, it's -- I don't remember what --

WITNESS KOPECKY: A I don't recall what it was.

WITNESS WALZEL: A I don't remember what the equivalent mud weight was, but it wasn't abnormally high.

Q So if I understand you correctly, whatever the reservoir pressure was, you then designed the mud weight --

WITNESS WALZEL: A Right.

Q And that mud weight didn't stand

out as abnormal?

WITNESS WALZEL: A No.

Q It was kind of in the ballpark, if you will?

WITNESS WALZEL: A Yeah, we worked on mud weights up to -- a lot higher, you know, and normal mud weight.

MR. BRUNO: Okay. I do have one more question. I apologize for jumping in, Darryl.

MR. GRUEN: That's okay.

MR. BRUNO: Q The first meeting, you know, the check-in with the incident commander, prior to the first well-kill attempt, was there any sort of feeling this was going to be a standard well-kill attempt or this one's different or this is going to be a several month...

WITNESS WALZEL: A We didn't have any expectations.

Q Yes, sir.

Is it always like that, there are just no real expectations, it just kind of depends?

A I mean, we don't -- yes. I mean, we don't show up, Oh, this is going to be a two-day job or a three-day job or two-month job.

WITNESS KOPECKY: A And when we attempted to first kill, you're always in hopes that it's going to kill, that you're going to be successful in killing the well.

WITNESS WALZEL: A Yes.]

EXAMINATION (resumed)

BY MR. GRUEN:

Q Just a couple of follow-ups on the reservoir pressure and how that input got to you. Did they -- so SoCalGas gave you the reservoir pressure as an input for you to calculate your mud weight?

WITNESS WALZEL: A Yes.

Q Did I follow that right? Okay. Did they explain to you how they came up with the reservoir pressure?

A They had pressure gauges.

Q What -- in giving you a number -- what was their basis for giving you the number?

A To figure out the -- know what your equivalent mud weight is.

Q Sure. I'm asking the question the wrong way.

What were they -- did they do anything to show you how they came up with the number?

A I mean, what do you mean by "how

they came up with the number"?

Q You talked about logs?

A Right.

Q Did they show you the logs?

A I mean, it wouldn't be -- it wouldn't be -- I mean, when I talk about logs, I'm talking about noise temperature levels. I mean, they have pressure gauges, and they are maintained -- it's their gas storage, so they know what the pressure is. You know?

Q Okay. So I think I'm hearing -- and check me on this -- that typically someone would come up with a reservoir pressure based on things like noise temperature logs?

A No.

Q Okay.

A Yeah. When I talk about logs -- no, I mean, it's -- they are gas-filled. They are putting gas in it, taking gas out. They have censors or, you know, pressure gauges.

Q So they would -- they -- did they show you that information -- any of that information? I think we're going around the same thing, but I'm just trying to understand your answer, if they actually showed you the

results from the noise temp logs?

A It wouldn't have been -- noise temp wouldn't have showed us the pressure. I mean, there's a pressure gauge and a number on it and --

Q Okay. Okay. So -- yeah, I think we'll get back to it.

MR. SHER: Darryl, may I?

MR. GRUEN: Yeah.

MR. SHER: Q Just with regards to pressure gauges, do you know -- are those pressure gauges in the well itself, or are those pressure gauges throughout the fields?

A I don't know where their gauges were set up.

MR. GRUEN: Okay. Okay.

EXAMINATION

BY MR. BRUNO:

Q And Mr. Walzel or Kopecky -- Mr. Kopecky, you guys didn't see the gauge, but there was a gauge that registered the reservoir pressure; is that what you're saying?

WITNESS WALZEL: A I mean, we saw gauges on wells, and -- you know, I don't recall what that number was right now or -- but anyways.

Q Right.

A So we -- you know, there was gauges on wells out there.

Q But it's a direct measurement. It's not a calculated -- in other words, when we talk about reservoir pressure, you're saying that that can be read on a gauge?

A Right.

Q Okay. Is that --

WITNESS KOPECKY: A In pound per square inch. That's what we're referring to.

Q And it's atmosphere -- it's at surface?

A Correct.

WITNESS WALZEL: A Right.

Q Does that measure the full pressure of the reservoir all the way down to the bottom hole?

A Well, you would have to account for hydrostatic -- or the gas gradient from surface to the reservoir, but yes, I mean, calculate it -- you can calculate it.

Q When you're designing your mud or your kill fluid, if you will --

A Right.

Q -- is it that reservoir pressure or is it also a calculation? Could you maybe talk about that a little bit, like how it -- you mentioned gradient. I'm not an expert,

sir, so --

A Right. So your reservoir has a pressure. Then there's a -- in this instance, it was a gas column, and then there's a pressure gauge at the surface. So you would -- you know, you read your --

WITNESS KOPECKY: A Pressure.

WITNESS WALZEL: A -- pressure on the gauge and then add the hydro -- the gas gradient column and then add those two together, and it would give you your reservoir pressure.

Q And it's that reservoir pressure, when you add them together, that you are designing your mud to?

A Well, yes, I mean, you get -- if your reservoir's a thousand PSI and then -- there's a formula: .052 times the mud weight times the depth gives you a pressure. So you can calculate what that mud weight would need to be.

Q And that calculation of adding the column pressure to the gauge pressure, if you will, was that done by Boots & Coots, or that was done by SoCalGas?

A I'm sure. Yeah, I mean, we would have -- I mean, we would have calculated it, you know, ourselves to come up with --

WITNESS KOPECKY: A There would have been more than one person running the calculation.

Q It's an important number. So a lot of checks?

A And it's a pretty simple calculation.

Q Does that formula have a name that you described?

WITNESS WALZEL: A Gas gradient.

Q Gas gradient?

A What I would call it.

Q Is that synonymous with flow rate?

A No. I mean, pressure and flow rate are -- you can have high pressure, low flow rate, low pressure, high flow rate. I mean, I don't know what you mean by "synonymous."

Q Does the flow rate factor into the equation for determination of mud weight?

A On a dynamic kill, yes, it would.

Q The design for the first well-kill attempt, was that a dynamic kill?

A It would have -- we were pumping on a well that was flowing, so it would have been -- there was unknowns of flow paths, how much it was flowing, reservoir, you know -- there was some unknowns. So you design it for the max we could pump, and that's the max

you could pump.

MR. SHER: Q Just for clarification, you said the first well-kill attempt. Is it true that SoCalGas tried to do a well-kill attempt prior to Boots & Coots' first attempt.

A I mean, I wasn't there, so I don't know.

Q Did they provide you any information as to whether or not they attempted an attempt to kill the well prior to Boots & Coots doing so?

WITNESS KOPECKY: A I didn't see any documentation.

MR. GRUEN: Q What other things factored into the calcs for Boots & Coots' first well-kill attempt? So you talked about flow rate.

A Right.

Q You talked about the other factors that you used to make your calculation.

A Like I said, there was unknowns of where flow path might be, how -- the rate of flow. You know, if it's a small hole, it might be flowing really fast. There's several unknowns. All we knew was, hey, our wellhead equipment is only good for this. So that's our limiting factor.

WITNESS KOPECKY: A Limiting factor.

WITNESS WALZEL: A So we pumped as fast as we could, and that -- you know, the wellhead -- you don't want to exceed your wellhead equipment.

Q Got you. Can you describe what the different unknowns were that you just talked about?

A Yeah. Initially, you know, any possible flow paths, conditions of the two being -- conditions around -- you know, around the well -- you know, the formation around the well. But, you know, the flow rate and flow paths were, you know, probably the two biggest.

Q Okay.

EXAMINATION

BY MS. ROSE:

Q Two biggest unknowns?

A Right.

Q Okay. In your experience, is it possible to get that -- have you in past well-kill attempts been able to get flow paths and flow rates to get perfect information for those things?

A Well, from -- you know, from running, say, a noise temp log, you can get a picture of where the flow might be entering

and exiting a wellbore. Spinner survey is nothing more than a little spinner on a tool, and if it's not spinning, it's not flowing. If it's spinning somewhere, you can kind of pinpoint holes. There's USIT logs and different logs to run to get a picture of the flow paths.

And then you can -- if the well is being diverted, you can set up pressure gauges and get an estimate of gas flow. Or, you know, if it's several -- if it's oil, water, gas, you know, makes it a little more complicated to get an exact. But, you know, typically, you know, you design it, and then you can put in a -- you know, you'd have extra hydraulic horsepower and stuff to -- if you need to pump more. But in this case, the 5,000 PSI was kind of limited on how fast you could actually pump on the well.

Q So with regards to the noise temp logs and the spinner surveys and those things, were any of those used here in order to get access, get a better understanding of the flow paths and the flow rates?

A Yes.

Q Can you talk about that more?

A Yes. I don't recall if we did it after the first attempt or second attempt,

but we ran noise temperature. And from what I recall, there was a severe cooling at -- it was -- it was over a range, but it was cold enough that the tools weren't communicating with the logging truck. That was the first I've ever seen.

EXAMINATION

BY MR. SHER:

Q What does that mean if it's cold?

A I guess the tools have -- oh. If it's cold, that means the gas is expanding in the cooling. And I guess the tools -- I don't know if it was how the temperature rate -- I never seen it before, but over that range, it was -- or those depths, it was cold. So the tool was not communicating with the logging truck. So we ran it, and it was cold over -- I don't remember the depth, but -- exactly, but you know, maybe, say, 800 to 1,000 foot there was a cooling. So we ran the spinner survey, and it didn't show anything until, I remember, right at the bottom it was spinning.

So, you know, at the time it appeared that the gas was exiting the tubing fairly deep. Then we also -- yes. So we ran those two.

Q Sorry. By "fairly deep," in your

experience, is that 1,000 feet or 8,000 feet?

A Yeah. I'm sorry. When I say "fairly deep," it was just -- well, it was as -- I don't remember the number, but the spinner looked normal until it got as deep as we ran it in the well. When I say "fairly deep," it was towards the bottom of the well. So that's why I said "fairly."

Q So that gives you an idea that the gas is escaping the tubing or the casing at some point deeper than 1,000 feet in the well?

A No. Well, it gave a range. It was kind of a -- it was cold over -- you know, it was cold over certain -- again, the information wasn't being sent to the logging truck very good -- very well. So it was just a range of depth where it was cold. So there wasn't -- you couldn't say, Oh, it's right -- there's a hole right here. It was just somewhere over -- there's likely a hole.

Q Okay.

MR. SHER: Q Sorry. On that point -- so when you have gas expanding and creating cooling, it means that gas is going from a smaller, maybe, aperture to a larger -- is that --

A Are you talking about hole size?

Q Yes.

A I mean, it means it's going through a hole and expanding.

MS. ROSE: Q So the volume of the gas would be increasing?

A Yeah. I mean, it's expanding.

MS. ROSE: Yeah.

EXAMINATION (resumed)

BY MR. GRUEN:

Q So just regarding the flow paths and flow rates -- so the noise temp logs, you ran it. You ran a spinner survey, right?

A Mm-hmm.

Q You did your own noise temp log? You created your own?

A What do you mean by I created it?

Q I'm wondering if you used SoCalGas's -- if they provided you a noise temp log or --

A No. There was one run while we were out there.

Q And you used the information that you had from both the noise temp log and the spinner survey while you were out there?

A Right.

Q Did you get any information from SoCalGas about the condition of the well before you got out there?

A No.

Q No. Okay.

WITNESS KOPECKY: A No.

MR. GRUEN: Okay.

MR. SHER: Darryl -- sorry -- I just want to note it's 11:15. Does anyone need a break for the bathroom?

WITNESS KOPECKY: A Sure.

MR. GRUEN: Let's go off the record.

(Off the record.)

MR. GRUEN: Back on the record.

Q If we can just -- if we could keep moving forward. I'm trying to get a time line as best we can.

WITNESS WALZEL: A Mm-hmm.

Q So when you first came out -- and we were talking a little bit about a well-kill attempt that you did -- how soon after you came out approximately do you remember that you started the first well kill?

A Oh. I don't recall how many days that was.

Q Okay.

WITNESS KOPECKY: A I do not either.

Q Do you recall approximately how many well-kill attempts you did?

A I recall approximately three to

possibly five.

Q Over how long a period approximately?

A Approximately 28 days.

WITNESS WALZEL: A Right.

Q Okay. And again, approximately how often did you do each well-kill attempt?

WITNESS KOPECKY: A I don't recall.

WITNESS WALZEL: A I don't recall how many days were in between because between some of them we were doing -- we had -- we had to do other things.

Q Okay. Okay. So three to five well-kill attempts over about 28 days. Do you recall how -- so I think you described the weight of the mud and the pressure that you used on the first attempt that you tried?

A Right.

Q How did those factors change, if at all, from the first attempt to the second?

A I mean, the reservoir pressure was decreasing. You know, that's -- that would be the reservoir pressure, and maybe the flow coming from the well might have decreased. But again, that was over time. The pressure was the only thing that I recall recorded that could be verified had changed.

Q Decreasing?

A Decreasing.

Q Okay. Okay. Anything to add, Mr. Kopecky?

WITNESS KOPECKY: A No. Just as Danny says, the pressure was decreasing, and going by memory, to my knowledge, SoCal was reducing that pressure by moving from that reservoir -- moving the gas.

Q As the pressure decreased, how would you adjust the weight of the mud?

WITNESS WALZEL: A Well, I mean, I don't recall how -- if the mud weight was changed or if we changed the mud weight while we did it.

Q Okay.

WITNESS KOPECKY: A And just for clarification -- and we typically use the term "mud weight," but I don't recall -- I don't recall if it was actually mud or if it was a clear brine.

Q So there was a substance, and you were figuring out what weight to use?

WITNESS KOPECKY: A Right.

WITNESS WALZEL: A Right.

Q Did you consider other options? I assume this -- maybe I should clarify this. These were all top well attempts, right?

A Mm-hmm.

Q Were there -- I don't have the knowledge that you both have. Were there other options that you considered other than the top well-kill attempts in order to kill the SS-25?

A We discussed a relief well.

WITNESS KOPECKY: A And I was aware that they were -- SoCal was making the preparations and physically saw them. I don't remember on what day I physically saw preparations being made in constructing pads, and things of that nature -- two pads, as a matter of fact, but they were making preparations to drill the relief well simultaneously. Of course, it takes time to get everything together -- a rig. So it really wouldn't be same options, but they were proceeding with that -- that contingency.

Q Did you have any recommendations -- did you talk with them about the relief well?

A I didn't personally, but I know that Boots & Coots did.

WITNESS WALZEL: A Right.

Q Who at Boots & Coots talked to SoCalGas about the relief well?

A Well, the conversation I recall early -- and I don't remember if it was after

the first or the second, but early on in the thing, you know -- hey, we always want to be planning a relief well in case surface intervention doesn't work or isn't possible. And they were -- I was told our engineers are gathering data and coming up with a plan.

Then our -- we have -- a relief well group started working with them and planning relief well directories, you know, the kill from the relief well to the blowout well, but I wasn't involved with the relief well planning. But early on in the planning it was already -- the wheels were -- the process was in motion.

Q Okay. Just in terms -- let me go back to the three to five well-kill attempts that you made. I get it. This is a rough estimate. Again, we're talking about something about three years ago. So just in your experience, how often have you been successful on your first well-kill attempt approximately?

A Oh, I wouldn't have a number percentage-wise.

Q Can you give a rough estimate?

A I mean, I could say they are not always killed on the first time.

Q So maybe between 80 and 90 percent

are killed on the first time or 50 and 60 percent are killed the first time?

A I mean, I wouldn't have -- I wouldn't know a percentage.

Q I guess I'm wondering just based on your experience how often -- how often -- I get that they are not all killed the first time, but they are -- some of them are killed the first time, I would imagine, right?

A Yeah. Some are.

Q So are we closer to almost all of them being killed the first time, or is it closer to almost none of them being killed the first time?

A I mean, I don't have a percentage. Somewhere in between.

Q Okay. How about you?

WITNESS KOPECKY: A No, I'm thinking -- trying to, but I can't come up with any kind of percentage either.

Q Was Columbia killed the first time?

WITNESS WALZEL: A If I remember, it bridged on its own.

Q So that means -- by "bridging," it actually stopped the gas from leaking? In the case of Columbia, it stopped the incident naturally?

A Yeah.

Q Did you try to kill?

A It bridged. If I remember, it bridged as we were getting -- we were -- the snubbing unit rigged up.

Q Oh, I see. What about some of the other wells that you talked about in the past year, did those -- that you mentioned to Ms. Rose -- were those successful -- other than Columbia, were those successful kills in the first attempt?

WITNESS KOPECKY: A Honestly, I think those -- any other wells that we mentioned are somewhat -- other than the one similarity that we brought up about Columbia, I think other well attempts would be somewhat irrelevant. That is, as we had stated earlier, every situation is different. I mean, it may appear similar, but there's different information that goes into the strategy.

Q Right. So I hear what you're saying, and I -- I think I just like to get the facts out and understand. And I get that you haven't given me a specific answer to this also, and I'm asking you guys both directly. Okay? So let's just get this down and be sure. It could be because I may have some follow-ups. Okay. So just with those

well-kill attempts, even noting your point about it not being relevant, I'd still like you to answer the question. Okay?

So in terms of -- all right. So Columbia bridged on its own. I'm just looking for the other leaks. I think Mr. Kopecky, you had identified a couple of them. There was Columbia, Trinidad-Tobago -- did that one -- was that one killed on the first attempt successfully?

A Yes, it was.

Q South Texas, was that one killed on the first attempt successfully?

A No.

Q When was that one killed?

A Maybe on the third circulation.

What I mean -- for clarification, we're talking apples and oranges. That was a drilling well. It wasn't a production well or a storage well. That well was being drilled. There was totally different circumstances on the well in Trinidad-Tobago. It took 7 barrels of fluid to kill the well.

Q I appreciate the clarification. That's helpful. I think I'm understanding why you're saying it's not relevant.

A Yes, sir.

Q So that's helpful in context.

Okay. Let me just ask -- I think you had talked a little bit about some kind of information -- some kinds of records that you need or that you typically use, and I think one of the things that you mentioned was drilling -- drilling records and well history. So could you talk about, in the case of SS-25, what information you asked for from Southern California Gas Company in order to do your work?

A Yes, they provided drilling records when the well was drilled. There was a -- some old logs, and I believe it was -- you know, I can't recall what logs, but anyway, you know, just your basic, you know -- what the, you know, the drilling records were from the company that drilled the well case and sizes. There might have been some resistivity log in there. I don't recall exactly what it was. But you know, it would have been something just to determine fluids in the formation when they drilled the well years ago.

Q Anything else?

A Not that I can recall right now.

Q Anything?

WITNESS KOPECKY: A No, sir.

Q That's helpful. So in terms of the

drilling records, what do you typically expect to see in a drilling record given your experience?

A Well, the normal drilling record today would be we drill from this depth to this depth, mud weight of this -- basically just a diary of what happened at the well that day.

Q Okay. So on a historic basis, day-to-day, dating back to the beginning of the well?

A No. This would have been during the drilling process of the well.

Q Okay. When the well was initially drilled?

A Correct.

Q Got you. Okay. And what did you see in the drilling records in the case of SS-25? What did you see in those drilling records?

A Today we drilled this depth to this depth, ran this casing, submitted this casing, your normal drilling activity.

Q Did you say -- was there any information regarding the drilling activity that you just described that was missing?

A No.

Q How about -- what would you see on

the logs and the other records that you talked about? What would you expect to see in those cases?]

A From what I recall, the log, it would have been a resistivity, which it was, you know, a typical log that after a well drill, it would have said, okay, this zone is water-bearing or oil-bearing or, you know, just a normal logs run after a well is drilled.

Q Okay. So when you say water-bearing, can you just clarify what that means.

A Well, I mean it would tell you. It would give you an idea if a certain zone has water in it or oil in it or, you know, resistivity of the fluids in the well.

Q Okay. And why is that? Why do you need that information?

A Well, the whole idea for drilling the oil well was to find oil so, you know, a company would run them to say, hey, this might be oil right here.

WITNESS KOPECKY: A It would give you an indication of where you set your pipe.

Q Gotcha. So the higher the resistivity, the more likely that you might find oil?

A Right.

Q Okay, I follow. So what other things within the well history, what other records would you -- in order to do your work in the course of your work -- would you ask to see in order to kill a well?

A First of all, just for clarification again, I didn't examine any of the drilling records. I think I did -- the only records I saw on the well were of a wellhead schematic.

Q Okay. And what was the purpose in seeing -- in asking for and seeing the wellhead schematic?

A Well, typically when we do that, it kind of helps you determine for a fact tubular size by your nomenclature of your wellhead equipment. If you've got a 2 7/8, 3 1/2, whatever, 2 3/8 tubing, typically you can't see in the well, of course. And if someone says, hey, we got 2 7/8 tubing and typically the well will have 2 9/16 tree on it, so it's just different factors that you put together to draw you to a conclusion.

Q Okay.

WITNESS WALZEL: A And that information is needed, you know. If we're going to rig up a wireline unit or whatever,

you need to know flange sizes so if you need to order out a valve, you know what size valve to order out to, you know, to put on the tree or whatever.

WITNESS KOPECKY: A Basically so you know what you're working with.

Q Okay. And so what equipment, if any, did the wellhead schematic -- did you make any decisions about what equipment to use based on the wellhead schematic?

WITNESS WALZEL: A I mean it would have been additional valve, you know, size of the valve. But if we needed to rig up a wireline, we need to go from this size flange or, you know, basically that would have been it. That wouldn't have determined what equipment we need to order, just what do we need to order to rig up the equipment.

WITNESS KOPECKY: A We did add -- we did an additional swab valve or crown valve, if you will, just as an additional barrier.

Q What is a swab valve or a crown valve?

A It's located at the uppermost of the tree, just below your tree cap or your bottom hole test adapter.

Q Okay.

A It would be your top component on

the tree itself.

Q Thank you. Were any of the flanges or the valves, was there any that didn't fit properly or that weren't used, that you couldn't use effectively when you used the equipment to hook up?

WITNESS WALZEL: A No.

WITNESS KOPECKY: A No, not to my knowledge.

WITNESS WALZEL: A Because we rigged up a, you know, ran pipe, plumbed everything up from the wellhead up and tied in, you know. As I recall, the valves were working.

WITNESS KOPECKY: A Yes.

Q Okay. Thank you.

A The equipment, service equipment, was in relatively good condition.

Q Okay. And based on the wellhead schematic, all the equipment that you had hooked up properly, the wellhead schematic --

A It was accurate.

Q -- information was accurate?

WITNESS WALZEL: A Yeah.

WITNESS KOPECKY: A And then we confirmed it visually.

Q All right. What other information did you ask for regarding the history of the well, if any?

WITNESS WALZEL: A I mean that would have been -- I believe that covered all the information.

Q Okay.

MR. BRUNO: Yeah, if I may.

MR. GRUEN: Yes.

EXAMINATION

BY MR. BRUNO:

Q Mr. Walzel or Mr. Kopecky, just on the wellhead itself, I think we're talking about the schematic so I do have a question. Going back earlier we talked about you don't want to exceed your wellhead equipment when we're designing the, you know, the --

WITNESS WALZEL: A Correct.

Q -- to overcome. Was the wellhead sufficient to overcome the --

A Yes.

Q -- the reservoir pressure?

A Yes.

Q So it wasn't limited by the wellhead equipment?

A No. Limited to how fast we could pump on it.

Q So it was limited by how fast you can pump but not the weight?

A Right, yeah. Well, it has a pressure rating. Every wellhead has a

pressure rating, 3,000, 5,000, 10,000 PSI, whatever it is. And, you know, you don't want to apply pressure that's more than what it's rated for.

Q Right. You don't want to yield a --

A Right.

Q -- piece of steel?

A Correct.

Q If you had a more robust wellhead on 25, would you have pumped at a higher rate?

A You would have to -- you'd have to look at the tubulars and all that but, you know, the wellhead was a design. It was fit for purpose in our opinion.

WITNESS KOPECKY: A My recollection, and I don't recall the number of the reservoir pressure, but I think my best recollection is the wellhead working pressure of 5,000 pounds pretty far exceeded that reservoir pressure.

Q Okay, so based on the reservoir pressure, the ensuing calculations, and the design, you weren't limited by the wellhead? You were able to design a good plan to go in with the first well built in?

WITNESS WALZEL: A Yes. I mean we

designed it to not exceed the pressure rating of the wellhead equipment.

EXAMINATION

BY MS. ROSE:

Q Would you have pumped at a higher pressure if the wellhead had been rated for a higher pressure?

WITNESS WALZEL: A If it was rated for it --

Q Yes, if it --

A -- and the tubulars were rated for.

Q Is it always better to pump at a higher pressure?

A Not always but, you know, if you pump at a faster rate, then you'll have a higher pressure --

Q Yeah, and that's --

A So, but --

Q -- desirable?

WITNESS KOPECKY: A Well, just to clarify again, the wellhead was normal. You wouldn't find a higher rated -- on this type of well, you would not find a higher rate working pressure assembly anywhere.

Is that accurate?

WITNESS WALZEL: A Yeah.

EXAMINATION (resumed)

BY MR. GRUEN:

Q So this was -- what that means is this is the highest pressure which you could pump on this particular well?

WITNESS WALZEL: A Correct.

Q Why is that the case, that this is the highest rated I guess, the highest pressure at which you could pump based on this wellhead for this kind of well?

WITNESS KOPECKY: A Your wellhead design is based from when the well is drilled taking in consideration your formation pressure.

Q Okay. And so this --

A Whereas, your formation will not exceed the rated working pressure of your surface equipment.

Q So if you pumped at a higher pressure than what this wellhead was designed to handle, what would have happened?

WITNESS WALZEL: A Well, if you exceed -- I mean there's a possibility of your wellhead equipment failing if you exceed the rating of it.

WITNESS KOPECKY: A Correct.

Q All right, okay. In terms of -- I want to just go back to the timeline for a

second. You talked about being there for about 28 days, and I think you were talking about three to five well kill attempts. In terms of that, how quickly did you get the drilling records when you asked for them? When did they provide -- when did SoCalGas provide those to you?

A I don't know that. Danny may.

WITNESS WALZEL: A As I recall, they had them with them already.

Q And same then for the resistivity logs?

A Yes. It was a folder and all the documents were in it.

Q Okay. All the documents you needed to do your work?

A Yeah.

Q Okay, I follow.

WITNESS KOPECKY: A And just, if I can interject, when I stated 28 days, that's because I spent approximately 28 days which I think everyone is aware, I think the event was a little longer than that. I had rotated out.

Q Gotcha. Thank you. I appreciate that and thanks for the reminder on that. Were you there longer, Mr. Walzel?

WITNESS WALZEL: A I was. And I

either got home on December 4th or December 14th. I think it might have been the 14th.

Q Let's see if I'm doing my math right here. So you would have come out --

WITNESS KOPECKY: A I took the call late October, I think, very end, 28, 27 October. I returned to Texas, to Houston, late November so that's the best I can --

Q Right around Thanksgiving it sounds like, give or take?

A Right, right -- no, I think I missed that. I did.

Q Oh, is that right? Okay. You had Thanksgiving at Aliso Canyon?

A Right.

WITNESS WALZEL: A Yes, we did.

MR. SHER: Probably wasn't a laughing matter.

MR. GRUEN: Q I laugh now, but I wouldn't have been laughing then either. Do you recall how long after Thanksgiving you had to stay?

WITNESS KOPECKY: A I don't. I know I was there approximately 28 to 30 days.

Q Okay, that's helpful. And you were there. So, Mr. Walzel, you were there another week to two and a half weeks

yourself?

WITNESS WALZEL: A Correct.

Q The extra time that you were there, were there any additional well kill attempts that you recall?

WITNESS WALZEL: A I don't -- I know by when I had left, there had been no more attempts. And I don't know when -- I don't remember what day the last one was, but towards the end of my time there, it was already had turned into, you know, relief well.

And the last week or two is I would say we were just there to, you know, monitor the 25 site and keep it secure, monitor it while they -- while they got ready for the relief well. And then I made a few trips down there to the rig while they were rigging up.

Q Yeah.

A But they didn't -- they hadn't started drilling by the time I got out of there. They were still in the rigging up process.

Q Okay. And after you both left, especially after you left since you left later, Mr. Walzel, did Boots & Coots recommend any additional well kill attempts?

A No.

WITNESS KOPECKY: A I have no knowledge either of that.

Q Do you know if SoCalGas tried any additional well kill attempts after you both left?

WITNESS WALZEL: A No. As I recall, there was no more. I mean after the last one we did, the decision was made to go in the, you know, relief well.

Q Thank you.

MR. SHER: Can we go off the record?

(Off the record.)

(Whereupon, at the hour of 12:00 p.m., a recess was taken until 1:00 p.m.)]

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AFTERNOON SESSION - 1:10 P.M.

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EXAMINATION (resumed)

BY MR. GRUEN:

Q So a couple points of clarification, I think before, during this morning, you'd mentioned that Danny Clayton was the team lead?

WITNESS WALZEL: A Uh-huh.

Q What does that mean being the team lead? What did he do in his role?

WITNESS KOPECKY: A He communicates with the client directly, and coordinates a plan with the client, and then we would execute the plan.

Is that fair, Dan?

WITNESS WALZEL: A Yes.

Q Thank you.

Did Danny, on the Boots & Coots' side, also talk to anyone else in order to execute the plan?

MR. SHER: For clarification, "Mr. Clayton"?

MR. GRUEN: Thank you, Danny Clayton.

Q Did you understand I meant Danny Clayton?

WITNESS KOPECKY: A Yes.

Q So when you were doing your work,

you would report directly to Danny Clayton?

WITNESS WALZEL: A Correct.

Q And as far as you know, Danny was -- basically, Danny was making the decision on the Boots & Coots' side about how to move forward; is that fair?

WITNESS WALZEL: A Yes.

WITNESS KOPECKY: A Yes.

MR. SHER: Clarify, with input from the rest of the team?

WITNESS KOPECKY: A Correct.

WITNESS WALZEL: A Yes.

MR. GRUEN: Okay. That's helpful.

Q Given the time you were out there and what your experience was on the well-kill attempts on SS-25, do you think that Southern California Gas Company could have seen the incident coming beforehand?

WITNESS WALZEL: A I don't believe so.

WITNESS KOPECKY: A I don't believe there was any way to see that.

Q Okay. And that's true even if you had been in their shoes, given all the experience that you have, would you have been able to see it coming beforehand?

WITNESS KOPECKY: A No.

Q Do you agree?

WITNESS WALZEL: A No.

Q That makes sense. I just want to ask you a little bit about what you think caused the incident there to best of your knowledge. So given your experience and background, not only with wells in general, but with what happened on SS-25, to the best of your knowledge, what do you think caused the incident?

WITNESS WALZEL: A I can't comment on what caused it. When we got through, there was a hole in the tubulars somewhere, but as far as what caused it, we weren't -- that wasn't -- we didn't look into what caused it.

Q Okay. That's fair.

Anything to add?

WITNESS KOPECKY: A No. I agree.

Q Have you seen any pictures of Well SS-25 since the incident?

WITNESS WALZEL: A No.

WITNESS KOPECKY: A No, I have not.

Q Okay. And that includes any pictures of any of the tubing or the casing that's been removed from the well, you haven't seen anything?

WITNESS KOPECKY: A No, sir. I have not.

WITNESS WALZEL: A No.

Q Thank you. This is a set of

questions. I want to understand about some of the earlier well-kill attempts and if those could have damaged the well or hurt the chances of the later well-kill attempts succeeding.

So once the first well-kill attempt didn't work, how did that impact the second well-kill attempt?

WITNESS WALZEL: A Well, the first one, I don't remember how many barrels we pumped total. As I recall, we shutdown. I recall we shutdown early, and regrouped to talk about it because things weren't going as, you know -- to talk about what we seen before continuing on.

Q Okay.

A And then on the second one, you know, I think the fluid weights stayed the same. I mean, I don't think we changed fluid weights because we had already come up with that number. There was Barite pill that was going to be pumped at the end, and maybe those volumes changed. Maybe one time we didn't pump a Barite pill, but as far as hurting the well, you know, I didn't see anything from -- from pump pressures or anything to say that anything within the well changed. The only thing that changed was the

area, the area around the well.

You know, initially there was just gas, you know, coming, you know, various places around the pad. And then after one of those pumped jobs -- might have been the second one, but, anyway, all the gas was coming up around the well, and blew the dirt up from around the well, and we had to go secure the well to keep it from -- stable and, but that was the only thing I observed to change was the area around the well.

Q When you observed the change in the area around the well, was that after the first Boots & Coots' well-kill attempt?

A I don't recall if it was after the first or maybe the second one.

WITNESS KOPECKY: A I agree.

Q You agree?

WITNESS KOPECKY: A What I mean is I don't recall if it was the first or second well-kill attempt when the ground deteriorated.

Q I see. Okay. Do you have any idea why the ground deteriorated after the first or second well-kill attempt?

WITNESS WALZEL: A I mean, I can't -- I can't say why, other than we were pumping fluid in there at, you know, whatever rate we

were pumping, you know, and it'd circulate mud up, and, you know, it's going to the path of the least resistance and made its own path.

Q Anything?

WITNESS KOPECKY: A I agree.

MR. SHER: Clarification?

MR. GRUEN: Okay.

EXAMINATION

BY MR. SHER:

Q Does that mean as your pumping down through the well, the fluids are escaping at some point from the tube where maybe there's a hole where the gas was going out and that's coming -- that's causing erosion around the well?

WITNESS KOPECKY: A Well, it was coming to the surface, some of your fluids.

Q Okay.

WITNESS KOPECKY: A Not all would come.

WITNESS WALZEL: A Right. There's no way to tell like we pumped 800 barrels and we got 600 back because the return for his company. Out and around the well, there was no way to measure.

WITNESS KOPECKY: A No time --

WITNESS WALZEL: A No way to measure.
WITNESS KOPECKY: A -- capture.
WITNESS WALZEL: A Losing to the formation.
Q I went down to the wellsite and there was just a big hole and lots of oil residue and so forth. So the liquid that was getting pumped was coming up and caught in that earth around --
WITNESS KOPECKY: A Yes, sir.
WITNESS WALZEL: A Right. We were pumping down the tubing, and it was coming out of the tubing because we did set a plug in the tube and then perforated it; so it was going out the perforations, up the casing, and then exiting wherever the hole was in the casing.
MR. SHER: Okay. Thank you.

EXAMINATION (resumed)

BY MR. GRUEN:

Q What do you think -- what did it look like was coming out of the ground?
WITNESS WALZEL: A The fluids we were pumping in and gas.
Q Okay. How far were they going when you were out there looking at them coming out?

WITNESS WALZEL: A How far was what going?

Q The fluid and the gas.

WITNESS WALZEL: A The fluid was, if I recall, it was coming up from around the well and then there was some trenches, catch pits, and it was going there and they were collecting it from there.

Q Was it shooting up into the air or was it just kind of running along the ground? Or what did look like?

WITNESS WALZEL: A with the gas, it was -- I don't have a word to describe it, but there was some mud coming up.

WITNESS KOPECKY: A Right.

WITNESS WALZEL: A As you're pumping the gas you're -- the activity of the gas because you're pumping on it, but just the gas breaking out through the mud. It was coming up out of the cellar. Call it the cellar there around the well.

WITNESS KOPECKY: A Percolating, kind of.

Q Okay. Okay. All right. So I think just running through those from maybe the second to the third - let's say - I think you mentioned, Mr. Kopecky, three to five attempts. I'll assume just for the sake of

asking questions - and maybe I'm not quite right - it's maybe five attempts, and just for purposes of asking you what you noticed in terms of the changes from the second to the third attempt, to the third to fourth, and the fourth to fifth. Does that make sense?

So I'm just trying to get a sense of how things -- what impacts to the well the second attempt had, for example.

So anything that you noticed that was changing or damaging the well from the second --

WITNESS KOPECKY: A Well, as Danny mentioned, we didn't notice any changes to the well, and, of course, my changes would be visually because I was located at the well.

The only changes that were noted were the cratering of the location around the well. And, again, I think -- I think there were probably -- I said three to five. I really think it may have been four, but I'm not sure, but I think it was probably after the second that we had to move our pump equipment and all further up the hill to get it off the location because it was deemed unstable, if you will. We didn't know how much erosion was going to continue on the

next kill attempt; so we just physically had to move everything.

Q Did you notice the cratering continue as you moved to the later attempts, to the third and fourth attempt?

WITNESS WALZEL: A Well, after each, you know, after each attempt, the crater might have grew just a little bit because, you know, you're introducing liquids, and, you know, its going to erode more than just if it's gas. So, you know, the crater got a little bigger each time.

Q How did that change what you did in terms of the kill attempts as the crater grew?

WITNESS KOPECKY: A Well, we -- and I don't recall if it was after the first kill attempt, but we strengthened the catch pits and got equipment in to create more berms, if you will, more levies to direct any flow we had from the pumping. And, of course, we had, you know, extensive monitoring, gas monitoring, and I don't know if that covered everything.

WITNESS WALZEL: A Yeah. And also in-between whether it was the first and second or the second to third, we had to get -- well, we got all the logging tools,

you know, the logging equipment to run the noise tamp and the spinner, and we attempted a gyro. We ran a gyro, too, and that was for, you know, if we lost the well, we would have an accurate survey for the relief well drill, you know, as a contingency.

And before the -- it was after one of those kill attempts, you know, we had, you know, fluid in the tube. And, anyway, ice formed a plug in the tube. And so we had to get a cold tube and heat it to go through the ice plugging, or the ice had formed in the tube so we could gain access to run our logs.

MR. SHER: Would ice have formed because of the cooling gas?

WITNESS WALZEL: A Correct.

MR. GRUEN: Q So was ice forming -- was more ice forming in the later well-kill attempts compared to the earlier ones?

WITNESS WALZEL: A I don't -- there was only one time we had to get ice out of the tubing. Now, whether there was anything different going on, I can't say other than after the second attempt or third attempt, there was still a column of fluid in the tube and that froze.

Q Okay.

WITNESS WALZEL: A You know, after all

the other ones, all the fluid might have left the tubing and there wasn't any liquid left to freeze there.

Q Anything you want to add, Mr. Kopecky?

WITNESS KOPECKY: A No.

MR. BRUNO: Darryl, if I may?

MR. GRUEN: Yes.

EXAMINATION

BY MR. BRUNO:

Q Did SoCalGas indicate any ice plug before your arrival or once you got on board before the first Boots & Coots' well-kill attempt?

WITNESS KOPECKY: A Not to my knowledge.

WITNESS WALZEL: A I don't recall any discussions about ice plugs.

Q Am I right to gather that the -- it's the kill fluid that froze with the combination of the leak?

WITNESS KOPECKY: A It could have been kill fluid and well-bore fluid.

WITNESS WALZEL: A Right. After one of the pump jobs, you know, the only thing that would have been in the tubing would have been the fluid we pumped; so it would have been the kill fluid.

Q Okay. And then if I may, I think Mr. Gruen hit on this, but the erosion that occurred around wellhead, your kill attempts, your subsequent kill attempts, those weren't modified; right?

You moved equipment and whatnot, but you didn't have to change your procedures or did you do anything different that absent erosion you wouldn't have done?

In other words, did you execute the optimal plan that Boots & Coots wanted to?

WITNESS WALZEL: A Yes.

Q Did you have everything you needed to do at your job?

WITNESS WALZEL: A Yes.

Q And that includes all the information from SoCalGas; did you have all the information you needed from SoCalGas?

A Yes.

Q What about real time information; in other words, from the first kill attempt and subsequent, just talk about what you're learning a little more. I think you said you shutdown at one point and you had a conversation?

WITNESS WALZEL: A Right.

Q That appears to be typical. Like you would -- real-time information you would

incorporate that into your plan; am I right in assuming you incorporate everything; in other words, what went wrong on the first one and how do we adjust the second one?

WITNESS WALZEL: A I mean, nothing went wrong, you know. Just the observations of, you know, when we pumped mud down the tubing, it -- we got it back. You know, we could see it coming out of the well way before it was expected to.

You know, the time that it took for mud -- I call it good returns, but a good amount of returns coming back from the well. That came a lot later than what we figured; so, you know, it was just observations like that. And then one time we pumped down the anulus, and all we -- we tried to pump plugging material. We got it back right -- and it came right out of the ground.

Those were just the observations that we saw, you know, and any real time we would have pump pressures.

Q And all the real-time information you just described, had you seen something like that before on a natural gas reservoir storage feel?

A A blowout?

Q Just the conditions, not exactly

matching what had you anticipated.

WITNESS WALZEL: A Oh, every job is that way.

Q So there was nothing really different then about SS-25; the kill attempts I'm talking about.

WITNESS WALZEL: A I mean, not it comparing to others, but, you know, a lot of time you don't know the whole -- what the pieces of the puzzle are down below the ground until you kill the well. So a lot of times its, you know, running your logs. It's a process of elimination -- not elimination. You try one thing, okay. Try something else, and, you know, so but -- I mean, it looked just like any gas release from an oil well.

Q And that's true all the way from the beginning to the last kill attempt?

A Yes.

EXAMINATION

BY MR. SHER:

Q With regards to the formula that was used to figure out how much weight or pressure you could push down the kill materials, does that make sense?

WITNESS WALZEL: A That wasn't a formula, just the wellhead has a pressure rating of 5,000 PSI.

Q So then in order to figure out the mud weight, there a formula one uses that has inputs. You talked about the pressure, the length of the column.

Does one take a look at the inputs after different kill attempts to see maybe if our inputs were not right, and by "our inputs" I mean SoCalGas inputs.

WITNESS KOPECKY: A You mean like by the depth of the well or something of that nature?

Q Yes. You stopped your meeting early because the first well-kill attempt didn't work and you break and have a meeting and I'm assuming everyone is brainstorming as to, Okay, it didn't work. What do we think we need to do next to try and kill the well. Does one relook at the data that was inputted into that formula?

WITNESS WALZEL: A Well, I mean, the reservoir pressure wouldn't have changed, you know. I mean, it was -- decreased slowly over the whole time we were there; so it wouldn't have changed, and they would keep the record of what the pressure in the reservoir was the whole time.

Q And then the amount of gas in the column, would that have been a variable that

would change as one factor?

WITNESS WALZEL: A In the block well or just the normal -- or just another well in the field that they might have been reading pressure off of?

Q Let's go with SS-25 and the blowout well. What would you expect the amount of gas in the column, that figure that gets inputted into the formula, to change over each well-kill attempt or would you expect that data to remain the same?

WITNESS WALZEL: A Well, yeah, the column in -- if it would have been SS-25, it would have been the gas blowing out, you know, from whatever hole and that would be dependent on the, you know, if the flow path changes or if the reservoir pressure decreases, and there's a lot of variables in that. I was just talking about the column of gas in a static well.

You know, if you have a pressure, you know it's 100 percent gas, you calculate the reservoir pressure, but, I mean, yeah, the amount of gas flowing, I mean, it wouldn't have been constant every second of every day.

Q And please understand, I think, for all of us none of our questions are meant to

undercut or question your professionalism and expertise and experience. It's not our intent. We are trying to understand what happened, we're lay people.

So to me what I'm hearing is that because every well is different, the basic formula may not work. If your inputs are completely different, how do you figure out -- I'm sorry if I'm muddling things here.

If you couldn't -- I apologize, guys.

MR. GRUEN: Take your time.

MR. SHER: Q The relief well ultimately stopped the leak; correct?

WITNESS WALZEL: A Correct.

Q In your experience working on natural gas storage fields that have once been oil production fields, to the degree you've had other experience --

WITNESS WALZEL: A Uh-huh.

Q -- with blowouts, was SS-25 unique in that you couldn't stop that -- one could not stop that from the top?

WITNESS WALZEL: A Can you repeat that?

Q Sure. The understanding that every field is different and that even wells on a lease may be different, different geology, et

cetera, but I would expect that generally the Boots & Coots of the world, the Halliburtons, the folks that have experience killing wells are generally successful because we don't have all these wells all over the world that are leaking as far as we know, but in this instance, it took a number of attempts to try and do a top kill and it just didn't work.

WITNESS WALZEL: A Right.

Q So in looking back, why do you think the top kills didn't work?

WITNESS WALZEL: A Well, I mean, they didn't work because we weren't able to get enough hydrostatic in the well bore to be equal to or higher than the reservoir pressure, you know.

It comes down to was, you know, the gas velocity exiting well bore, we couldn't overcome with the limitations that we had for pump rates, which were tied to our pressure, which is tied to the wellhead equipment, and, you know, there was still a lot of unknowns at that time: Where the hole might be; what -- where the gas was coming into the well and leaving the tube, and, you know, there's still some unknowns, but it all comes down to, could we pump fast enough and not exceed our pressures of the wellhead.

Q Based on the experience of SS-25 and understanding limitations that the wellhead was only able to take 5,000 PSI, for example, would a future remedy, if we're thinking about future remedies and trying to prevent these kinds of leaks requiring a wellhead that could take 10,000 PSI? Would that be something as a remedy you guys might suggest?

WITNESS WALZEL: A I mean, I can't --

WITNESS KOPECKY: A We can't honestly say or say at all that had we been able to pump at a higher rate we would have been successful. We're not sure. We weren't able to.

Q Part of what we need to do as a Commission is figure out how we prevent these kinds of leaks in the future. So we don't have the kind of expertise you do, and so it would be very helpful for us to understand maybe we need to require our gas operators to have equipment that can take a different pump rate.

Does that make sense to you?

WITNESS WALZEL: A I mean, there was already a hole somewhere; so, you know, I can't really comment on, you know, high pressure wellheads, but, you know, the

wellhead was five. The casing, you know, whatever. You just don't look at the wellhead. It's the casing, design and everything. So you know, I don't really know if I can comment on that.

EXAMINATION

BY MR. BRUNO:

Q Mr. Walzel, what about reservoir pressure itself?

WITNESS WALZEL: A Uh-huh.

Q Had you -- was the reservoir pressure that you were given was that different in any way or is that the pretty standard typical pressure you might -- was it extraordinary the pressure?

WITNESS WALZEL: A No. No.

WITNESS KOPECKY: A No.

WITNESS WALZEL: A I mean, I'm not a -- I don't have any history of the rock mechanics of the reservoir. As far as the pressure, it didn't seem out of the ordinary.

Q And the pressure is proportional to the working gas inventory?

WITNESS WALZEL: A Yes. The more gas in there, the higher pressure you're going to have.

Q So given, for instance, 86 billion cubic feet of gas, which, I believe, is the

capacity at Aliso working gas. If you cut that in had half and you're down to 43 or give or take BCF, am I correct that a leak at that reservoir pressure would be -- would it be easier to develop a hydrostatic head to --

WITNESS WALZEL: A If it's a lower pressure, yes.

Q Okay.

A Dependent on -- you know, still dependent on the exit velocity, gas velocity coming out of the well bore, too, but, yes, if the reservoir pressure, it will take lighter fluid, you know.

Q If I may, you know, just to make sure I understand, going back to that first kill attempt with the known reservoir pressure, your team had everything they needed on paper to overcome that pressure?

A Yes. If -- if -- I mean, we still didn't know how the flow rate of the gas coming out, but, you know, it was sufficient fluid, and, again, we pumped on it, but you're still limited to the pump rate, you know.

Q How does one determine the flow rate in a blowout?

A Well, there's a lot of complex equations, you know. There's still a lot of

unknowns in the well bore. Where it's exiting, but, you know, theoretically it would be reservoir properties and pressures -- reservoir properties, you get absolute open flow.

Q So the flow rate deter- -- I guess a number of factors can influence the flow rate? Path of the gas if its changing?

A Right.

Q Is it possible to apply some advance formula to get at the flow rate, if you will, to make -- make a best estimate?

A Yeah, like I said, they all calculate -- you can find an absolute open flow rate. You know, that number right be in the ballpark, might not be. There's so many other variables that you don't -- there's lot of blocks we don't even know what the -- you know, what it's actually flowing until you put it -- cap it and put it in diverter lines and get pressures and whatnot.

That would have been the most -- that's one way we could figure it out if it was 100 percent gas or whatever, but, you know, still at the end of the day, it's -- if we're going to pump, this is how fast we can pump, and you know.

Q Right. So did Boots & Coots

calculate a flow rate?

A I don't recall if we did, or it was given to us, you know. I didn't calculate one.

Q Did Mr. Clayton, perhaps, calculate one?

A No.

Q Would it be common for the owner-operator to give you that piece of information?

A Yeah, sometimes.

Q Again, my understanding is this is something you calculate.

Let me back up. If there's no leak and you're just flowing gas, you can calculate a flow rate?

A Yeah, you'd a choke, and you'd go through a choke, and you'd have upstream and downstream pressure and choke size.

Q In that same situation, when you have a leak and it finds a new path, you have a different flow rate?

A The hole size is different.

Q So all those variables would affect it.

A Right.

Q So that would have been something that SoCalGas would have had to calculate

after the blowout?

A To get an estimate of the -- right. Yeah. I mean, to get an accurate -- I say accurate. To get another estimate of the gas flow rate.

Q And that is a mathematical equation or is that a physical measurement?

A It would be a calculation, you know. You could physically do it if you could put it in a pipe line and get two pressure ratings and you know your pipe size, you know, but we weren't able to do that.

Q So sort of a fixed volume and then calculate --

A It would be more of a fixed area and length of flow in it and a pressure drop, and you could get a calculation on.

Q Got it.

Do you know if that was done by SoCalGas at least or would that help you at all?

A It was impossible.

Q Okay. So then you're limited to a mathematical estimation?

A Right.

Q Do you know if that was done by SoCalGas?

A I can't say if it was or if it

wasn't.

Q Okay. How was -- if I may, how was the morale of the Boots and Coots kill team over time, the first kill attempt, the second first kill attempt, I mean, or the team becoming discouraged or is it just par for the course?

A No. I don't think -- there wasn't any -- morale stayed high, the same. Yeah, it's frustrating that it didn't die, but it didn't affect our --

WITNESS KOPECKY: A Work duties.

WITNESS WALZEL: A -- morale.

Q Okay. Then when the decision was made for a relief well, was it understood amongst the team that you tried everything in your arsenal and that was the next step?

WITNESS WALZEL: A Right. Yes. It was the next step. It was the right decision. You know, we tried. We don't want to make it any worse here; so let's drill a relief well and intercept at the bottom of the well.

Q Yes, sir. I understand. Thank you. What about mechanical valves on the well? Did Boots & Coots check to see if there were any subsurface safety valves on the well as part of the planning?

WITNESS WALZEL: A I mean, we would have looked at the well design and note it. If it was in the well design, then it would have been in the well, you know.

WITNESS KOPECKY: A To my recollection, there was no subsurface safety valve.

Q That's consistent with my understanding too. I guess, my question is, had SS-25 had a subsurface safety valve, would you have attempted to use that before first top-kill attempt?

WITNESS WALZEL: A Well, the safety valve would have been in the tubing, and the problem was on the casing, and so shutting it on the tubing wouldn't have affected the gas exiting on the casing.

Q Is there a valve -- is there any type of valve, based on your experience, that would have been effective had it been designed in?

WITNESS KOPECKY: A No.

WITNESS WALZEL: A No. Not to prevent a leak in the casing.

EXAMINATION

BY MR. SHER:

Q Question on that: So we have the reservoir at the bottom about 8,000-odd-feet

deep, and then we have the casing, and inside the casing we have the tubing; is that correct?

WITNESS WALZEL: A Correct.

Q Is it normal for gas to come up the casing, or does gas come up the casing because the owner-operator is using both to withdraw?

WITNESS WALZEL: A Depending on the designs, but, I mean, we've seen, you know, different parts of world that have high production. They'll produce from the casing and tubing, or, you know, there's no set design rule, I guess.

Q With regards to SS-25, do you know whether the owner-operator was using both the casing and the tubing to withdraw or inject?

WITNESS KOPECKY: A I believe both.

WITNESS WALZEL: A Yeah. I mean, I believe it was both.]

Q And I really appreciate -- we didn't understand the safety valve would only be on the tubing. So I really appreciate that information.

A Right.

Q Just on that note, just to make sure I understand and drill this into my head, if you had a subsurface safety valve on

SS-25 and you were flowing through the tubing and the casing, it would not be effective.

A It wouldn't have prevented the gas from exiting the wellbore in this case -- scenario. The subsurface safety valve is in the tubing. So say your wellhead gets knocked off or your tree gets knocked off, you know, you shut it and it's done, but if it's exiting somewhere else in the well, it's not going to --

WITNESS KOPECKY: A And it's typically not located very deep in the tubing string.

Q In your experience, can you give an idea of where you find them, if you can?

A I want to say 200 to 700 feet.

Q Okay.

A Best recollection.

Q So once an operator is -- decided to flow through tubing and casing, there is no mechanical equipment to not -- to mitigate the consequences of a leak -- in other words, once a leak happens or a blowout happens, there is no mechanical valve or anything that could shut that in, if you will? It's basically top kill or relief well at that point?

A I don't recall if the well had a packer.

MR. SHER: Q what is a packer? Is it P-A-C-K-E-R?

WITNESS WALZEL: A Yes.

WITNESS KOPECKY: A P-A-C-K-E-R.

WITNESS WALZEL: A Like when you run tubing, there's a packer that goes around the tubing and seals off between the casing, but I don't recall if there was a packer or not but -- how they were -- how it would have been flowed both ways. But a packer would just seal off around the tubing and the casing. So then all your flow, if you have integrity, is just up and down the tubing.

Q Does one install the packer when one drills the well?

WITNESS KOPECKY: A No.

WITNESS WALZEL: A No.

Q So can you install a packer at any point in the life of the well?

A Well, there's packers you can run in casing and storm packers, test packers. Yeah. I mean, there is bridge plugs and stuff, but you know, their application, it wouldn't be --

WITNESS KOPECKY: A It would be installed during the completion phase or work-over phase.

WITNESS WALZEL: A Yeah, the tubing

packer would have been, yeah.

Q I'm sorry. And the packer would, in the case of Aliso, may be as deep as 8,000. So it's close to the bottom weight reservoir?

WITNESS WALZEL: A Right.

MR. SHER: Thank you.

MS. ROSE: Would having a packer in the well preclude you from using the casing to extract gas?

WITNESS WALZEL: A Not necessarily. It depends on your tubing design, you know, if you have a sleeve you can open or close, you know. Yeah, I mean, if there wasn't any sleeve, but typically, there's a sliding sleeve or something in there for various reasons, but yeah. No, it wouldn't a hundred percent isolate them.

MS. ROSE: Okay.

MR. SHER: Q Have people, just in general, talked to you guys based on your experience and expertise in -- whether it's offering you a chance to give a training or one of these classes that you guys take to keep up to speed with what's going on in the industry. Because you guys have tons of experience. So are you able to offer advice as to -- to owners and operators or

regulators as to how to be as safe as possible in your well design so you can avoid leaks?

A Well, I mean, we've been asked, you know, by operators to come in and look at fields or whatever and give advice on, like, if there are drilling wells in urban areas. We've given advice on that. Or if we're asked to speak on a topic, then, yeah, we do.

WITNESS KOPECKY: A Or which they do a lot nowadays is multiple well pads. They invite us out at times to give them recommendations on the layout in -- to reduce the chance of multiple wells on fire at one time, that type of thing.

EXAMINATION (resumed)

BY MR. GRUEN:

Q A follow-up on the flow rate you were talking about earlier. I get you. It sounds like if it's short of it being a static well you may have some uncertainty about what the flow rate is? Did I get that part right?

WITNESS WALZEL: A Right. Yes.

Q Thank you. So I also understood you had mathematical estimations in the case of SS-25 because you obviously don't have a static situation there, right? Did I get

that part right?

A Yeah. When I said mathematical, a lot of times a number will be calculated with this pressure, this tubing and casing design. If the wellhead gets knocked off, this is how much gas theoretically will come out.

Q Yeah. And would you expect that number to change over time after an unsuccessful well-kill attempt?

A It will change over time if the reservoir pressure changes.

Q Here, SoCalGas was -- I think you said SoCalGas was reducing reservoir pressure?

A Yes. They were.

Q So that was being counted for in the change of the flow rate calculation?

A Yes. I mean, if you were to calculate, yeah, it would be used. Yeah.

Q You recall getting changes in the flow rate calculations based on the change in the reservoir?

A I mean, it wasn't calculated -- it's not something that would have been calculated daily or hourly -- I mean, since know one knows how much was coming out to begin with.

Q Yeah. I get you. I get you. So

what about too just with the gas escaping through the crater and that changed -- that's a change too just in terms of you go from one well-kill attempt to the next? How -- if at all, how would that change the flow rate calculation?

A I'm not following.

Q If you're not following it, it probably means I'm not getting it right. So just really quickly would the flow rate -- would you expect the flow rate to change after the first well-kill attempt?

A I wouldn't expect it to change much at all. I mean, the reservoir pressure hasn't changed probably hardly at all, you know, in a day. The gas just -- there was more gas coming up around the well as opposed to coming out little cracks elsewhere. So ...

Q Just for the sake of discussion, what if the reservoir pressure stayed the same?

A If nothing in the wellbore changes, then flow rate would stay the same.

Q So if something in the wellbore changed -- could something in the wellbore change after the first well-kill attempt?

A Not to my knowledge. The only

thing that changed was the earth around the well.

Q So that's not the same thing -- could that -- did you have a concern that that meant the wellbore casing -- that the wellbore was changing because of the change in the earth?

A No. No.

MR. GRUEN: Did I -- do you want to follow-up on that?

EXAMINATION

BY MR. BRUNO:

Q Yeah. Well, I just want to ask generally, in your opinion, being out there, did the leak change like -- or just the path? Do you think that more gas was coming out after the first well-kill attempt over time? Did the leak get worse? Did the blowout get worse?

A I can't say it got worse or better, because originally it was going out and coming up in several places, you know.

Q Sure.

A After it -- the crater formed around the well, all that stopped, and it was all coming up around the well. Whether that was more or less, I can't say.

Q So the path changed --

A It was isolated. It was all contained in one area instead of coming up in several areas. You know.

MR. BRUNO: Right. Okay. Thank you. Thank you, sir.

EXAMINATION (resumed)

BY MR. GRUEN:

Q Just a couple of questions about what was in the well during the attempt. So I think you had mentioned mud and perhaps brine being used?

A Mm-hmm.

Q One of the things we had looked at was something about a junk shot?

A Yes.

Q Can you talk about that? Was that used, and if so, what was in it?

A Right. So a lot of times we'll pump a junk shot, which is junk -- rope, golf balls --

WITNESS KOPECKY: A Rubber.

WITNESS WALZEL: A Rubber. Just plugging material. That day, when we did that, we tried -- we did pump it down the casing in an attempt to plug the hole in the casing, but I don't know how much -- how many we did, but I mean, we pumped golf balls and big materials just down the casing. As soon

as we pumped it, it was already shooting out of the ground, meaning it's exiting more to the surface of the well probably. We were getting it back really quick.

MS. ROSE: The golf balls?

WITNESS WALZEL: A Golf balls.

WITNESS KOPECKY: A So we determined that the hole was at least -- well, it also let us know that the hole was at least the size of a golf ball.

WITNESS WALZEL: A Right.

MR. GRUEN: Q Yeah. I follow your logic there. Any indications could you get from the junk shot of how big the hole was --

WITNESS KOPECKY: A No.

Q -- aside from that? Okay.

I guess the other thing I'm gathering is sometimes a junk shot works?

WITNESS WALZEL: A Oh, yes.

Q How often -- how many junk shots did you try?

A I can't -- I can't recall the specific number, but we'd pump several -- we loaded it several times that day, but I mean, we just couldn't get anything to plug the hole. The idea would be to plug the hole, keep pumping down the casing into the well, but nothing was plugging the hole.

Q Yeah. I follow you. Okay. And after the junk shot didn't work -- or the junk shots -- maybe I guess it was a couple times. Did that change how you tried to kill the well after that?

A No.

Q Okay. So you're back to mud or brine at that point?

A Right.

Q One thing in our notes too -- I think we just wanted to clarify, and I want to echo Nicholas. We're not -- this is respect for your professionalism today and the answers you've given us. We're not trying to undermine it in asking this. We're trying to just understand, as lay people, what happened.

So I note that it's three years ago. I'm just going to raise this. One thing in our notes is that there was another well-kill attempt. It looks like there was a top well-kill attempt on December 22nd or so. Does that ring a bell -- or maybe our notes are wrong. It could well be.

A I wasn't there, but I don't recall ever hearing about another one on -- that late.

Q Okay.

A Unless that was -- I don't even remember what day it got intercepted or -- no. I don't have any knowledge of one on December 22nd.

Q Understood. Thank you.

WITNESS KOPECKY: A I was already -- I was on another job, and I had lost contact with anyone affiliated with it. So I'm not aware of it.

Q That's helpful.

EXAMINATION

BY MR. BRUNO:

Q Who relieved you from Boots & Coots? Was there another --

WITNESS KOPECKY: A Yes, my recollection it was Juan Moran.

Q Would you mind spelling that, sir, or is it "Marin"?

A Let me make sure it Moran -- it was Juan Moran or Travis Martel. I don't recall which, but -- spell it? Is that what --

Q I was just trying to make sure I understood the pronunciation.

A J-U-A-N M-O-R-A-N or Travis Martel, M-A-R-T-E-L, and I don't recall which one relieved me.

Q Thank you, Mr. Kopecky, and Mr. Walzel, how about yourself? Were you

relieved by any Boots & Coots employees?

WITNESS WALZEL: A I was relieved -- there was Jim LaGrone and Rolly Gomez were engineers for Boots & Coots after I left to help with the relief well and activities at SS-25.

Q Okay. Thank you, sir. J-I-M L-A-G-R-O-N-E, R-O-L-L-Y G-O-M-E-Z.

MS. ROSE: And do you know if Mr. Clayton stayed on, or was he also relieved?

A He came home and then went back.

WITNESS KOPECKY: A And I do recall -- now that I mention it, I believe Travis Martel relieved me, and Juan Moran, as the senior well control specialist, I believe, relieved Danny. And then Richard was in there at some point.

WITNESS WALZEL: A Richard was there. I believe Richard was -- relieved Danny.

MR. GRUEN: Can we seal the record.

EXAMINATION (resumed)

BY MR. GRUEN:

Q One thing -- I have an invoice here that mentioned the two of you and Danny Clayton and then Mike Baggett as well?

A Yes. He was our safety representative.

Q Okay.

WITNESS KOPECKY: A I don't know at what point we bought him, but it had to be pretty quick.

WITNESS WALZEL: A It was quick. He wasn't on the plane coming out with us, but he arrived shortly thereafter.

Q How long was he with you?

WITNESS KOPECKY: A He was there when I left.

WITNESS WALZEL: A He was there when you left, but then there was a -- Patton came and relieved him.

WITNESS KOPECKY: A Then he came back.

WITNESS WALZEL: A Then he came back. So -- and I think he stayed pretty much for a majority of the project.

MR. GRUEN: Let's take the seal off the record for a second.

Q I'm going to ask you the same question. Can you tell me how long Mike Baggett stayed with you?

A I don't have a number of days.

Q Approximately. I'm asking the same question as before.

A A month.

Q Okay.

A But then I believe he was there --

I was there a month, so he was there with me probably about a month.

Q Okay. All right. And as safety officer, what was his role?

A His main -- his role is to look out after us. A lot of times companies we work for don't want their personnel in the hot zone. So as we're in the hot zone, then he would be there for us and then also to work with the customer and explain if we're doing something a certain way that might not be normal -- I'd say normal, explain why we're doing it, enforce -- he was also there to check people in and out of location and keep track of the personnel on location.

Q Okay.

WITNESS KOPECKY: A Correct.

Q Thank you. Anything --

WITNESS WALZEL: A And gas monitoring. He also would check the gas levels.

WITNESS KOPECKY: A One direction.

WITNESS WALZEL: A One direction. He would actually be the first one to go up every morning and check the LELs one direction and permit the cranes to move in and stuff like that.

WITNESS KOPECKY: A There would always be two of us would go up --

WITNESS WALZEL: A Right, yeah.

Q I follow. Who else was -- if anybody -- was it the four of you then? Was there anyone else on the Boots & Coots team during the -- when you both were there on-site?

WITNESS KOPECKY: A Not to my recollection, other than Danny. Danny -- Danny, myself and Mike.

WITNESS WALZEL: A Then there was -- well, there was another -- Mike Patton, he was there -- he came for -- I don't remember if he was there when you were there.

WITNESS KOPECKY: A No. Mike -- because they joined me in Azerbaijan. But if you're asking who was there while I was there or while Danny was there, yeah, there was also -- Bud Curtis was later involved in the project.

Q Okay. Yeah. And --

A Richard Hattenberg.

Q I heard Mike Patton, Bud Curtis, Richard Hattenberg -- did I get that right?

A Richard Hattenberg.

Q Hattenberg. Okay.

A John was there at one point while I was there liaising with SoCal engineers in regards to relief wells.

Q So the court reporters are happy with me, I'm going to ask you if you can spell their names as best you can.

WITNESS WALZEL: A Richard, R-I-C-H-A-R-D H-A-T-T-E-B-E-R-G, Bud Curtis, B-U-D C-U-R-T-I-S.

WITNESS KOPECKY: A John.

WITNESS WALZEL: A J-O-H-N H-A-T-T-E-N-B-E-R-G, Mike Patton, M-I-K-E P-A-T-T-O-N, Bud Curtis, B-U-D C-U-R-T-I-S, Travis Martel, T-R-A-V-I-S M-A-R-T-E-L.

MR. SHER: May we go off the record for one sec?

(Off the record.)

MR. GRUEN: Let's go back on the record. Thank you.

Q A couple other questions. In terms of your -- you had talked about going into the hot zone after a while -- earlier this morning, rather. And just briefly, if you can talk about how do you figure out the limits of the hot zone?

WITNESS WALZEL: A Well, like for this well, it was pretty much the whole location, you know. There was one road going up to the pad. So just everything was -- the whole location was considered the hot zone.

WITNESS KOPECKY: A I recall, as

typical, yeah, it encompassed the entire location, as Danny said. That's due to your lower explosive limit readings out away from the source.

Q So --

A When they Start to decline, then you get into your warm zone and that type of thing.

Q So where the LEL is that a potential for ignition, that's the edge of the hot zone?

WITNESS WALZEL: A Yeah. That's one way to define it, or if there's a well on fire, it's -- you can use radiant heat, or there's -- or just whatever factors they want to use to set it up. But in this instance, it was mainly just LELs.

Q And Mr. Kopecky, I think you were talking about if the case -- in the case of a well being on fire, how would you define the hot zone? Sounds like you'd do it differently?

WITNESS KOPECKY: A Oh, no. That's what Danny was stating. With the radiant heat, that would determine your hot zone to your exclusion zones. But yeah, this was determined by the LEL. But when you mentioned -- I forget how you stated it, you

know. The end of the hot zone was at the lower -- I don't remember how you stated it.

Q I'll do my best to restate it if I can. What I think I was getting at is if your LEL is just at a point where your LEL -- your lower explosive limit could result in ignition, at that point, that would be the edge of your hot zone?

WITNESS KOPECKY: A Well, not necessarily. That's the point I wanted to mention is that you would also have a safety factor in that. You would move it out even further.

Q I follow you. Okay. And in this case -- so you were beyond the LEL limits --

A Correct.

Q In establishing your hot zone for SS-25?

A Yes, sir.

Q I follow. Thank you both. And then in terms of managing the hot zone and who was in it, can you tell us the different personnel that were allowed to enter the hot zone?

WITNESS WALZEL: A Depending on the operation going on but -- us, Boots & Coots. The crane operator would be there, his swamper. If we were doing wireline, then,

you know -- like when James and I were out there, we would put their equipment on the well, but they might be in their logging unit upwind on location. There was a company that had to pump iron and flow iron. They were, you know -- there was occasions they were in the hot zone.

WITNESS KOPECKY: A Also, anyone that did have a legitimate reason to be in the hot zone was always escorted by Boots & Coots and stayed with them the entire time. They were never left in there unattended.

Q Did that include SoCalGas personnel?

WITNESS KOPECKY: A Correct. It did.

Q And I think, Mr. Walzel, you were talking about some of the personnel. Those might have been contractors.

WITNESS WALZEL: A Mm-hmm.

Q So were there -- can you talk about the SoCalGas personnel -- personnel who were in there with Boots & Coots at times?

A Well, I mean, several times they would have a -- safety representatives up there on the edge with our -- Mike Baggett or whoever was our safety man. You know, just various -- management coming in to look, you know, things like that.

Q And what role did those individuals have when they were going into the hot zone?

WITNESS WALZEL: A Observe. Just take a look. They were safety men. Might do safety things. But if it was SoCal people, it was more or less just always just take a look at what is going on.

WITNESS KOPECKY: A Or they may come up with -- there were quite a few regulatory agencies that need to have a visual. They would be escorted in and a lot of times accompanied by, as Danny mentioned, a SoCal representative.

Q What were the reasons for Boots & Coots to go into the hot zone?

WITNESS WALZEL: A When there was a -- for instance, like I mentioned, we wanted to run the noise temp tools, then we would go out to the well and make up the lubricator so they could run their tools in the well. And we did that a lot. You know, when we went in to put cables to secure the wellhead, that was another example. Just whenever there was something necessary to -- run logs, rig up pump iron, remove pump iron, you know, just things like that.

WITNESS KOPECKY: A Close and open valves.

WITNESS WALZEL: A Close and open valves.

Q Thank you. Let me switch gears a little bit to -- I think you had mentioned that Brett Lane was incident commander?

A Yes.

Q Did I get that right? Okay. So just in terms of communication with the incident commander as you were being made aware of the incident, what was -- can you describe the communications that you had with the incident commander as you were first learning about the incident at SoCalGas at Aliso?

WITNESS WALZEL: A I believe -- I mean, we knew about it -- like I was mentioning, he wasn't there the first few days. So we already knew about it by the time he showed up.

WITNESS KOPECKY: A I'm not aware who was the incident commander when we arrived.

Q Okay.

MR. SHER: Q Would you have updated the incident commander on sort of a daily basis as to what was happening?

WITNESS WALZEL: A Yes. The communications -- there was always an open line to communication, talk to him in the

mornings, and it was an open dialogue, I guess.

Q And I imagine once you learned about the incident you were probably thinking about how -- recommending how to fix the incident?

A Yes.

Q So were you talking with the incident commander about fixes?

A Yes.

WITNESS KOPECKY: A No, not I. Not myself personally.

Q Mr. Walzel, can you tell us more about what you told the incident commander -- what you shared with the incident commander?

WITNESS WALZEL: A Right. I mean, I don't remember exactly what we talked about, but it would have been, you know, options of, you know, do we do this or -- you know, pump this. You know, it would have been kind of brainstorming different options and then pick an option that -- the best option, you know -- hope for the best results with the least amount of risk as far as, you know, affecting future operations.

Q What concerns, if any, did the incident commander identify to you when you were talking through the recommendations and

options?

A I mean, I don't recall any specific concerns, you know, other than what could happen -- you know, we outlined possibilities but nothing -- no specific conversation comes to mind.

Q Okay.

MR. SHER: Q Would Mr. Clayton have been the main liaison with Mr. Lane?

WITNESS WALZEL: A Yeah. He would have spent -- he was in the trailer with him most of the day.

Q So you were literally the boots on the ground doing the work, and some of your other team members may have been more doing, for lack of a better word -- I apologize -- but the paperwork?

A Well, yes. Initially it was Danny, James, myself, and then Mike Baggett showed up sometime. But yes, initially, if there was equipment to rig up or remove or whatever, it was me and James out there doing that. Then I would go to the trailer different times.

Q You mentioned you guys -- Mr. Kopecky, you got a phone call in the evening about 8:00, 8:30.

WITNESS KOPECKY: A Yes.

Q Then the next morning you flew out. Did SoCalGas provide you with anything to review on the plane on the way out or when you hit the ground at Aliso Canyon, you were given information?

A I can't say for sure, but now that you mention it, I'm -- I'm rather confident that there were some documents emailed to me. I feel confident that there were.

Q Makes sense to try to get you up to speed as quick as possible?

A Right. I'm pretty sure that was the case.

MR. SHER: Thank you.

MR. GRUEN: Q This is a while back, but do you remember what you were trying to do with the information -- with the documents that you received -- what did -- how did you move forward with that information?

A Well, the purpose of it would have been just to familiarize us with the well as much as they possibly could in that amount of time. And I think -- I'm not for sure, but it possibly included the wellbore schematic, which would have been a critical piece of information.

Q Yeah. Okay. Did you -- go ahead. I'm sorry.

A But you pretty much have to put your eyes on the incident. I mean, you can familiarize yourself with the downhole and that type of thing and you can start bouncing off a plan amongst the team, but that can all change when you get on the ground.

Q Yeah. I get you.

Mr. Walzel, anything that you recall receiving from the incident commander as you were on your way home?

A No. Not specifically, but it would have been, you know, directions to the well, wellbore schematic, just general -- like James, I'd just get kind of an idea -- casings might set here or depth here, tubing in the well, tubing not in the well, you know.

Q Is there any information that either of you requested when you -- during this time regarding the incident or regarding SS-25?

A No, I mean, we -- if you have any well history -- drilling records -- and that would have been to see if there was anything that happened while they drilled the well that might give an idea there might be a problem here. Just -- I mean, it was a long time ago, but we requested just stuff like

that. And everything we requested by them, I mean, they provided.

Q Okay.

WITNESS KOPECKY: A In an initial phone call, anything -- when I mentioned the documents that I think I received, they would have been requested by myself, because I was in communication with the client I think until I received a call 8:00, 8:30 and in communication back and forth until approximately 1:00 a.m. And any information Danny received prior to boarding the plane would have come from myself.]

Q Danny Walzel?

WITNESS KOPECKY: A Danny Walzel and Danny Clayton.

Q Danny Clayton, too.

Okay. So you were the sort of point or the liaison to receive the information from SoCalGas on Boots & Coots' behalf as the Boots & Coots team was leaving for Los Angeles?

WITNESS KOPECKY: A Correct.

WITNESS WALZEL: A He was first on call that night; so he received a call after hours from dispatch.

Q I see. Did the point of contact change before you came out?

Did someone else serve as the person to receive the information from SoCalGas or did you remain the information point for SoCal.

WITNESS KOPECKY: A Oh, no. I was not the information point once we landed. That would go into Danny Clayton.

Q Okay. And you were the information point until the Boots & Coots team landed in Los Angeles?

WITNESS KOPECKY: A Correct.

Q Right. I follow.

And then Danny Clayton took over receiving information throughout the incident; is that fair?

WITNESS KOPECKY: A During my time there.

Q Mr. Walzel, while you were there, since you were there a little bit longer that Mr. Kopecky, did Mr. Clayton remain the information point throughout your time there?

WITNESS WALZEL: A Yes.

Q Thank you.

Let's go off the record for a second.

(Off the record.)

MR. GRUEN: Back on the record.

Go ahead, Mr. Holter.

EXAMINATION

BY MR. HOLTER:

Q Gentlemen, this is for both of you as we visit the subject we talked about.

The information we talked about, getting from the Wall files and SoCalGas, and we talked -- Mr. Kopecky, you said dispatch notified you of a call from SoCalGas; is that correct?

WITNESS KOPECKY: A Correct. And the way it works, they patch me direct through.

Q And that was Todd Van de Putte that you talked to who went directly to you?

WITNESS KOPECKY: A If I gave the correct name. Yes.

Q Had you worked with him before throughout the years?

WITNESS KOPECKY: A No.

Q So this is the first time?

WITNESS KOPECKY: A (Witness nods head.)

Q And you, Mr. Walzel?

WITNESS WALZEL: A First time.

Q So you requested a set of information that you needed to assess their situation? You discussed it with them; is that my understanding?

WITNESS KOPECKY: A I don't know that

we were able to discuss it. They were in the -- here, again, I recall they were gathering information on the well for me.

Again, it was after hours. So I don't know what they had set up, but they did get -- I say, I think I recall they did send me some information.

Q Okay.

WITNESS KOPECKY: A That I then distributed.

Q Granted, your memory, I'm not going to press you on it. It's not the point.

So is it my understanding that once Mr. Clayton came aboard, did he assemble a team then within a matter of hours so to speak? Is that how it works?

WITNESS WALZEL: A Well, James, myself, and Dan Clayton flew out together; so that was our Boots & Coots team.

Q You explained you were in the hot zone or managing that. Are you driving -- what you're discovering -- now, we're moving to on the site, once you're out there.

Are you driving what information you have, including what you've read in the well files from SoCalGas and feeding that information to Mr. Clayton?

WITNESS KOPECKY: A Well, I wasn't --

other than, I mean, I didn't really have a real purpose to review the well bore schematic. Danny and Danny Clayton would have been looking at that, Danny in particular, to figure -- to do his calculations and all, but I guess, the second part of your question, were we relaying information. Any time -- since we were at the well itself, any time there was any change in anything, we would report it down to Danny that would then convey that to Lane, Bret Lane.

Q Appreciate that.

WITNESS KOPECKY: A Bret Lane.

Q Right. Bret Lane.

And when you refer to "Danny" doing calculations, can you clarify which Danny you are talking about.

WITNESS KOPECKY: A Danny Walzel.

Q So, Mr. Walzel, are you -- is that your role in this particular instance on SS-25 well to provide calculations based on information you gathered and provide that to Mr. Clayton?

WITNESS WALZEL: A Well, like I mentioned, but probably 90 percent of what, you know, James and myself did the same thing, hammer up iron, rig up, you know, if

there was -- Boots & Coots needed to write something or present something, then, yeah, then I would do the paperwork part of it. So 90 percent of what we did was the same.

WITNESS KOPECKY: A Right.

WITNESS WALZEL: A But, yeah, if we need to do a calculation or write a procedure, then I was one that did that.

Q Is that the structure that held until you both left that incident?

WITNESS WALZEL: A Yes.

WITNESS KOPECKY: A Yes.

Q And then are you aware of what Mr. Clayton did with that information after you gave it to him?

WITNESS WALZEL: A Gave to what -- I mean, discussed with SoCal.

WITNESS KOPECKY: A With SoCal.

Q Was there anybody from SoCal providing the same comparative calcs or working with you during this time, Mr. Walzel?

WITNESS WALZEL: A Yes. I mean, there wasn't someone working by my side the whole time, but their engineers were doing, you know, mainly relief well stuff and, you know, getting a plan for that, and, you know, doing engineering stuff in the office.

Q I'm actually trying to understand, again, on the same note, clarity, about who is -- if they're looking to you within your team --

WITNESS WALZEL: A Right.

Q -- and then SoCalGas supervising the calculations and which way the information is flowing, if it goes back and forth.

WITNESS WALZEL: A Yeah. It was back and forth. Like I said, it was real open. Anybody could go to anybody and talk or ask a question.

Q So on the SoCal team, can you provide some names of who was providing either engineering calculations or who the engineers you were, so to speak, bouncing off your approach with or position.

WITNESS WALZEL: A I don't remember their names.

Q But there was somebody from SoCalGas?

A Yes.

Q Was it Mr. Van de Putte?

WITNESS WALZEL: A No. He was -- my understanding was he was the consultant company man, and I think he stayed -- he was there for the first --

WITNESS KOPECKY: A Few days.

WITNESS WALZEL: A He was there for the first time because I know he was there when the coral tubing was doing ice plug --

(Clarification by reporter.)

WITNESS WALZEL: A At least for the first kill attempt. I remember him being there while we went and washed out the ice plug, but, no, he was the company man, and then I don't know their names, but there was two or three engineers.

Q So would it be Mr. Lane that you specifically your team's working with, meaning the four of you, Mr. Baggett, two Danny's --

WITNESS KOPECKY: A We worked a lot with a gentleman by the name of Mike Dosier as well, but that was -- that was -- I want to say logistics.

WITNESS WALZEL: A Yeah. Logistics.

WITNESS KOPECKY: A We were sourcing equipment, and he was our go-to to make that happen.

Q So I hear you that names don't come to mind, but, generally, during your time there, you were considered providing -- from what information you received from the site and files you were providing calculations to

make attempts to kill. That was your role?

WITNESS WALZEL: A Right. It wasn't like every day all day long we're just -- (indicating).

Q I understand.

WITNESS WALZEL: A 90 percent of it was the manual labor in the hot zone, getting ready for the next bump shot and stuff like that.

Q Understood. Results came out of first and second kill attempts. Is it my understanding that your -- you did not make any adjustments in, say, the calculations other than mud weights, and whatever, but as far as methodology it was the same procedure throughout as when you left.

WITNESS WALZEL: A From the best I can recall, the only -- one time we might not have pumped Barite, and another time we might have pumped -- changed the amount of Barite. At the end, we pumped a Barite pill with the idea of the Barite falling out and plugging up -- plugging the bottom of the well.

We might have changed the volumes, but, again, the pump -- we could only pump so fast, and so there wasn't -- other than what we pumped there wasn't a whole lot to change in between each one.

Q And then you were talking about you assessed there was a leak at some time?

WITNESS WALZEL: A Yeah.

Q Either immediately or -- was that specifically to that well or did you -- there's two other wells near it. Did you guys --

WITNESS WALZEL: A Correct.

Q -- look at those other two wells and put them into your mix --

WITNESS KOPECKY: A As I recall, we checked pressures on them.

WITNESS WALZEL: A We checked pressures daily. Or you know, we put gauges on all the -- on the wellhead, all the different --

WITNESS KOPECKY: A Casing strings.

WITNESS WALZEL: A -- casing strings, and I don't recall if we ran logs on one of them.

WITNESS KOPECKY: A I'm pretty sure we did, and we also attempted to monitor, I believe, those gauges while we were performing the kill to make sure there was no communication.

WITNESS WALZEL: A Right because those were the gauges that we could get on the phone.

WITNESS KOPECKY: A Yeah.

WITNESS WALZEL: A They were being continuously monitored 24 hours a day.

Q So SS-25 did not have that ability because of the gas flow coming out of it?

In other words, you're talking SS-25 was a dynamic kill attempt; right?

WITNESS WALZEL: A Yeah.

Q So can you restate whether you were or weren't able to get a flow rate at any time on SS-25?

WITNESS WALZEL: A No there was no time we ever got an actual flow rate coming from the well.

Q Okay. So your attempts were your best professional understanding based on the conditions of an unknown flow rate?

WITNESS WALZEL: A Correct.

WITNESS KOPECKY: A Correct.

Q And the gas company, SoCalGas, at any time did they give you any numbers of estimates of what they thought you should use for that?

WITNESS KOPECKY: A Not to my knowledge. You mean for the actual --

Q Yes.

WITNESS WALZEL: A No. There was numbers given -- again, you know, an absolute

open flow numbers that were calculated. No, if the well had got knocked off and it was coming --

Q Is that like what would be called a worst case calculation?

WITNESS WALZEL: A Worst case.

Q And you put your greatest overburden pressure on that as your putting calculations together?

WITNESS WALZEL: A I'm not following the "overburden."

Q Like you -- for your head.

WITNESS WALZEL: A I understand.

Q There you go.

WITNESS WALZEL: A Again, it's a rate. So now you got, you know, velocities and all this other stuff. It's not just like normal drilling where you're just choking out a well; you just pump it real slow.

But, yes, there was numbers given, you know, so what this well actually was, no one really knows because it was coming out in the ground. You know, there was no way to capture it or still looking for all the unknowns to figure out, but, you know, it would have been a ball -- you know, it would have been hard to get an exact number of what it was.

Q Understood. And this continued at least for the first two attempts, and then was there a point which a consultant was brought in to work with you?

Did you work with Mr. Shackleford at all?

WITNESS KOPECKY: A I was aware that he was involved, but I was long gone from the operation.

WITNESS WALZEL: A Yes. He came after I left, but it was more for the relief well.

Q So he didn't provide anything for the top kill attempts?

WITNESS WALZEL: A No.

Q Okay. Thank you.

And so at what point, after you assessed the leak was in SS-25, did you make an assessment or could you?

You talked about performing a jump shot. At what point did you make assessment like where that was in pipe depth?

WITNESS WALZEL: A the only -- yeah, there was no way to tell from pumping that and how fast it come out because I think it was like within the first five barrels, the stuff was already coming out, but the only thing, you know, when we ran the temperature log, you know, there was -- it was cold, say,

800 to 1,000 feet.

Again, those aren't exact numbers, but there was a range somewhere in there. So and the tools were messing up in those depths, somewhere in there. So we knew the hole was probably somewhere around there.

Q Okay. And walk us through your assessment to make a change or not a change. You did generally talk about that, but maybe a little more just detail about the conversations you had with SoCalGas internal as a team to what your approach would be right there to make more kill attempts.

WITNESS WALZEL: A Right. So if the hole was, say, at 800 foot. You're only losing 800 foot a well so that's not -- you know, as far as mud weight goes, that's probably not a whole lot, you know, change in pressure, you know, for 800 foot of 10-pound mud or whatever.

So we were already -- from what I recall, we were already overbalanced. You know, the mud was sufficient. So it wouldn't have really changed a bunch in the next step.

Q Was there any point which you looked at the well and the crater and the fluids coming out and assessed there may be some critical point which the well would

reach a state where you literally could not even get there and understanding the top was probably about the relief well, but is there a point which you discussed this is a safety threshold we've seen in our experience. SoCalGas is concerned.

Did you have discussion about that, to go forward or not go forward?

WITNESS WALZEL: A I don't recall the exact conversations, but, you know, that was discussed, that -- we do we try again, and it really came down to, you know, if the crater got big enough and the mountain top was lost, and we wouldn't have been able to get to the well to do anything with because even during relief-well operations you want to still monitor blowout well if you can and have access to it. So didn't want to disturb the crater anymore.

Q Were you there when they put the bridge over?

WITNESS WALZEL: A No. It was being built when --

MR. HOLTER: So it was after you guys.

WITNESS WALZEL: A Right.

MR. HOLTER: That's it. No further questions. Appreciate it. Thank you.

MR. GRUEN: Anyone else?

MS. ROSE: Can I ask a question?

MR. GRUEN: Yes.

MS. ROSE: Q Going back to when you first heard about the incident on the phone and then you flew over at that time and you first arrived and you got that packet of information, like the well-bore history, all that stuff.

Did you receive information about any other well-control efforts or well intervention that had been done on SS-25 prior?

WITNESS KOPECKY: A Not to my knowledge. I don't recall.

WITNESS WALZEL: A I don't recall either.

MS. ROSE: Thank you.

MR. GRUEN: Q I have just one other question. After the first well-kill attempt did not work for the first Boots & Coots one, what chances did you think there were of succeeding the next time on the next well-kill attempt?

Did you look at that?

WITNESS WALZEL: A I mean, we didn't put any probability numbers to it.

Q Okay.

WITNESS KOPECKY: A I don't know. To

clarify, I felt confident every time we pumped that we were going to kill the well.

WITNESS WALZEL: A Yeah.

WITNESS KOPECKY: A Unfortunately, we weren't successful with the surface kill.

Q That's fair. I appreciate that.

WITNESS WALZEL: A I know that from the first or second, it laid down and was pretty -- didn't do anything for a little bit, but, you know, for whatever reason fluids went into the reservoir, you know, it came back, you know.

WITNESS KOPECKY: A Could not maintain the hydrostatic head.

MR. GRUEN: Unless anybody else has any questions, we're going to thank you for your time. We appreciate you being here, as well as both counsel. Thank you. And that's all we have for today. Let's go off the record.

(Whereupon, at the hour of 3:10 p.m., the examination under oath then adjourned.)

* * * * *

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Doris Huaman, Certified Shorthand Reporter No. 10358, in and for the State of California, do hereby certify that the pages of this transcript prepared by me comprise a full, true, and correct transcript of the testimony and proceedings held in this matter on August 8, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 8th day of August, 2018.

Doris Huaman

Doris Huaman
CSR No. 10538

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

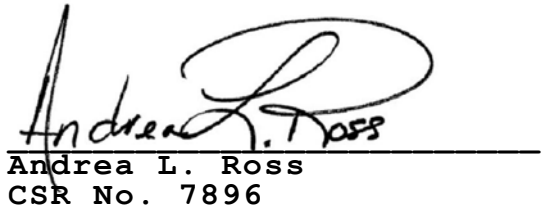
STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Andrea L. Ross, Certified Shorthand Reporter No. 7896, in and for the State of California, do hereby certify that the pages of this transcript prepared by me comprise a full, true, and correct transcript of the testimony and proceedings held in this matter on August 8, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 8th day of August, 2018.



Andrea L. Ross
CSR No. 7896

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Shannon Ross, Certified Shorthand Reporter No. 8916, in and for the State of California, do hereby certify that the pages of this transcript prepared by me comprise a full, true, and correct transcript of the testimony and proceedings held in this matter on August 8, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 8th day of August, 2018.

SHANNON ROSS
CSR No. 8916

SOUTHERN CALIFORNIA GAS COMPANY
CPUC-SAFETY AND ENFORCEMENT DIVISION
DATA REQUEST DATED FEBRUARY 12, 2018

SOCALGAS' SUPPLEMENTAL RESPONSE DATED MARCH 15, 2019

SoCalGas provides the following responses to the California Public Utilities Commission–Safety and Enforcement Division's (SED) February 12, 2018 request for information. These responses are based upon the best available non-privileged information known at this time, and are subject to change and/or supplementation as SoCalGas' investigation continues, and additional information becomes available.

SED Data Request 16, Question 10:

Please provide any and all communications relating to Aliso Canyon between SoCalGas and Boots and Coots for the time period October 1, 2015 – January 31, 2018.

Response (March 5, 2018):[1]

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas objects to this request to the extent the response involves attorney-client privileged information and/or attorney work product. Notwithstanding this objection, SoCalGas responds as follows: Please see electronic documents with Bates Range AC_CPUC_0165876 through AC_CPUC_0188808. Responsive documents were identified by searching the relevant SoCalGas employees' email data sets to locate emails to/from this third party dated from October 1, 2015 to January 31, 2018. Non-responsive information has been redacted from documents in this production.

Response to Data Request 17, Question 1 (May 23, 2018):[2]

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas objects to this request to the extent the response involves attorney-client privileged information and/or attorney work product. Notwithstanding this objection, SoCalGas responds as follows: Please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0001027 - AC_CPUC_SED_DR_16_0019407. Responsive documents were identified by searching the relevant SoCalGas employees' email data sets to

[1] SoCalGas provided responses to CPUC-SED's data request dated February 12, 2018 related to the preliminary investigation regarding the Aliso Canyon Well Leak (SED 16), on March 1, 2, and 5, 2018. On March 30, 2018, SED provided new instructions to be followed when providing a data response, and requested that SoCalGas reproduce the responses to this request. On May 23, 2018, SoCalGas re-produced the responses to SED 16 in response to Question 1 of SED Data Request 17 dated March 30, 2018.
[2] Submitted in SoCalGas' May 23, 2018 response to Question 1 of CPUC SED data request dated March 30, 2018.

locate emails to/from this third party dated from October 1, 2015 to January 31, 2018. Nonresponsive information has been redacted from documents in this production.

Supplemental Response 16, Question 10 (July 12, 2018)

SoCalGas has identified additional documents that may be responsive to this Request. Without limiting or waiving any objections previously asserted, SoCalGas provides the following Supplemental Response to its May 23, 2018 Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0041597 - AC_CPUC_SED_DR_16_0041768.

For SED's convenience, SoCalGas is separately identifying a subset of these documents that reflect communications with both Boots and Coots, and additionally, Don Shackelford. For this subset of documents, please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0041769 - AC_CPUC_SED_DR_16_0042118.

Supplemental Response Data Request 16, Question 10 (August 3, 2018)

SoCalGas has identified additional documents that may be responsive to this Request. Without limiting or waiving any objections previously asserted, SoCalGas provides the following Supplemental Response to its May 23, 2018 Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0001049.0001 - AC_CPUC_SED_DR_16_0018783.0001 (non-continuous); AC_CPUC_SED_DR_16_0042132 - AC_CPUC_SED_DR_16_0043449 (continuous).

For SED's convenience, SoCalGas is separately identifying a subset of these documents that reflect communications with both Boots and Coots, and additionally, Don Shackelford. For this subset of documents, please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0023925.0001 - AC_CPUC_SED_DR_16_0024024.0001 (noncontinuous); AC_CPUC_SED_DR_16_0043450 - AC_CPUC_SED_DR_16_0043460 (continuous).

Supplemental Response Data Request 16, Question 10 (January 3, 2019)

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

As explained in response to Question 1 of SED Data Request 34, SoCalGas has agreed to withdraw its claim of privilege and produce certain additional documents that may be responsive to this Request. Without limiting or waiving any other objections asserted, SoCalGas provides the following Supplemental Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0043471 - AC_CPUC_SED_DR_16_0043550 (continuous) and the following documents (non-continuous):"

AC_CPUC_SED_DR_16_0003158.0001 AC_CPUC_SED_DR_16_0003488.0001
AC_CPUC_SED_DR_16_0006434.0001 AC_CPUC_SED_DR_16_0012283.0001
AC_CPUC_SED_DR_16_0012287.0001 AC_CPUC_SED_DR_16_0013714.0001
AC_CPUC_SED_DR_16_0013718.0001 AC_CPUC_SED_DR_16_0018118.0001
AC_CPUC_SED_DR_16_0018344.0001 AC_CPUC_SED_DR_16_0018346.0001
AC_CPUC_SED_DR_16_0018347.0001 AC_CPUC_SED_DR_16_0018349.0001
AC_CPUC_SED_DR_16_0043334.0001 AC_CPUC_SED_DR_16_0043336.0001
AC_CPUC_SED_DR_16_0043338.0001

Supplemental Response Data Request 16, Question 10 (March 11, 2019):

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas has identified additional documents that may be responsive to this Request. Without limiting or waiving any objections previously asserted, SoCalGas provides the following Supplemental Response to its May 23, 2018 Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0043551 - AC_CPUC_SED_DR_16_0043566. Responsive documents were identified by searching the relevant SoCalGas employees' text message data sets to locate text messages to/from this third party dated from October 1, 2015 to January 31, 2018.

Supplemental Response Data Request 16, Question 10 (March 15, 2019)

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

Pursuant to SoCalGas' email communication dated May 11, 2019, SoCalGas has agreed to withdraw its claim of privilege and produce certain additional documents that may be responsive to this Request. Without limiting or waiving any other objections asserted, SoCalGas provides the following Supplemental Response to Data Request 16: please see electronic documents with Bates Range:

AC_CPUC_SED_DR_16_0008796.0001 - AC_CPUC_SED_DR_16_0008796.0002
AC_CPUC_SED_DR_16_0043567 - AC_CPUC_SED_DR_16_0043577
AC_CPUC_SED_DR_16_0021942.0001 - AC_CPUC_SED_DR_16_0021942.0002
AC_CPUC_SED_DR_16_0023083.0001 - AC_CPUC_SED_DR_16_0023083.0002
AC_CPUC_SED_DR_16_0043578 - AC_CPUC_SED_DR_16_0043578

SED Data Request 16, Question 12:

Please provide any and all communications relating to Aliso Canyon between SoCalGas and Don Shackleford for the time period October 1, 2015 – January 31, 2018.

Response (March 5, 2018)

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas objects to this request to the extent the response involves attorney-client privileged information and/or attorney work product. Notwithstanding this objection, SoCalGas responds as follows: SoCalGas provided an initial response to this question on March 2, 2018. For additional responsive documents, please see electronic documents with Bates Range AC_CPUC_00165699 through AC_CPUC_0170586. Responsive documents were identified by searching the relevant SoCalGas employees' email data sets to locate emails to/from this third party dated from October 1, 2015 to January 31, 2018. Non-responsive information has been redacted from documents in this production.

Response to Data Request 17, Question 1 (May 23, 2018)

Confidential and Protected Materials Pursuant to PUC Section 583, GO 66-D, and D.17-09-023

SoCalGas objects to this request to the extent the response involves attorney-client privileged information and/or attorney work product. Notwithstanding this objection, SoCalGas responds as follows: Please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0019408 - AC_CPUC_SED_DR_16_0024117 and AC_CPUC_SED_DR_16_0024132 - AC_CPUC_SED_DR_16_0025021. Responsive documents were identified by searching the relevant SoCalGas employees' email data sets to locate emails to/from this third party dated from October 1, 2015 to January 31, 2018. Non-responsive information has been redacted from documents in this production.

Supplemental Response 16, Question 12 (July 12, 2018)

SoCalGas has identified additional documents that may be responsive to this Request. Without limiting or waiving any objections previously asserted, SoCalGas provides the following Supplemental Response to its May 23, 2018 Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0042119 - AC_CPUC_SED_DR_16_0042131.

Supplemental Response 16, Question 12 (August 3, 2018)

SoCalGas has identified additional documents that may be responsive to this Request. Without limiting or waiving any objections previously asserted, SoCalGas provides the following

Supplemental Response to its May 23, 2018 Response to Data Request 16: please see electronic documents with Bates Range AC_CPUC_SED_DR_16_0024863.0001 - AC_CPUC_SED_DR_16_0025018.0001 (non-continuous); AC_CPUC_SED_DR_16_0043461 - AC_CPUC_SED_DR_16_0043470 (continuous).

Supplemental Response 16, Question 12 (March 15, 2019)

Pursuant to SoCalGas' email communication dated May 11, 2019, SoCalGas has agreed to withdraw its claim of privilege and produce certain additional documents that may be responsive to this Request. Without limiting or waiving any other objections asserted, SoCalGas provides the following Supplemental Response to Data Request 16: please see electronic documents with Bates Range:

AC_CPUC_SED_DR_16_0021942.0001 - AC_CPUC_SED_DR_16_0021942.0002
AC_CPUC_SED_DR_16_0023083.0001 - AC_CPUC_SED_DR_16_0023083.0002
AC_CPUC_SED_DR_16_0043578 - AC_CPUC_SED_DR_16_0043578

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

July 11, 2018 **CONFIDENTIAL**

Mr. Bret Lane
President and Chief Operating Officer
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013

SUBJECT: Memorialization of Southern California Gas Company's (SoCalGas) Failure to Cooperate with Safety and Enforcement Division (SED) in SED's Preliminary Investigation

Dear Mr. Lane:

I have been informed that SoCalGas is not producing certain of its own contractors for SED to examine under oath, even though SED has requested that SoCalGas produce them to appear at the California Public Utilities Commission (Commission) headquarters in San Francisco, CA. Specifically, SED has requested SoCalGas produce its contractors from Halliburton's subsidiary, Boots and Coots, that were hired as part of SoCalGas's efforts to kill well SS-25. In response to SED's request, SED's counsel learned from SoCalGas's counsel on or about the week of June 18, 2018 that SoCalGas would produce only one of these contractors to talk with SED investigators and attorneys, either by phone, or in Houston.

By not producing all of these requested individuals in person at the Commission headquarters, SoCalGas is not cooperating with SED's direction in this preliminary investigation for two main reasons. First, California Public Utilities Code Section 702[1] requires:

> Every public utility shall obey and comply with every order, decision, direction, or rule made or prescribed by the commission in the matters specified in this part, or any other matter in any way relating to or affecting its business as a public utility, and shall do everything necessary or proper to secure compliance therewith by all of its officers, *agents*, and employees. (Emphasis added.)

Recognizing and applying Section 702,[2] the California Supreme Court has held:

[1] All future references to sections of the California Public Utilities Code shall be referenced in shorthand as "Section."

[2] *Snyder v. Southern Cal. Edison Co.*, 44 Cal.2d 793, 796.

> Where the law imposes a definite, affirmative duty upon one by reason of his relationship with others, whether as an owner or proprietor of land or chattels or in some other capacity, such persons can not escape liability for a failure to perform the duty thus imposed by entrusting it to an independent contractor. . . . It is immaterial whether the duty thus regarded as 'nondelegable' be imposed by statute, charter or by common law. *Id.* at 800.

SoCalGas has suggested an agency relationship with Boots and Coots via the attached privilege log (Attachment A), where it specifically asserted attorney-client privilege over multiple communications between SoCalGas and Boots and Coots personnel.[3],[4] Then, SoCalGas refused to produce some of those same Boots and Coots personnel for examination under oath on the basis that they were neither employees nor agents of SoCalGas. Asserting attorney-client privilege over an agent, but then hiding behind the non-employee status of that agent undermines the Commission's jurisdiction, and the specific direction to produce Boots and Coots pursuant to Section 702. SoCalGas's position also evades SED's investigation and discovery rights.[5] If SoCalGas's position was allowed, SoCalGas would be encouraged to consistently hire contractors to do all of its regulated work so as to avoid providing information about the nature of that work to the Commission. Such a result is particularly dire given the Commission's concern regarding safety, and in the specific context of SoCalGas's safety-related Aliso Canyon incident on October 23, 2015.

Second, SoCalGas has a contract with Halliburton Energy Services, Inc. (Halliburton) to perform well services, known as the Southern California Gas Company Master Well Services Agreement (Agreement). In that Agreement, Halliburton has agreed to defend SoCalGas against any liabilities for third party claims.[6] Moreover, because SoCalGas contracted with Halliburton to perform services on its Aliso Canyon Wells in the Agreement, *Snyder* requires application of Sections 702, 311 and 314 to Halliburton in the same fashion that those sections apply to SoCalGas. Given that authority, the Agreement means that SoCalGas must produce the indicated Halliburton employees as if they were employees of SoCalGas.

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[3] See Attachment A, SoCalGas Privilege attorney-client Log in Response to SED Data Request 16 Question 3. For example, SoCalGas asserts attorney-client privilege over communications between SoCalGas and Boots and Coots in entries 3, 5, 7, 9, 12, 13, 14, 16, 23, 29, 30, 53 and 54.

[4] SED does not agree that SoCalGas has an attorney client relationship with Boots and Coots in many and possibly all of these entries. In one case, entry 14 includes a communication only between Bret Lane, Danny Clayton and Danny Walzel. To SED's understanding, none of these individuals are attorneys.

[5] For examples of SED's discovery authority, *see*, See also Cal Pub. Util. Code §314, which states in part, "The commission, each commissioner, and any officer of the commission or any employee authorized to administer oaths may examine under oath any officer, *agent*, or employee of a public utility in relation to its business and affairs." (Emphasis added.) *See also*, Cal. Pub. Util. Code §311. "The commission, each commissioner, the executive director, and the assistant executive directors may administer oaths, certify to all official acts, and issue subpoenas for the attendance of witnesses and the production of papers, waybills, books, accounts, documents, and testimony in any inquiry, investigation, hearing, or proceeding in any part of the state."

[6] See Attachment B, Agreement p. 6 of 30, Section 15.1(b).

Pursuant to its regulatory authority over SoCalGas, SED requires certain Halliburton and Boots and Coots employees who worked on efforts to kill wells at Aliso to be present at the California Public Utilities Commission (Commission) headquarters in San Francisco.

SED puts SoCalGas on notice that it is formally requesting SoCalGas produce at the Commission headquarters in San Francisco the following individuals from Boots and Coots:

Danny Clayton
Danny Walzel
James Kopecky
Mike Baggett

If SED has misunderstood SoCalGas's position, and SoCalGas is willing to cooperate with SED's preliminary investigation by producing the requested individuals, please let us know in writing. We would be happy to coordinate with you to accommodate schedules as much as practicable.

As another gesture of cooperation on SoCalGas's part, SED is requesting that SoCalGas make public the Agreement with Halliburton and Boots and Coots, and its attorney-client privilege log, both of which are attached to this letter. In the interest of transparency, SED is also requesting that SoCalGas agree that all aspects of this letter can be made public. Please advise in writing whether SoCalGas is willing to cooperate with these requests.

If you have any questions, please contact Nicholas Sher and Darryl Gruen.

Sincerely,

/s/ ELIZABETA MALASHENKO
Elizaveta Malashenko
Director-Safety and Enforcement Division, CPUC

cc:
Lee Palmer, Deputy Director – Safety and Enforcement Division
Kenneth Bruno, Program Manager – Safety and Enforcement Division
Jimmie Cho, Senior Vice President
Rodger Schwecke, VP Storage & Transmission Gas
Sabina Chlorefine-Counsel, SoCalGas

ATTACHMENT A

DOC #	Prod Beg CPUC	FROM	TO	CC	BCC	DATE	DESCRIPTION	PRIVILEGE BASIS
1		Nancy.Renteria@LW.com	lportillo@boots-coots.com	Michael.Romey@LW.com; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Howes, Marlin E. <MHowes@semprautilities.com>		11/12/2015 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
2						11/12/2015 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
3		Lane, Bret <tpjbl@enova.com>	Danny Walzel <dwalzel@boots-coots.com>; Danny Clayton <dclayton@boots-coots.com>			11/17/2015 8:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
4						11/17/2015 8:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
5		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/22/2015 8:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
6						11/22/2015 8:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
7		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/27/2015 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
8						11/27/2015 6:58	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
9		Cardiff, Steven G <SCardiff@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

10						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
11						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
12		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
13		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
14		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/30/2015 8:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
15						11/30/2015 8:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
16		JLane@semprautilities.com	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
17		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>		12/4/2015 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

18		Cardiff, Steven G <SCardiff@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Danny Walzel <dwalzel@boots-coots.com>	Baker, Phil E. <PBaker@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		12/4/2015 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
19						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
20						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
21						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
22		Lane, Bret <tpjbl@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/7/2015 10:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
23		John Hatteberg <jhatteberg@boots-coots.com>	Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Lane, Bret <JLane@semprautilities.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
24						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

25						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
26						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
27		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
28		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/9/2015 5:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
29	AC_CPUC_0172250	Schwecke, Rodger <RSchwecke@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
30	AC_CPUC_0172252	Schwecke, Rodger <rschwecke@enova.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
31						12/9/2015 15:36	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

32						12/10/2015 11:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
33		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 7:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
34		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/11/2015 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
35		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/11/2015 12:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
36		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 12:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
37						12/16/2015 5:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
38		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Alan.Gosse@Halliburton.com; Kevin.Bautista@halliburton.com; Kimberly.Barber@Halliburton.com; John Hatteberg <jhatteberg@boots-coots.com>; Wayne.Courville@boots-coots.com	De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Steve Cardiff <cardiffsr@gmail.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		12/18/2015 16:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
39						12/18/2015 16:09	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
40		Jim LaGrone <Jim.LaGrone@boots-coots.com>	donwshackelford@yahoo.com; Lane, Bret <JLane@semprautilities.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>			12/20/2015 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

41		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
42	AC_CPUC_0173646	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
43		John Hatteberg <jhatteberg@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
44		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
45	AC_CPUC_0173657	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
46		John Hatteberg <jhatteberg@boots-coots.com>	Wayne Courville <Wayne.Courville@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/21/2015 10:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
47						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
48						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
49						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
50						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

51						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
52						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
53		Alan Gosse <Alan.Gosse@Halliburton.com>	Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Don Laribee <Don.Laribee@Halliburton.com>; Joseph Letzkus <Joseph.Letzkus@halliburton.com>; Kaleb Bean <Kaleb.Bean@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Lawrence Albitre <Larry.Albitre@Halliburton.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Eddy Hinds <Eddy.Hinds@Halliburton.com>	John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		12/21/2015 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
54		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
55		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

56		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
57		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
58		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/28/2015 14:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
59	AC_CPUC_0174272	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/29/2015 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
60		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Bud Curtis <bcurtis@boots-coots.com>		1/3/2016 5:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
61						1/3/2016 5:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
62		JLane@semprautilities.com	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
63						1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

64						1/3/2016 8:53	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
65		Lane, Bret <tpjbl@enova.com>	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
66						1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
67						1/3/2016 8:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
68		Snyder, Hal <HSnyder@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
69		Snyder, Hal <hsnyder@enova.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
70		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Arriola, Dennis <DArriola@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		1/5/2016 11:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
71						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

72						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
73						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
74						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
75		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>; 'Steve Cardiff' <cardiffsr@gmail.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		1/6/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
76		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>			1/10/2016 13:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
77						1/10/2016 13:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
78		Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com); Arash Haghshenas <arash@boots-coots.com>			1/10/2016 16:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

79						1/10/2016 16:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
80		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		1/11/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
81						1/11/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
82	AC_CPUC_0176003	Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			1/11/2016 12:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
83	AC_CPUC_0166905	Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com)			1/11/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

84		Rodriguez, Sonia <srodrig3@enova.com>	Navin, Neil <NNavin@semprautilities.com>; gregory.hisel@fire.lacounty.gov; Robert Salgado (rsalgado@dir.ca.gov); kcrook@arbinc.com; Mario.Tresierras@fire.lacounty.gov; McGurk, Scott@DOC <Scott.McGurk@conservation.ca.gov>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Kysar, Scott <SKysar@semprautilities.com>; matthewson.epuna@cpuc.ca.gov; william.mcmechen@aecom.com; Lawrence.Kathryn@epa.gov; MNazemi1@aqmd.gov; Cho, Jimmie I <JCho@semprautilities.com>; Cocker, Philip <Philip.Cocker@fire.lacounty.gov>; Cynthia.Ishikawa@dot.gov; Kenneth Crook	scott.walker@conservation.ca.gov; kenneth.bruno@cpuc.ca.gov; Kerns, Barry <BKerns@semprautilities.com>; Mike Baggett (mbaggett@boots-coots.com); ctrombettas@dir.ca.gov; Ibay, Isaac <IIbay@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; tdraper@arbinc.com; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/14/2016 14:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
85						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
86						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

87						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
88		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; stephen.yench@flour.com	Andrews, Larry J <LAndrews@semprautilities.com>		1/18/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
89						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
90						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
91		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

92		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

93		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

94		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
95		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/1/2016 16:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
96		Van de Putte, Todd <tvandepu@enova.com>	Don Shackelford <donwshackelford@yahoo.com>			2/1/2016 16:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

97	AC_CPUC_0169648	Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 6:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
98		Egbert, Thomas <tegbert@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	'arash@boots-coots.com'		2/4/2016 9:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
99						2/4/2016 9:13	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
100		Arash Haghshenas <arash@boots-coots.com>	Egbert, Thomas <TEgbert@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 9:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
101		Unspecified Sender	Arash Haghshenas <arash@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

102		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
103						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

104		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
105						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

106		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
107						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

108		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
109						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

110		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
111						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

112		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
113						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

114		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
115						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

116		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
117						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

118		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
119						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

120		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
121						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
122		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 8:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
123						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
124						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

125						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
126						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
127		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
128		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
129		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 10:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
130						2/5/2016 10:03	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
131		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
132						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
133		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

134						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
135		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; John Wright <john.wright@bearco-intl.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Pete Slagel <pete@slagel.net>; John Hatteberg <jhatteberg@boots-coots.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd (TVandePutte@semprautilities.com)		2/6/2016 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
136						2/6/2016 9:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
137		Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/6/2016 10:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
138		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			2/6/2016 16:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
139		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/7/2016 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

140		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/7/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
141		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>			2/7/2016 8:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
142		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
143						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
144						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
145						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
146						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
147		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
148						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

149						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
150						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
151						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
152		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
153		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
154		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
155		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
156						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
157		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd (TVandePutte@semprautilities.com)	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger (RSchwecke@semprautilities.com)		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

158						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
159	AC_CPUC_0165819	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
160	AC_CPUC_0165828	Lane, Bret <tpjbl@enova.com>	Cho, Jimmie I (JCho@semprautilities.com); Schwecke, Rodger (RSchwecke@semprautilities.com); Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
161		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Egbert, Thomas <TEgbert@semprautilities.com>	'Arash Haghshenas' <arash@boots-coots.com>		2/8/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
162	AC_CPUC_0165837	Lane, Bret <JLane@semprautilities.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
163	AC_CPUC_0165839	Lane, Bret <tpjbl@enova.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
164	AC_CPUC_0165844	Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
165	AC_CPUC_0165841	Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

166	AC_CPUC_0170162	Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>	Schwecke, Rodger (RSchwecke@sempra utilities.com)		2/9/2016 5:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
167	AC_CPUC_0165847	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/9/2016 8:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
168		Lane, Bret <JLane@semprautilities.com>	John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/9/2016 15:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

169						2/9/2016 15:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
170	AC_CPUC_0165850	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
171	AC_CPUC_0165851	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
172	AC_CPUC_0165860	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
173	AC_CPUC_0165869	Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>; Chris Yeung <Chris.Yeung@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
174	AC_CPUC_0165872	Chris Yeung <Chris.Yeung@Halliburton.com>	Don Shackelford <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
175		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			2/11/2016 13:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

176						2/11/2016 13:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
177		Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/12/2016 8:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
178		Van de Putte, Todd <tvandepu@enova.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
179		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
180		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
181		JLane@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

182		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
183		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
184		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

185		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
186		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

187		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
188		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
189		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

190		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
191		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

192		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
193		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

194		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
195		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

196		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
197		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>	Michael Noel <Mike.Noel@Halliburton.com>; Sera, Travis <TSera@semprautilities.com>		3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

198		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
199		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

200		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
201		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

202		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
203		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
204		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

205		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
206		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Guy Fox <gfox@boots-coots.com>			3/14/2016 18:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
207		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
208		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
209		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
210		Navin, Neil <nnavin@enova.com>	Guy Fox <gfox@boots-coots.com>			3/15/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

211		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
212		Navin, Neil <NNavin@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
213		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
214		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
215		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

216		Navin, Neil <nnavin@enova.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
217		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
218		Navin, Neil <NNavin@semprautilities.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
219		Navin, Neil <nnavin@enova.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
220		Unspecified Sender	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
221						3/16/2016 9:34	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
222						3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
223		Navin, Neil <nnavin@enova.com>	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
224						3/16/2016 9:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
225						3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

226		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 13:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
227		Carl Cramm <Carl.Cramm@boots-coots.com>	NNavin@semprautilities.com	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>		3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
228						3/18/2016 13:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
229						3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
230		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>			3/18/2016 13:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
231		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 5:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
232		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 7:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

233		Unspecified Sender	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
234		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
235		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

236		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
237		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 12:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
238		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Guy Fox <gfox@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
239		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 14:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
240		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 3:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

241		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
242		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
243						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
244						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
245						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
246						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

247		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Rodger Schwecke <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
248						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
249						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
250						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
251						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
252		Doug Derr <dderr@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>			3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

253		Navin, Neil <nnavin@enova.com>	Navin,Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Hamze,Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
254		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 21:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
255		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

256		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
257		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
258		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

259		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
260		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
261		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
262		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

263		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
264		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 6:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
265		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

266		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
267		Tracy, Jill <jtracy@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
268		JTracy@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
269		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

270		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
271		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
272						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
273		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
274						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
275						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

276		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		3/28/2016 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
277						3/28/2016 8:13	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
278		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/28/2016 8:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

279		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
280		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

281		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
282		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
283						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
284						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
285		Guy Fox <gfox@boots-coots.com>	Navin, Neil (NNavin@semprautilities.com); tvandeputte@semprautilities.com	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

286						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
287						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
288		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/4/2016 11:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
289		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			4/4/2016 11:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
290		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
291		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
292		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
293		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
294		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			4/5/2016 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

295						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
296						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
297		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. (CBrandy@semprautilities.com)	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
298						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
299						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
300		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
301						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
302						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
303		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
304		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rubin, Jonathan <JRubin@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

305		Van de Putte, Todd <TVandePutte@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
306		Van de Putte, Todd <tvandepu@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
307		Unspecified Sender	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
308		Navin, Neil <NNavin@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
309		Rubin, Jonathan <JRubin@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>			4/5/2016 15:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
310		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
311		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
312		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
313		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

314		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 17:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
315		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Chechitelli, Frank <FChechitelli@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/6/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
316		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>		4/6/2016 10:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
317		Chechitelli, Frank <FChechitelli@semprautilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Andy Reif <Andy.Reif@halliburton.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony		4/6/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

318						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
319						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
320		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
321		Tracy, Jill <jtracy@enova.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

322		Unspecified Sender	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
323		Tracy, Jill <JTracy@semprautilities.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

324		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
325		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 10:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
326						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

327						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
328		John Walters - B&C <jwalters@boots-coots.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/7/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
329		Unspecified Sender	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

330		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
331		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
332		Unspecified Sender	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
333		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

334		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn (GLaFevers@semprautilities.com); Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
335						4/11/2016 7:29	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
336						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
337						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
338						4/11/2016 7:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
339		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
340						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
341						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
342						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
343						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

344		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
345						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
346						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
347						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
348						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
349		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
350						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
351						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
352						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
353						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

354		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
355		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
356		Gates, Beth A. <BAGates@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
357		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 8:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
358		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
359		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
360		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

361		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
362		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
363		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
364		Rubin, Jonathan <JRubin@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Phipps, Krista L <KPhipps@semprautilities.com>		4/11/2016 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
365		Van de Putte, Todd <tvandepu@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
366						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
367						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
368						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
369						4/11/2016 14:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

370		Unspecified Sender	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
371						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
372						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
373						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
374		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
375		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

376		Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
377		Tracy, Jill <jtracy@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
378		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
379		Unspecified Sender	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

380						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
381						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
382						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
383						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
384						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
385						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

386						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
387						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
388						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
389						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
390						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
391						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

392						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
393						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
394		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
395						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
396						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
397						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

398						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
399						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
400						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
401						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
402						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
403						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

404						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
405						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
406						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
407						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
408						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
409		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>		4/14/2016 12:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

410		Arash Haghshenas <arash@boots-coots.com>	Hassan, Kim <KHassan@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
411		Hassan, Kim <KHassan@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/14/2016 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
412		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
413		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
414		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
415		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

416		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
417		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
418		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
419		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
420		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 14:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
421		Navin, Neil <NNavin@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
422		Navin, Neil <nnavin@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

423						4/14/2016 18:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
424		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
425		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
426		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

427		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

428		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

429		Shapiro, Daniel <DShapiro@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager <jtager@henkels.com>; Kysar, Scott	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

430		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

431		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

432		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
433		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
434						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
435						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
436						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
437						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

438		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
439						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
440						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
441						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
442						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
443		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
444						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
445						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
446						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
447						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
448		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

449		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
450		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
451		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
452		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		4/18/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
453		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
454						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
455		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
456						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
457		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
458						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

459		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
460						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
461						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
462						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
463						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
464		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
465						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
466						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
467						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
468						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
469		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
470						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
471		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

472						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
473		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/18/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
474		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
475		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
476		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>		4/19/2016 9:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
477		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>		4/20/2016 6:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
478		Navin, Neil <NNavin@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
479		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
480	AC_CPUC_0183950	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

481	AC_CPUC_0183952	Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
482	AC_CPUC_0183948	Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
483		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
484						4/25/2016 8:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
485		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
486						4/25/2016 8:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
487		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

488		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
489		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

490		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
491		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

492		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
493		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

494		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
495		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

496		Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
497		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

498		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
499		Tracy, Jill <jtracy@enova.com>	'Levine, Randall Mark' <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
500		Tracy, Jill <jtracy@enova.com>	Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
501		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
502		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

503		Van de Putte, Todd <tvandepu@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
504		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
505		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dozier, Mike <MDozier@semprautilities.com>	DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; DL_Wellsure <DL_Wellsure@halliburton.com>		4/26/2016 8:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
506						4/26/2016 8:19	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
507		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

508		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
509		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/26/2016 14:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
510		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
511						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

512		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
513						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
514		Navin, Neil <nnavin@enova.com>	Tracy, Jill <JTracy@semprautilities.com >; La Fevers, Glenn <GLaFevers@semprautilities. com>	James LaGrone (jim.lagrone@boots-coots.com)		4/27/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
515						4/27/2016 12:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
516		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
517						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
518		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
519						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

520		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
521		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
522						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
523		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

524		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
525		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			5/5/2016 5:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
526		Van de Putte, Todd <tvandepu@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			5/5/2016 6:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
527		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; 'Blake, Thomas FCL' <TBlake@fugro.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; Bo Burris <bburris@boots-coots.com>		5/6/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

528						5/6/2016 10:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
529		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
530		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
531		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn (GLaFevers@sempra utilities.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>		5/24/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
532						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
533						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
534						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
535						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
536						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
537		Petrizzo, Hilary E <HPetrizzo@semprautili ties.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilit ies.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

538						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
539		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilities.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
540						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
541		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>	'Haley McIntosh' <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
542						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
543		Unspecified Sender	Wayne Courville <Wayne.Courville@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
544						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
545		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			6/13/2016 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
546						6/13/2016 7:27	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
547		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
548						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

549		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
550						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
551		Unspecified Sender	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; rgomez@boots-coots.com			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
552						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
553		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
554						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

555		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer (JOrellana2@sempra utilities.com)		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
556						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
557		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com >; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer <JOrellana2@sempra utilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

558		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
559		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
560		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
561		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
562						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
563		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

564						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
565		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
566						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
567		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>			7/22/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
568						7/22/2016 11:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

569		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>		7/25/2016 11:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
570						7/25/2016 11:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
571		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
572		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
573		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 18:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
574		La Fevers, Glenn <glafever@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			8/8/2016 18:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
575						8/10/2016 16:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
576		Jim LaGrone <Jim.LaGrone@boots-coots.com>	John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Dominick Bellotte <Dominick.Bellotte@halliburton.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 17:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

577		Dominick Bellotte <Dominick.Bellotte@halliburton.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 20:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
578		Haley McIntosh <hmmcintosh@jonesday.com>	jim.lagrone@boots-coots.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
579						8/18/2016 10:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
580		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 11:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
581						8/18/2016 11:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
582		Eliasian, Maghdi <maghdi.eliasian@morganlewis.com>	Haley McIntosh <hmmcintosh@jonesday.com>; Frescas, Arturo <AFrescas@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

583		Frescas, Arturo <AFrescas@semprautilities.com>	'Eliasian, Maghdi' <maghdi.eliasian@morganlewis.com>; Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
584		Haley McIntosh <hmmcintosh@jonesday.com>	mdozier@semprautilties.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		8/18/2016 14:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
585						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
586						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
587		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>			8/23/2016 11:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
588		Ng, Deana M <dmng@enova.com>	Ng, Deana M <DNg@semprautilities.com>; Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

589		Ng, Deana M <DNg@semprautilities.com>	Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
590		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/24/2016 12:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
591		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
592		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
593		Bill Whitney/Blade <BWhitney@blade-energy.com>	Bill Whitney/Blade <BWhitney@blade-energy.com>; Jim.LaGrone@boots-coots.com; Andrews, Larry J <LAndrews@semprautilities.com>; Nigel Alvares/Blade <NAlvares@blade-energy.com>; Randall L Rudolf/Blade <rrudolf@blade-energy.com>; Rolando.Gomez@boots-coots.com; Van de Putte, Todd <TVandePutte@semprautilities.com>; Aliso Canyon IDT ConfRoom 972-712-8400/Corporate <Aliso_Canyon_IDT_ConfRoom_972-712-8400/Corporate@mail.blade-energy.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ravi Krishnamurthy/Blade <ravimk@blade-energy.com>		8/29/2016 11:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

594		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
595						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
596		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
597						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
598		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
599						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

600		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
601						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
602						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
603						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
604						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

605						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
606		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
607						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
608						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
609						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
610						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

611						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
612		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
613						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
614						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
615						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

616						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
617						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
618		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
619						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
620						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

621						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
622		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
623						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
624						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
625						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

626		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
627						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
628						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
629						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
630		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

631						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
632						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
633						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
634		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
635						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

636						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
637						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
638		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
639						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
640						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

641						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
642		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
643						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
644						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
645		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

646						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
647						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
648		Orellana, Jennifer <jorella2@enova.com>	Orellana,Jennifer <JOrellana2@semprautilities.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; Navin,Neil <NNavin@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Van de Putte,Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/2/2016 3:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
649		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

650		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
651		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
652		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
653		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
654		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
655		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
656		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

657		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
658		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
659		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
660		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

661		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
662		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
663		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

664		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
665						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
666		Tracy, Jill <jtracy@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
667						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
668		Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

669						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
670		Navin, Neil <NNavin@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
671		Van de Putte, Todd <tvandepu@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
672		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
673		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

674		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
675		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
676		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
677		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando.Gomez@boots-coots.com			9/11/2016 16:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
678		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 18:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
679		GLaFevers@semprautilities.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
680		La Fevers, Glenn <glafever@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
681		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			9/12/2016 5:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
682		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

683		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
684		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>		9/12/2016 6:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
685						9/12/2016 6:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
686	AC_CPUC_0186107	Unspecified Sender	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
687	AC_CPUC_0186437	La Fevers, Glenn <glafever@enova.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

688	AC_CPUC_0186327	La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
689	AC_CPUC_0186547	Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
690						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
691	AC_CPUC_0186659	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
692						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
693	AC_CPUC_0186661	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

694						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
695		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
696		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
697						9/12/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
698		Hamze, Firas <tpfhh@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>			9/12/2016 14:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
699		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/20/2016 10:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
700		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
701		La Fevers, Glenn <glafever@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 12:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

702		La Fevers, Glenn <glafever@enova.com>	Rolly Gomez (rgomez@boots-coots.com); Jim LaGrone <Jim.LaGrone@boots-coots.com>; timmy.ludeman@weatherford.com			9/23/2016 7:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
703						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
704						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
705		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
706						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
707						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
708						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
709						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
710						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
711						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
712						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

713						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
714						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
715						9/23/2016 7:21	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
716		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
717						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
718						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
719						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
720	AC_CPUC_0187359	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/26/2016 15:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

721	AC_CPUC_0187371	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
722						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
723	AC_CPUC_0187375	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy,Jill; Navin,Neil; Dentici,Roberto; Van de Putte,Todd; McMahon,Thomas D.; Jim.LaGrone@boots-coots.com; Rolly Gomez; Hamze,Firas; Andrews,Larry J	Schwecke,Rodger; La Fevers,Glenn		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
724						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

725	AC_CPUC_0187365	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
726						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
727	AC_CPUC_0187373	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
728						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

729	AC_CPUC_0187381	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 18:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
730	AC_CPUC_0187448	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/28/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
731		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dentici, Roberto <RDentici@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/28/2016 18:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

732	AC_CPUC_0187459	Dentici, Roberto <719373e031c64d8596e05b6c846ac744-dentici, roberto@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
733	AC_CPUC_0187462	Dentici, Roberto <RDentici@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

734	AC_CPUC_0187477	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
735	AC_CPUC_0187473	Unspecified Sender	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

736	AC_CPUC_0187485	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
737	AC_CPUC_0187500	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

738	AC_CPUC_0187503	JTracy@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
739	AC_CPUC_0187512	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

740	AC_CPUC_0187516	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
741	AC_CPUC_0187519	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

742	AC_CPUC_0187522	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
743	AC_CPUC_0187546	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
744						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

745	AC_CPUC_0187550	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
746						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
747	AC_CPUC_0187543	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
748						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

749	AC_CPUC_0187553	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
750						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
751	AC_CPUC_0187604	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

752	AC_CPUC_0187614	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
753		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
754						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
755		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

756		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
757		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
758						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

759		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
760		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
761						10/6/2016 9:25	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
762		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

763						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
764						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
765		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
766		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
767						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

768						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
769						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
770						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
771						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
772						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

773						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
774						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
775						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
776						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
777		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

778		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
779		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
780		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
781		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

782						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
783		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
784						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
785		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

786		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
787		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
788						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

789		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
790		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@sempr autilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
791						10/6/2016 9:28	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
792		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

793						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
794						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
795		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
796		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
797						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

798						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
799						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
800						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
801						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
802						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

803						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
804						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
805						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
806						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
807		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

808		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
809		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
810		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
811		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

812						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
813	AC_CPUC_0187632	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
814	AC_CPUC_0187618	JTracy@semprautilities.com	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

815	AC_CPUC_0187660	Tracy, Jill <jtracy@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
816	AC_CPUC_0187646	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

817	AC_CPUC_0187687	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
818	AC_CPUC_0187697	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

819	AC_CPUC_0187704	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

820	AC_CPUC_0187712	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
821	AC_CPUC_0187790	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

822	AC_CPUC_0187797	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
823	AC_CPUC_0187801	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
824		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			12/5/2016 7:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
825	AC_CPUC_0188174	Van de Putte, Todd <tvandepu@enova.com>	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

826		Unspecified Sender	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
827						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
828						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
829						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
830						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
831						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

832						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
833						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
834						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
835						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
836						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
837						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

838						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
839						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
840						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
841	AC_CPUC_0188214	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			1/31/2017 15:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
842		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/1/2017 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
843	AC_CPUC_0188216	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/1/2017 8:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
844		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/13/2017 10:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

845						2/13/2017 10:37	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
846		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
847		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
848		McMahon, Thomas D. <TMcMahon@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	John Garner <Jgarner@boots-coots.com>		2/13/2017 19:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
849		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/15/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

850		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/15/2017 11:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
851		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/15/2017 11:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
852		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
853		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
854						2/17/2017 21:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

855	AC_CPUC_0188320	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/20/2017 20:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
856		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
857						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
858						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
859						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

860		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
861		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
862						2/21/2017 17:07	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
863		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
864		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 10:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

865		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
866		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
867		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 14:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
868	AC_CPUC_0188467	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
869	AC_CPUC_0188469	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

870		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
871	AC_CPUC_0188471	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 13:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
872		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
873						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
874						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

875		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
876						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
877						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
878		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			3/3/2017 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
879						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

880						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
881		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/3/2017 11:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
882		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
883		Van de Putte, Todd <tvandepu@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
884		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
885		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Rick Gentges <rgentges@rcp.com>; Elaine Froneberger <EFroneberger@rcp.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>		3/13/2017 9:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

886						3/13/2017 9:08	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
887		Jim LaGrone <Jim.LaGrone@boots-coots.com>	ndodoo@semprautiliteis.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; John Garner <Jgarner@boots-coots.com>		3/15/2017 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
888						3/15/2017 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
889	AC_CPUC_0188480	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/17/2017 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
890	AC_CPUC_0188483	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			3/20/2017 8:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
891	AC_CPUC_0188486	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/20/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
892		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>		5/2/2017 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

893		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Jim.LaGrone@boots-coots.com; Rolando.Gomez@boots-coots.com	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>; Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/3/2017 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
894		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
895		Dodoo, Nii Amoo <dnamoo@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
896		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>			5/11/2017 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
897		Kitson, Amy <awahl@enova.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
898		Kitson, Amy <AKitson@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
899		Navin, Neil <nnavin@enova.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
900		Navin, Neil <NNavin@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
901		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/11/2017 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

902		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/11/2017 14:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
903		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
904		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
905		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
906		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>		5/22/2017 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
907		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			5/26/2017 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
908		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 8:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
909		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 9:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
910		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
911		JCerrillos@semprautilities.com	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
912		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			6/1/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

913		Cerrillos, Jorge <tpjsc@enova.com> - on behalf of - Egan, Jason W <jwegan@enova.com>	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
914		JCerrillos@semprautilities.com	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
915		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	mmunoz@boots-coots.com	Cerrillos, Jorge <JCerrillos@semprautilities.com>		6/13/2017 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
916		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/11/2017 6:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
917						7/11/2017 6:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
918		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
919						7/12/2017 6:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
920		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
921						7/12/2017 6:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
922		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		7/13/2017 14:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
923						7/13/2017 14:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

924		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Sharepoint <Sharepoint@semprautilities.com>; SempraHelp <SempraHelp@sempra.com>	Tran, Johnny Q <JQTran@semprautilities.com>; Cerrillos, Jorge <JCerrillos@semprautilities.com>; mmunoz@boots-coots.com		7/18/2017 6:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
925	AC_CPUC_0188530	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/8/2017 22:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
926	AC_CPUC_0188539	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
927	AC_CPUC_0188548	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

928	AC_CPUC_0188557	Schwecke, Rodger <RSchwecke@semprautilities.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
929	AC_CPUC_0188558	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

930	AC_CPUC_0188560	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
931	AC_CPUC_0188562	TMcMahon@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

ATTACHMENT B

DOC #	Prod Beg CPUC	FROM	TO	CC	BCC	DATE	DESCRIPTION	PRIVILEGE BASIS
1		Nancy.Renteria@LW.com	lportillo@boots-coots.com	Michael.Romey@LW.com; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Howes, Marlin E. <MHowes@semprautilities.com>		11/12/2015 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
2						11/12/2015 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
3		Lane, Bret <tpjbl@enova.com>	Danny Walzel <dwalzel@boots-coots.com>; Danny Clayton <dclayton@boots-coots.com>			11/17/2015 8:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
4						11/17/2015 8:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
5		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/22/2015 8:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
6						11/22/2015 8:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
7		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/27/2015 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
8						11/27/2015 6:58	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
9		Cardiff, Steven G <SCardiff@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

10						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
11						11/27/2015 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
12		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
13		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
14		Lane, Bret <tpjbl@enova.com>	Danny Clayton <dclayton@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>			11/30/2015 8:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
15						11/30/2015 8:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
16		JLane@semprautilities.com	Van de Putte, Todd <TVandePutte@semprautilities.com>	Cardiff, Steven G <SCardiff@semprautilities.com>; Danny Walzel <dwalzel@boots-coots.com>		11/30/2015 8:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
17		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>		12/4/2015 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

18		Cardiff, Steven G <SCardiff@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Danny Walzel <dwalzel@boots-coots.com>	Baker, Phil E. <PBaker@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		12/4/2015 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
19						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
20						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
21						12/4/2015 10:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
22		Lane, Bret <tpjbl@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/7/2015 10:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
23		John Hatteberg <jhatteberg@boots-coots.com>	Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Lane, Bret <JLane@semprautilities.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
24						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

25						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
26						12/7/2015 11:15	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
27		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/7/2015 11:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
28		Lane, Bret <JLane@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>; Sylvia Estrada <Sylvia.Estrada@halliburton.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Leonardo Portillo <lportillo@boots-coots.com>; Monica Williamson <Monica.Williamson@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/9/2015 5:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
29	AC_CPUC_0172250	Schwecke, Rodger <RSchwecke@semprautilities.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
30	AC_CPUC_0172252	Schwecke, Rodger <rschwecke@enova.com>	Danny Walzel <dwalzel@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/9/2015 6:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
31						12/9/2015 15:36	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

32						12/10/2015 11:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
33		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 7:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
34		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>			12/11/2015 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
35		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/11/2015 12:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
36		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/11/2015 12:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
37						12/16/2015 5:43	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
38		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Alan.Gosse@Halliburton.com; Kevin.Bautista@halliburton.com; Kimberly.Barber@Halliburton.com; John Hatteberg <jhatteberg@boots-coots.com>; Wayne.Courville@boots-coots.com	De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Steve Cardiff <cardiffsr@gmail.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		12/18/2015 16:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
39						12/18/2015 16:09	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
40		Jim LaGrone <Jim.LaGrone@boots-coots.com>	donwshackelford@yahoo.com; Lane, Bret <JLane@semprautilities.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>			12/20/2015 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

41		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
42	AC_CPUC_0173646	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
43		John Hatteberg <jhatteberg@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
44		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
45	AC_CPUC_0173657	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	John Hatteberg <jhatteberg@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>		12/21/2015 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
46		John Hatteberg <jhatteberg@boots-coots.com>	Wayne Courville <Wayne.Courville@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		12/21/2015 10:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
47						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
48						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
49						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
50						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

51						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
52						12/21/2015 10:11	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
53		Alan Gosse <Alan.Gosse@Halliburton.com>	Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Don Laribee <Don.Laribee@Halliburton.com>; Joseph Letzkus <Joseph.Letzkus@halliburton.com>; Kaleb Bean <Kaleb.Bean@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Lawrence Albitre <Larry.Albitre@Halliburton.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Eddy Hinds <Eddy.Hinds@Halliburton.com>	John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		12/21/2015 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
54		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
55		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>			12/23/2015 17:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

56		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
57		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>			12/28/2015 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
58		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			12/28/2015 14:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
59	AC_CPUC_0174272	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			12/29/2015 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
60		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Bud Curtis <bcurtis@boots-coots.com>		1/3/2016 5:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
61						1/3/2016 5:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
62		JLane@semprautilities.com	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
63						1/3/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

64						1/3/2016 8:53	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
65		Lane, Bret <tpjbl@enova.com>	Snyder, Hal <HSnyder@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
66						1/3/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
67						1/3/2016 8:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
68		Snyder, Hal <HSnyder@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
69		Snyder, Hal <hsnyder@enova.com>	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/3/2016 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
70		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Arriola, Dennis <DArriola@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>		1/5/2016 11:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
71						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

72						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
73						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
74						1/5/2016 11:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
75		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'John Hatteberg' <jhatteberg@boots-coots.com>; 'Steve Cardiff' <cardiffsr@gmail.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		1/6/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
76		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>			1/10/2016 13:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
77						1/10/2016 13:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
78		Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com); Arash Haghshenas <arash@boots-coots.com>			1/10/2016 16:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

79						1/10/2016 16:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
80		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Lane, Bret <JLane@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		1/11/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
81						1/11/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
82	AC_CPUC_0176003	Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			1/11/2016 12:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
83	AC_CPUC_0166905	Lane, Bret <tpjbl@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Don Shackelford (donwshackelford@yahoo.com)			1/11/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

84		Rodriguez, Sonia <srodrig3@enova.com>	Navin, Neil <NNavin@semprautilities.com>; gregory.hisel@fire.lacounty.gov; Robert Salgado (rsalgado@dir.ca.gov); kcrook@arbinc.com; Mario.Tresierras@fire.lacounty.gov; McGurk, Scott@DOC <Scott.McGurk@conservation.ca.gov>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Kysar, Scott <SKysar@semprautilities.com>; matthewson.epuna@cpuc.ca.gov; william.mcmechen@aecom.com; Lawrence.Kathryn@epa.gov; MNazemi1@aqmd.gov; Cho, Jimmie I <JCho@semprautilities.com>; Cocker, Philip <Philip.Cocker@fire.lacounty.gov>; Cynthia.Ishikawa@dot.gov; Kenneth Crook	scott.walker@conservation.ca.gov; kenneth.bruno@cpuc.ca.gov; Kerns, Barry <BKerns@semprautilities.com>; Mike Baggett (mbaggett@boots-coots.com); ctrombettas@dir.ca.gov; Ibay, Isaac <IIbay@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; tdraper@arbinc.com; Schwecke, Rodger <RSchwecke@semprautilities.com>		1/14/2016 14:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
85						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
86						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

87						1/14/2016 14:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
88		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; stephen.yench@flour.com	Andrews, Larry J <LAndrews@semprautilities.com>		1/18/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
89						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
90						1/26/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
91		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

92		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

93		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

94		Alan Gosse <Alan.Gosse@Halliburton.com>	Alan Gosse <Alan.Gosse@Halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; donwshackelford@yahoo.com; peteslagel@1816drilling.com; morten.haug.emilsen@addenergy.no; Arash Haghshenas <arash@boots-coots.com>; Danny Walzel <dwalzel@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Hatteberg <jhatteberg@boots-			1/30/2016 17:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
95		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/1/2016 16:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
96		Van de Putte, Todd <tvandepu@enova.com>	Don Shackelford <donwshackelford@yahoo.com>			2/1/2016 16:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

97	AC_CPUC_0169648	Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 6:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
98		Egbert, Thomas <tegbert@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	'arash@boots-coots.com'		2/4/2016 9:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
99						2/4/2016 9:13	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
100		Arash Haghshenas <arash@boots-coots.com>	Egbert, Thomas <TEgbert@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 9:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
101		Unspecified Sender	Arash Haghshenas <arash@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/4/2016 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

102		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
103						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

104		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
105						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

106		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
107						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

108		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
109						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

110		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
111						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

112		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
113						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

114		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
115						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

116		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
117						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

118		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
119						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

120		Tyler Milford <Tyler.Milford@halliburton.com>	Eddy Hinds <Eddy.Hinds@Halliburton.com>; Kevin Bautista <Kevin.Bautista@halliburton.com>; Alan Gosse <Alan.Gosse@Halliburton.com>; Kimberly Barber <Kimberly.Barber@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Anthony Rizzo <Anthony.Rizzo@halliburton.com>; Lane, Bret <JLane@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Steve Cardiff' <cardiffsr@gmail.com>; Tom Siddle <Tom.Siddle@Halliburton.com>; Tracy Holt (tracyleeholt@sbcglobal.net); Steven Mulholland <Steven.Mulholland@halliburton.com>; Ryan Zallas <Ryan.Zallas@Halliburton.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville			2/4/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
121						2/4/2016 10:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
122		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 8:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
123						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
124						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

125						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
126						2/5/2016 8:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
127		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
128		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
129		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/5/2016 10:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
130						2/5/2016 10:03	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
131		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
132						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
133		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>		2/5/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

134						2/5/2016 11:49	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
135		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; John Wright <john.wright@bearco-intl.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Pete Slagel <pete@slagel.net>; John Hatteberg <jhatteberg@boots-coots.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd (TVandePutte@semprautilities.com)		2/6/2016 9:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
136						2/6/2016 9:27	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
137		Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/6/2016 10:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
138		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			2/6/2016 16:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
139		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		2/7/2016 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

140		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>			2/7/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
141		Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>			2/7/2016 8:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
142		Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
143						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
144						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
145						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
146						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
147		Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
148						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

149						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
150						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
151						2/7/2016 11:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
152		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
153		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
154		Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/7/2016 11:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
155		Lane, Bret <JLane@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
156						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
157		Lane, Bret <tpjbl@enova.com>	Van de Putte, Todd (TVandePutte@semprautilities.com)	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger (RSchwecke@semprautilities.com)		2/7/2016 13:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

158						2/7/2016 13:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
159	AC_CPUC_0165819	Lane, Bret <JLane@semprautilities.com>	Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
160	AC_CPUC_0165828	Lane, Bret <tpjbl@enova.com>	Cho, Jimmie I (JCho@semprautilities.com); Schwecke, Rodger (RSchwecke@semprautilities.com); Don Shackelford <donwshackelford@yahoo.com>	Tomkins, Sharon <STomkins@semprautilities.com>		2/8/2016 5:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
161		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Egbert, Thomas <TEgbert@semprautilities.com>	'Arash Haghshenas' <arash@boots-coots.com>		2/8/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
162	AC_CPUC_0165837	Lane, Bret <JLane@semprautilities.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
163	AC_CPUC_0165839	Lane, Bret <tpjbl@enova.com>	Don Schackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			2/8/2016 18:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
164	AC_CPUC_0165844	Van de Putte, Todd <tvandepu@enova.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
165	AC_CPUC_0165841	Van de Putte, Todd <TVandePutte@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Don Schackelford <donwshackelford@yahoo.com>			2/8/2016 18:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

166	AC_CPUC_0170162	Lane, Bret <tpjbl@enova.com>	Don Shackelford <donwshackelford@yahoo.com>; John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>	Schwecke, Rodger (RSchwecke@sempra utilities.com)		2/9/2016 5:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
167	AC_CPUC_0165847	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/9/2016 8:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
168		Lane, Bret <JLane@semprautilities.com>	John Wright <john.wright@bearco-intl.com>; Pete Slagel <pete@slagel.net>; Morten Haug Emilsen <morten.haug.emilsen@addenergy.no>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Arash Haghshenas <arash@boots-coots.com>; John Hatteberg <jhatteberg@boots-coots.com>; Wayne Courville <Wayne.Courville@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; De La Rosa, Andy <ADeLaRosa2@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/9/2016 15:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

169						2/9/2016 15:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
170	AC_CPUC_0165850	Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
171	AC_CPUC_0165851	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
172	AC_CPUC_0165860	Lane, Bret <JLane@semprautilities.com>	Chris Yeung <Chris.Yeung@Halliburton.com>; Don Shackelford <donwshackelford@yahoo.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
173	AC_CPUC_0165869	Don Shackelford <donwshackelford@yahoo.com>	Lane, Bret <JLane@semprautilities.com>; Chris Yeung <Chris.Yeung@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
174	AC_CPUC_0165872	Chris Yeung <Chris.Yeung@Halliburton.com>	Don Shackelford <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Bryce Hinsch <Bryce.Hinsch@halliburton.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		2/10/2016 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
175		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			2/11/2016 13:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

176						2/11/2016 13:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
177		Lane, Bret <JLane@semprautilities.com>	Don Shackelford <donwshackelford@yahoo.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		2/12/2016 8:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
178		Van de Putte, Todd <tvandepu@enova.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
179		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Don Shackelford' <donwshackelford@yahoo.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			2/12/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
180		Lane, Bret <tpjbl@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
181		JLane@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Cho, Jimmie I <JCho@semprautilities.com>; Doug Derr <dderr@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Guy Fox <gfox@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		3/10/2016 6:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

182		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
183		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
184		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

185		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
186		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

187		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
188		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
189		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

190		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
191		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

192		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
193		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

194		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
195		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

196		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
197		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>	Michael Noel <Mike.Noel@Halliburton.com>; Sera, Travis <TSera@semprautilities.com>		3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

198		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
199		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

200		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
201		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

202		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
203		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
204		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

205		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/14/2016 12:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
206		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; Guy Fox <gfox@boots-coots.com>			3/14/2016 18:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
207		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
208		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
209		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 4:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
210		Navin, Neil <nnavin@enova.com>	Guy Fox <gfox@boots-coots.com>			3/15/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

211		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
212		Navin, Neil <NNavin@semprautilities.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
213		Navin, Neil <nnavin@enova.com>	Lane, Bret <JLane@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Razavi, Avideh <ARazavi2@semprautilities.com>; Neville, Dan <DNeville@semprautilities.com>; jim.lagrone@boots-coots.com; gfox@boots-coots.com; bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 7:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
214		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
215		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/15/2016 8:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

216		Navin, Neil <nnavin@enova.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
217		Mail Delivery Subsystem <MAILER-DAEMON@ms-smtp-p01.sempra.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
218		Navin, Neil <NNavin@semprautilities.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
219		Navin, Neil <nnavin@enova.com>	bill.sheridan@boots-coots.com; joe.kennedy@boots-coots.com			3/15/2016 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
220		Unspecified Sender	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
221						3/16/2016 9:34	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
222						3/16/2016 9:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
223		Navin, Neil <nnavin@enova.com>	Jim.LaGrone@boots-coots.com	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
224						3/16/2016 9:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
225						3/16/2016 9:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

226		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		3/16/2016 13:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
227		Carl Cramm <Carl.Cramm@boots-coots.com>	NNavin@semprautilities.com	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>		3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
228						3/18/2016 13:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
229						3/18/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
230		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>			3/18/2016 13:52	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
231		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 5:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
232		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 7:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

233		Unspecified Sender	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
234		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
235		Navin, Neil <nnavin@enova.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

236		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 10:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
237		Leonardo Portillo <lportillo@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 12:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
238		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Guy Fox <gfox@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Keith Romaine <Keith.Romaine@halliburton.com>; Leonardo Portillo <lportillo@boots-coots.com>		3/21/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
239		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/21/2016 14:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
240		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 3:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

241		Doug Derr <dderr@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>			3/22/2016 10:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
242		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
243						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
244						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
245						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
246						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

247		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Rodger Schwecke <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
248						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
249						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
250						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
251						3/23/2016 13:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
252		Doug Derr <dderr@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>			3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

253		Navin, Neil <nnavin@enova.com>	Navin,Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Hamze,Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 14:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
254		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/23/2016 21:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
255		Unspecified Sender	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

256		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
257		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
258		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

259		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
260		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
261		Navin, Neil <nnavin@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/23/2016 21:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
262		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

263		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 4:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
264		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>		3/24/2016 6:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
265		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

266		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>	Carl Cramm <Carl.Cramm@boots-coots.com>; deby@blowoutengineers.com; David Vaught <David.Vaught@halliburton.com>; Mark Brake <Mark.Brake@Halliburton.com>; jlarrison@blowoutengineers.com; Jim LaGrone <Jim.LaGrone@boots-coots.com>		3/24/2016 9:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
267		Tracy, Jill <jtracy@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
268		JTracy@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
269		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

270		Tracy, Jill <JTracy@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 9:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
271		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
272						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
273		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		3/24/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
274						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
275						3/24/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

276		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>		3/28/2016 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
277						3/28/2016 8:13	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
278		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/28/2016 8:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

279		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
280		Navin, Neil <nnavin@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

281		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>	Doug Derr <dderr@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Guy Fox <gfox@boots-coots.com>; William Sheridan - B&C <wsheridan@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>		3/28/2016 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
282		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
283						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
284						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
285		Guy Fox <gfox@boots-coots.com>	Navin, Neil (NNavin@semprautilities.com); tvandeputte@semprautilities.com	William Sheridan - B&C <wsheridan@boots-coots.com>; Rosilyn Saulsberry <rsaulsberry@boots-coots.com>; Joseph Kennedy <Joseph.Kennedy@halliburton.com>		3/31/2016 4:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

286						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
287						3/31/2016 4:55	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
288		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/4/2016 11:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
289		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			4/4/2016 11:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
290		Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
291		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
292		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/4/2016 11:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
293		Rubin, Jonathan <JRubin@semprautilities.com>	'jim.lagrone@boots-coots.com'; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
294		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			4/5/2016 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

295						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
296						4/5/2016 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
297		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. (CBrandy@semprautilities.com)	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
298						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
299						4/5/2016 13:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
300		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
301						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
302						4/5/2016 13:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
303		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>		4/5/2016 13:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
304		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rubin, Jonathan <JRubin@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/5/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

305		Van de Putte, Todd <TVandePutte@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
306		Van de Putte, Todd <tvandepu@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
307		Unspecified Sender	Kitson, Amy <AKitson@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>			4/5/2016 13:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
308		Navin, Neil <NNavin@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 13:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
309		Rubin, Jonathan <JRubin@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>			4/5/2016 15:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
310		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
311		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
312		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
313		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/5/2016 15:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

314		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/5/2016 17:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
315		Navin, Neil <NNavin@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Chechitelli, Frank <FChechitelli@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>		4/6/2016 10:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
316		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Hesam, H. Tony <Thesam@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>		4/6/2016 10:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
317		Chechitelli, Frank <FChechitelli@semprautilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Carl Cramm <Carl.Cramm@boots-coots.com>; Doug Derr <dderr@boots-coots.com>; Andy Reif <Andy.Reif@halliburton.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony		4/6/2016 13:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

318						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
319						4/6/2016 13:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
320		Chechitelli, Frank <FChechitelli@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
321		Tracy, Jill <jtracy@enova.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

322		Unspecified Sender	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
323		Tracy, Jill <JTracy@semprautilities.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hesam, H. Tony <Thesam@semprautilities.com>	'jwalters@boots-coots.com'		4/6/2016 14:20	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

324		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 9:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
325		Chechitelli, Frank <FChechitelli@sempra utilities.com>	'John Walters - B&C' <jwalters@boots-coots.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@sempra utilities.com>; Brandy, Carla L. <CBrandy@semprauti lities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/7/2016 10:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
326						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

327						4/7/2016 10:10	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
328		John Walters - B&C <jwalters@boots-coots.com>	Chechitelli, Frank <FChechitelli@semprautilities.com>	Leonardo Portillo <lportillo@boots-coots.com>; Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Hobbs, Rick <RHobbs@semprautilities.com>; Lee, Karen I <KLee5@semprautilities.com>; Sanders, Cole B <CSanders2@semprautilities.com>; Brandy, Carla L. <CBrandy@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/7/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
329		Unspecified Sender	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

330		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
331		Navin, Neil <NNavin@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/8/2016 13:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
332		Unspecified Sender	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
333		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Gates, Beth A. <BAGates@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

334		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn (GLaFevers@semprautilities.com); Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
335						4/11/2016 7:29	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
336						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
337						4/11/2016 7:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
338						4/11/2016 7:29	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
339		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
340						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
341						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
342						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
343						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

344		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
345						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
346						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
347						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
348						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
349		Van de Putte, Todd <TVandePutte@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
350						4/11/2016 7:31	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
351						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
352						4/11/2016 7:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
353						4/11/2016 7:31	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

354		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
355		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 7:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
356		Gates, Beth A. <BAGates@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/11/2016 7:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
357		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 8:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
358		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
359		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
360		Schwecke, Rodger <RSchwecke@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/11/2016 9:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

361		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
362		Hassan, Kim <KHassan@semprautilities.com>	Rubin, Jonathan <JRubin@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
363		Rubin, Jonathan <JRubin@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		4/11/2016 10:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
364		Rubin, Jonathan <JRubin@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>	Talley, Kendra <KTalley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Phipps, Krista L <KPhipps@semprautilities.com>		4/11/2016 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
365		Van de Putte, Todd <tvandepu@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
366						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
367						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
368						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
369						4/11/2016 14:07	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

370		Unspecified Sender	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
371						4/11/2016 14:07	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
372						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
373						4/11/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
374		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
375		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

376		Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
377		Tracy, Jill <jtracy@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
378		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; Kysar, Scott <SKysar@semprautilities.com>		4/14/2016 9:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
379		Unspecified Sender	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

380						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
381						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
382						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
383						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
384						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
385						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

386						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
387						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
388						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
389						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
390						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
391						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

392						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
393						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
394		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Arash Haghshenas' <arash@boots-coots.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
395						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
396						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
397						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

398						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
399						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
400						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
401						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
402						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
403						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

404						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
405						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
406						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
407						4/14/2016 12:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
408						4/14/2016 12:54	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
409		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>		4/14/2016 12:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

410		Arash Haghshenas <arash@boots-coots.com>	Hassan, Kim <KHassan@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
411		Hassan, Kim <KHassan@semprautilities.com>	Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/14/2016 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
412		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
413		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>; Arash Haghshenas <arash@boots-coots.com>			4/14/2016 13:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
414		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
415		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

416		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
417		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
418		Unspecified Sender	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
419		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Hassan, Kim <KHassan@semprautilities.com>			4/14/2016 13:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
420		Hassan, Kim <KHassan@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			4/14/2016 14:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
421		Navin, Neil <NNavin@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
422		Navin, Neil <nnavin@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; James LaGrone (jim.lagrone@boots-coots.com)		4/14/2016 18:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

423						4/14/2016 18:06	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
424		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
425		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com> - on behalf of - Shapiro, Daniel <dshapiro@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/15/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
426		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

427		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

428		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

429		Shapiro, Daniel <DShapiro@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager <jtager@henkels.com>; Kysar, Scott	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

430		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

431		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

432		Shapiro, Daniel <dshapiro@enova.com>	Shapiro, Daniel <DShapiro@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Presley, Jason <JPresley@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; 'TBlake@fugro.com'; Joshua Bernard <jobernard@henkels.com>; John (Civil H&M) <jbernard@henkels.com>; Leyna Nguyen <lnguyen@henkels.com>; Dennis <leedco@aol.com>; Jeremy Tager	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>		4/15/2016 14:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
433		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
434						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
435						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
436						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
437						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

438		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
439						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
440						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
441						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
442						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
443		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 6:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
444						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
445						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
446						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
447						4/18/2016 6:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
448		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

449		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
450		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
451		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
452		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		4/18/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
453		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
454						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
455		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
456						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
457		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>		4/18/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
458						4/18/2016 8:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

459		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
460						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
461						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
462						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
463						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
464		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
465						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
466						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
467						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
468						4/18/2016 8:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
469		Van de Putte, Todd <tvandepu@enova.com>	'rhatteberg@boots-coots.com'			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
470						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
471		Unspecified Sender	rhatteberg@boots-coots.com			4/18/2016 8:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

472						4/18/2016 8:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
473		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>		4/18/2016 11:11	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
474		Van de Putte, Todd <tvandepu@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
475		Unspecified Sender	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>			4/18/2016 13:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
476		Arash Haghshenas <arash@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Hassan, Kim <KHassan@semprautilities.com>		4/19/2016 9:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
477		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>		4/20/2016 6:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
478		Navin, Neil <NNavin@semprautilities.com>	Guy Fox <gfox@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
479		Guy Fox <gfox@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Joseph Kennedy <Joseph.Kennedy@halliburton.com>; Razavi, Avideh <ARazavi2@semprautilities.com>		4/20/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
480	AC_CPUC_0183950	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

481	AC_CPUC_0183952	Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
482	AC_CPUC_0183948	Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/21/2016 12:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
483		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; rhatteberg@boots-coots.com; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
484						4/25/2016 8:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
485		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		4/25/2016 8:48	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
486						4/25/2016 8:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
487		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

488		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
489		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

490		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
491		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; jim.lagrone@boots-coots.com; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

492		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>; Levine, Randall Mark <randall.levine@morganlewis.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>		4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
493		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

494		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
495		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

496		Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
497		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

498		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/25/2016 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
499		Tracy, Jill <jtracy@enova.com>	'Levine, Randall Mark' <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
500		Tracy, Jill <jtracy@enova.com>	Levine, Randall Mark <randall.levine@morganlewis.com>			4/25/2016 12:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
501		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
502		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 7:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

503		Van de Putte, Todd <tvandepu@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
504		Schwecke, Rodger <rschwecke@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>		4/26/2016 8:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
505		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dozier, Mike <MDozier@semprautilities.com>	DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; DL_Wellsure <DL_Wellsure@halliburton.com>		4/26/2016 8:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
506						4/26/2016 8:19	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
507		Tracy, Jill <jtracy@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

508		Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'rhatteberg@boots-coots.com'; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Navin, Neil <NNavin@semprautilities.com>		4/26/2016 8:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
509		Tracy, Jill <jtracy@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'jim.lagrone@boots-coots.com'; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Ali Reza <reza@exponent.com>; Ng, Deana M <DNg@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>			4/26/2016 14:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
510		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
511						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

512		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>		4/26/2016 19:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
513						4/26/2016 19:04	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
514		Navin, Neil <nnavin@enova.com>	Tracy, Jill <JTracy@semprautilities.com >; La Fevers, Glenn <GLaFevers@semprautilities. com>	James LaGrone (jim.lagrone@boots-coots.com)		4/27/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
515						4/27/2016 12:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
516		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
517						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
518		Van de Putte, Todd <tvandepu@enova.com >	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
519						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

520		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
521		Van de Putte, Todd <TVandePutte@sempra utilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com)	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/3/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
522						5/3/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
523		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>; Hamze, Firas <FHamze@semprautil ities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

524		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Larry Lorenz (Larry.Lorenz@ensignenergy.com); Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>		5/4/2016 16:19	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
525		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			5/5/2016 5:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
526		Van de Putte, Todd <tvandepu@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>			5/5/2016 6:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
527		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; 'Blake, Thomas FCL' <TBlake@fugro.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>; Bo Burris <bburris@boots-coots.com>		5/6/2016 10:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

528						5/6/2016 10:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
529		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
530		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		5/16/2016 8:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
531		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn (GLaFevers@sempra utilities.com); Schwecke, Rodger <RSchwecke@sempr autilities.com>; Tracy, Jill <JTracy@semprautiliti es.com>; Navin, Neil <NNavin@semprautilit ies.com>		5/24/2016 8:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
532						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
533						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
534						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
535						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
536						5/24/2016 8:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
537		Petrizzo, Hilary E <HPetrizzo@semprautili ties.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilit ies.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

538						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
539		Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>	Healy, Gregory <GHealy@semprautilities.com>		6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
540						6/10/2016 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
541		Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	'Wayne Courville' <Wayne.Courville@boots-coots.com>	'Haley McIntosh' <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
542						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
543		Unspecified Sender	Wayne Courville <Wayne.Courville@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>		6/13/2016 7:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
544						6/13/2016 7:05	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
545		Wayne Courville <Wayne.Courville@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>			6/13/2016 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
546						6/13/2016 7:27	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
547		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
548						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

549		Hamze, Firas <tpfhh@enova.com>	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; 'rgomez@boots-coots.com'			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
550						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
551		Unspecified Sender	'Fernandez, Darrell' <Darrell.Fernandez@consultant.aecom.com>; rgomez@boots-coots.com			7/6/2016 21:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
552						7/6/2016 21:26	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
553		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
554						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

555		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer (JOrellana2@sempra utilities.com)		7/19/2016 9:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
556						7/19/2016 9:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
557		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com >; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@sempr autilities.com>; Navin, Neil <NNavin@semprautilit ies.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; McMahon, Thomas D. <TMcMahon@sempra utilities.com>; Van de Putte, Todd <TVandePutte@semp rautilities.com>; Orellana, Jennifer <JOrellana2@sempra utilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

558		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Orellana, Jennifer <JOrellana2@semprautilities.com>		7/19/2016 11:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
559		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>	Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
560		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Richard Hatteberg <rhatteberg@boots-coots.com>		7/19/2016 13:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
561		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
562						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
563		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product

564						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
565		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; 'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>		7/22/2016 8:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
566						7/22/2016 8:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
567		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>			7/22/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
568						7/22/2016 11:02	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

569		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; DL_B&C Engineering <engineering@boots-coots.com>; DL_B&C Well Control <wellcontrol@boots-coots.com>		7/25/2016 11:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
570						7/25/2016 11:45	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
571		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
572		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 17:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
573		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/8/2016 18:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
574		La Fevers, Glenn <glafever@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			8/8/2016 18:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
575						8/10/2016 16:48	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
576		Jim LaGrone <Jim.LaGrone@boots-coots.com>	John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Dominick Bellotte <Dominick.Bellotte@halliburton.com>; Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 17:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

577		Dominick Bellotte <Dominick.Bellotte@halliburton.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; John Walters - B&C <jwalters@boots-coots.com>; Eric Bivens <Eric.Bivens@Halliburton.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Andy Cuthbert <Andy.Cuthbert@Halliburton.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		8/17/2016 20:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
578		Haley McIntosh <hmmcintosh@jonesday.com>	jim.lagrone@boots-coots.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
579						8/18/2016 10:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
580		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 11:47	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
581						8/18/2016 11:47	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
582		Eliasian, Maghdi <maghdi.eliasian@morganlewis.com>	Haley McIntosh <hmmcintosh@jonesday.com>; Frescas, Arturo <AFrescas@semprautilities.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

583		Frescas, Arturo <AFrescas@semprautilities.com>	'Eliasian, Maghdi' <maghdi.eliasian@morganlewis.com>; Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/18/2016 12:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
584		Haley McIntosh <hmmcintosh@jonesday.com>	mdozier@semprautilties.com	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ng, Deana M <DNg@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>		8/18/2016 14:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
585						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
586						8/18/2016 14:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
587		Rolando Gomez <Rolando.Gomez@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>			8/23/2016 11:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
588		Ng, Deana M <dmng@enova.com>	Ng, Deana M <DNg@semprautilities.com>; Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

589		Ng, Deana M <DNg@semprautilities.com>	Dozier, Mike <MDozier@semprautilities.com>; Volkmar, Mike <MVolkmar@semprautilities.com>; jim.lagrone@boots-coots.com; Haley McIntosh (hmmcintosh@jonesday.com)			8/23/2016 14:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
590		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Haley McIntosh <hmmcintosh@jonesday.com>	Healy, Gregory <GHealy@semprautilities.com>; Mortazavi, Setareh <SMortazavi@semprautilities.com>		8/24/2016 12:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
591		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
592		Van de Putte, Todd <tvandepu@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			8/29/2016 10:15	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
593		Bill Whitney/Blade <BWhitney@blade-energy.com>	Bill Whitney/Blade <BWhitney@blade-energy.com>; Jim.LaGrone@boots-coots.com; Andrews, Larry J <LAndrews@semprautilities.com>; Nigel Alvares/Blade <NAlvares@blade-energy.com>; Randall L Rudolf/Blade <rrudolf@blade-energy.com>; Rolando.Gomez@boots-coots.com; Van de Putte, Todd <TVandePutte@semprautilities.com>; Aliso Canyon IDT ConfRoom 972-712-8400/Corporate <Aliso_Canyon_IDT_ConfRoom_972-712-8400/Corporate@mail.blade-energy.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Ravi Krishnamurthy/Blade <ravimk@blade-energy.com>		8/29/2016 11:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

594		Tracy, Jill <JTracy@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
595						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
596		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
597						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
598		Unspecified Sender	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/1/2016 13:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
599						9/1/2016 13:54	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

600		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
601						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
602						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
603						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
604						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

605						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
606		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
607						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
608						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
609						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
610						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

611						9/1/2016 15:38	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
612		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
613						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
614						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
615						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

616						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
617						9/1/2016 15:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
618		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
619						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
620						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

621						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
622		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
623						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
624						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
625						9/1/2016 15:40	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

626		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
627						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
628						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
629						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
630		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

631						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
632						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
633						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
634		La Fevers, Glenn <GLaFevers@sempraut ilities.com>	Van de Putte, Todd <TVandePutte@semprautilitie s.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautiliti es.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
635						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

636						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
637						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
638		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
639						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
640						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

641						9/1/2016 15:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
642		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
643						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
644						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
645		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Tracy, Jill <JTracy@semprautilities.com>		9/1/2016 15:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

646						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
647						9/1/2016 15:42	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
648		Orellana, Jennifer <jorella2@enova.com>	Orellana,Jennifer <JOrellana2@semprautilities.com>; Schwecke,Rodger <RSchwecke@semprautilities.com>; Tracy,Jill <JTracy@semprautilities.com>; Navin,Neil <NNavin@semprautilities.com>; La Fevers,Glenn <GLaFevers@semprautilities.com>; Van de Putte,Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/2/2016 3:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
649		Tracy, Jill <jtracy@enova.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer <JOrellana2@sempra utilities.com>		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

650		Unspecified Sender	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Orellana, Jennifer (JOrellana2@semprautilities.com)		9/2/2016 9:43	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
651		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:09	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
652		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
653		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
654		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
655		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
656		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>			9/2/2016 10:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

657		Orellana, Jennifer <JOrellana2@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>			9/2/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
658		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
659		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
660		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

661		Orellana, Jennifer <jorella2@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/2/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
662		JTracy@semprautilities.com	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
663		Tracy, Jill <jtracy@enova.com>	Orellana, Jennifer <JOrellana2@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/2/2016 11:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

664		Tracy, Jill <JTracy@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
665						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Work Product
666		Tracy, Jill <jtracy@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
667						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
668		Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>			9/6/2016 10:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

669						9/6/2016 10:35	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
670		Navin, Neil <NNavin@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
671		Van de Putte, Todd <tvandepu@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
672		Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
673		Van de Putte, Todd <TVandePutte@sempra utilities.com>	Tracy, Jill <JTracy@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

674		La Fevers, Glenn <GLaFevers@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
675		La Fevers, Glenn <glafever@enova.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
676		Unspecified Sender	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>			9/6/2016 10:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
677		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando.Gomez@boots-coots.com			9/11/2016 16:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
678		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 18:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
679		GLaFevers@semprautilities.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
680		La Fevers, Glenn <glafever@enova.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/11/2016 19:17	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
681		Jim LaGrone <Jim.LaGrone@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			9/12/2016 5:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
682		GLaFevers@semprautilities.com	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

683		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/12/2016 6:10	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
684		La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)	Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>		9/12/2016 6:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
685						9/12/2016 6:57	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
686	AC_CPUC_0186107	Unspecified Sender	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
687	AC_CPUC_0186437	La Fevers, Glenn <glafever@enova.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

688	AC_CPUC_0186327	La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 7:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
689	AC_CPUC_0186547	Unspecified Sender	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
690						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
691	AC_CPUC_0186659	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
692						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
693	AC_CPUC_0186661	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/12/2016 10:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

694						9/12/2016 10:59	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
695		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
696		La Fevers, Glenn <GLaFevers@semprautilities.com>	Hamze, Firas <FHamze@semprautilities.com>			9/12/2016 14:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
697						9/12/2016 14:16	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
698		Hamze, Firas <tpfhh@enova.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>			9/12/2016 14:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
699		La Fevers, Glenn <glafever@enova.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolly Gomez (rgomez@boots-coots.com)			9/20/2016 10:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
700		Rolando Gomez <Rolando.Gomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 11:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
701		La Fevers, Glenn <glafever@enova.com>	'Rolando Gomez' <Rolando.Gomez@boots-coots.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>		9/20/2016 12:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

702		La Fevers, Glenn <glafever@enova.com>	Rolly Gomez (rgomez@boots-coots.com); Jim LaGrone <Jim.LaGrone@boots-coots.com>; timmy.ludeman@weatherford.com			9/23/2016 7:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
703						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
704						9/23/2016 7:18	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
705		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:21	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
706						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
707						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
708						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
709						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
710						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
711						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
712						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

713						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
714						9/23/2016 7:21	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
715						9/23/2016 7:21	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
716		La Fevers, Glenn <glafever@enova.com>	'Rolly Gomez (rgomez@boots-coots.com)'; 'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; 'timmy.ludeman@weatherford.com'			9/23/2016 7:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
717						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
718						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
719						9/23/2016 7:22	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
720	AC_CPUC_0187359	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/26/2016 15:14	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

721	AC_CPUC_0187371	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
722						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
723	AC_CPUC_0187375	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy,Jill; Navin,Neil; Dentici,Roberto; Van de Putte,Todd; McMahon,Thomas D.; Jim.LaGrone@boots-coots.com; Rolly Gomez; Hamze,Firas; Andrews,Larry J	Schwecke,Rodger; La Fevers,Glenn		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
724						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

725	AC_CPUC_0187365	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
726						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
727	AC_CPUC_0187373	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 16:04	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
728						9/27/2016 16:04	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

729	AC_CPUC_0187381	Jim LaGrone <Jim.LaGrone@boots-coots.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/27/2016 18:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
730	AC_CPUC_0187448	Van de Putte, Todd <TVandePutte@semprautilities.com>	'Jim LaGrone' <Jim.LaGrone@boots-coots.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/28/2016 8:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
731		Jim LaGrone <Jim.LaGrone@boots-coots.com>	Dentici, Roberto <RDentici@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		9/28/2016 18:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

732	AC_CPUC_0187459	Dentici, Roberto <719373e031c64d8596e05b6c846ac744-dentici, roberto@enova.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
733	AC_CPUC_0187462	Dentici, Roberto <RDentici@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/29/2016 15:31	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

734	AC_CPUC_0187477	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
735	AC_CPUC_0187473	Unspecified Sender	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

736	AC_CPUC_0187485	Tracy, Jill <JTracy@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
737	AC_CPUC_0187500	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

738	AC_CPUC_0187503	JTracy@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 7:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
739	AC_CPUC_0187512	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

740	AC_CPUC_0187516	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
741	AC_CPUC_0187519	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

742	AC_CPUC_0187522	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 8:02	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
743	AC_CPUC_0187546	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
744						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

745	AC_CPUC_0187550	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
746						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
747	AC_CPUC_0187543	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
748						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

749	AC_CPUC_0187553	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 15:23	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
750						9/30/2016 15:23	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
751	AC_CPUC_0187604	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

752	AC_CPUC_0187614	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		9/30/2016 19:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
753		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
754						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
755		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

756		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
757		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
758						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

759		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
760		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
761						10/6/2016 9:25	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
762		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

763						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
764						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
765		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
766		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
767						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

768						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
769						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
770						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
771						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
772						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

773						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
774						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
775						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
776						10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
777		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

778		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
779		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
780		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
781		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

782						10/6/2016 9:25	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
783		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
784						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
785		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	mdonovan@capstonefire.com	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; pwilliams@capstonefire.com		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

786		Rodriguez, Sonia <srodrig3@enova.com>	Lawler, Alexandra G <AGLawler@sempra.com>	Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Tanenbaum, Jeffrey <jtanenbaum@nixonpeabody.com>; Wagher, Ed <EWagher@semprautilities.com>; Salazar, Jeff <JLSalazar@semprautilities.com>; Buczkowski, David L <DBuczkowski@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
787		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
788						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

789		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
790		Rodriguez, Sonia <SRodriguez3@sempra utilities.com>	Robert Salgado <rsalgado@dir.ca.gov>	Kerns, Barry <BKerns@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>; Lane, Bret <JLane@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Schwecke, Rodger <RSchwecke@sempr autilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
791						10/6/2016 9:28	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
792		Rodriguez, Sonia <srodrig3@enova.com>	Kerns, Barry <BKerns@semprautilities.com>; Wagher, Ed <EWagher@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

793						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
794						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
795		Schwecke, Rodger <RSchwecke@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	Ibay, Isaac <IIbay@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
796		Salazar, Jeff <JLSalazar@semprautilities.com>	Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Efron, Mary Ann@DIR <MEfron@dir.ca.gov>; Schwecke, Rodger <RSchwecke@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Ibay, Isaac <IIbay@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
797						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

798						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
799						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
800						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
801						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
802						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

803						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
804						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
805						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
806						10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
807		Cho, Jimmie I <JCho@semprautilities.com>	Kerns, Barry <BKerns@semprautilities.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

808		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>	jim.lagrone@boots-coots.com; mbagget@boots-coots.com; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
809		Kerns, Barry <BKerns@semprautilities.com>	Mike Baggett <mbaggett@boots-coots.com>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Salgado, Robert@DIR <RSalgado@dir.ca.gov>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Cho, Jimmie I <JCho@semprautilities.com>; Snyder, Hal <HSnyder@semprautilities.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
810		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Michael Donovan <mdonovan@capstonefire.com>	mbaggett@boots-coots.com; Rodriguez, Sonia <SRodriguez3@semprautilities.com>; Kerns, Barry <BKerns@semprautilities.com>; Cho, Jimmie I <JCho@semprautilities.com>; Patrick Williams <pwilliams@capstonefire.com>		10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
811		Salgado, Robert@DIR <RSalgado@dir.ca.gov>	Rodriguez, Sonia <SRodriguez3@semprautilities.com>			10/6/2016 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

812						10/6/2016 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
813	AC_CPUC_0187632	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
814	AC_CPUC_0187618	JTracy@semprautilities.com	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

815	AC_CPUC_0187660	Tracy, Jill <jtracy@enova.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
816	AC_CPUC_0187646	Tracy, Jill <JTracy@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Petrizzo, Hilary E <HPetrizzo@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 19:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

817	AC_CPUC_0187687	Unspecified Sender	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
818	AC_CPUC_0187697	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 20:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

819	AC_CPUC_0187704	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

820	AC_CPUC_0187712	Tracy, Jill <JTracy@semprautilities.com>	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>; Schwecke, Rodger <RSchwecke@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>		10/6/2016 21:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
821	AC_CPUC_0187790	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:53	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

822	AC_CPUC_0187797	Petrizzo, Hilary E <HPetrizzo@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
823	AC_CPUC_0187801	Petrizzo, Hilary E <7957911c867c4a23bf65558f32762b9f-petrizzo, hilary e@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Tracy, Jill <JTracy@semprautilities.com>; Navin, Neil <NNavin@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Hamze, Firas <FHamze@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Jim.LaGrone@boots-coots.com; Rolly Gomez <rgomez@boots-coots.com>	La Fevers, Glenn <GLaFevers@semprautilities.com>		10/11/2016 8:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
824		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>			12/5/2016 7:55	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
825	AC_CPUC_0188174	Van de Putte, Todd <tvandepu@enova.com>	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

826		Unspecified Sender	jgarner@boots-coots.com			1/30/2017 11:30	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
827						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
828						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
829						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
830						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
831						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

832						1/30/2017 11:30	Spreadsheet sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
833						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
834						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
835						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
836						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
837						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product

838						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
839						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
840						1/30/2017 11:30	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege; Attorney Work Product
841	AC_CPUC_0188214	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			1/31/2017 15:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
842		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/1/2017 7:27	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
843	AC_CPUC_0188216	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/1/2017 8:22	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
844		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/13/2017 10:37	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

845						2/13/2017 10:37	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
846		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
847		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/13/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
848		McMahon, Thomas D. <TMcMahon@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>	John Garner <Jgarner@boots-coots.com>		2/13/2017 19:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
849		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/15/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

850		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/15/2017 11:38	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
851		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/15/2017 11:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
852		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:45	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
853		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/17/2017 21:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
854						2/17/2017 21:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

855	AC_CPUC_0188320	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/20/2017 20:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
856		Van de Putte, Todd <tvandepu@enova.com>	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
857						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
858						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
859						2/21/2017 15:00	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

860		Unspecified Sender	McMahon, Thomas D. <TMcMahon@semprautilities.com>; John Garner <Jgarner@boots-coots.com>			2/21/2017 15:00	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
861		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
862						2/21/2017 17:07	Powerpoint sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
863		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			2/21/2017 17:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
864		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 10:07	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

865		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
866		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/22/2017 13:25	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
867		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/22/2017 14:06	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
868	AC_CPUC_0188467	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 11:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
869	AC_CPUC_0188469	Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

870		Unspecified Sender	John Garner <Jgarner@boots-coots.com>			2/24/2017 13:03	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
871	AC_CPUC_0188471	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			2/24/2017 13:34	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
872		Unspecified Sender	John Garner <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
873						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
874						3/2/2017 10:32	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

875		Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>			3/2/2017 10:33	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
876						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
877						3/2/2017 10:33	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
878		Van de Putte, Todd <tvandepu@enova.com>	John Garner <Jgarner@boots-coots.com>			3/3/2017 9:28	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
879						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

880						3/3/2017 9:28	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
881		John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/3/2017 11:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
882		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:26	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
883		Van de Putte, Todd <tvandepu@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 9:32	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
884		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>	Jim LaGrone <Jim.LaGrone@boots-coots.com>; Rolando Gomez <Rolando.Gomez@boots-coots.com>		3/6/2017 10:05	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
885		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Jim LaGrone <Jim.LaGrone@boots-coots.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; Rick Gentges <rgentges@rcp.com>; Elaine Froneberger <EFroneberger@rcp.com>; McMahon, Thomas D. <TMcMahon@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>		3/13/2017 9:08	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

886						3/13/2017 9:08	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
887		Jim LaGrone <Jim.LaGrone@boots-coots.com>	ndodoo@semprautiliteis.com	Rolando Gomez <Rolando.Gomez@boots-coots.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>; John Garner <Jgarner@boots-coots.com>		3/15/2017 12:51	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
888						3/15/2017 12:51	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
889	AC_CPUC_0188480	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/17/2017 13:42	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
890	AC_CPUC_0188483	Van de Putte, Todd <tvandepu@enova.com>	'John Garner' <Jgarner@boots-coots.com>			3/20/2017 8:12	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
891	AC_CPUC_0188486	John Garner <Jgarner@boots-coots.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>			3/20/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
892		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Van de Putte, Todd <TVandePutte@semprautilities.com>; Kitson, Amy <AKitson@semprautilities.com>		5/2/2017 11:49	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

893		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Jim.LaGrone@boots-coots.com; Rolando.Gomez@boots-coots.com	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>; Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/3/2017 8:24	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
894		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
895		Dodoo, Nii Amoo <dnamoo@enova.com>	Kitson, Amy <AKitson@semprautilities.com>; Van de Putte, Todd <TVandePutte@semprautilities.com>			5/3/2017 8:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
896		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>			5/11/2017 7:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
897		Kitson, Amy <awahl@enova.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
898		Kitson, Amy <AKitson@semprautilities.com>	Navin, Neil <NNavin@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:40	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
899		Navin, Neil <nnavin@enova.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
900		Navin, Neil <NNavin@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		5/11/2017 13:44	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
901		Unspecified Sender	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/11/2017 13:50	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

902		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/11/2017 14:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
903		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 12:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
904		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:29	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
905		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>		5/12/2017 13:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
906		Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>; Tran, Johnny Q <JQTran@semprautilities.com>	Kitson, Amy <AKitson@semprautilities.com>; Lotterman, Thomas R. <thomas.lotterman@morganlewis.com>		5/22/2017 6:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
907		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			5/26/2017 8:58	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
908		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 8:59	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
909		Cerrillos, Jorge <tpjsc@enova.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>			5/26/2017 9:01	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
910		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
911		JCerrillos@semprautilities.com	Miguel Munoz <mmunoz@boots-coots.com>			6/1/2017 18:54	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
912		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			6/1/2017 18:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

913		Cerrillos, Jorge <tpjsc@enova.com> - on behalf of - Egan, Jason W <jwegan@enova.com>	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
914		JCerrillos@semprautilities.com	mmunoz@boots-coots.com			6/1/2017 18:57	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
915		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	mmunoz@boots-coots.com	Cerrillos, Jorge <JCerrillos@semprautilities.com>		6/13/2017 8:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
916		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/11/2017 6:41	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
917						7/11/2017 6:41	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
918		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:39	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
919						7/12/2017 6:39	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
920		Miguel Munoz <mmunoz@boots-coots.com>	Cerrillos, Jorge <JCerrillos@semprautilities.com>			7/12/2017 6:46	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
921						7/12/2017 6:46	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
922		Cerrillos, Jorge <tpjsc@enova.com>	Miguel Munoz <mmunoz@boots-coots.com>	Dodoo, Nii Amoo <NDodoo@semprautilities.com>		7/13/2017 14:56	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
923						7/13/2017 14:56	Document sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

924		Dodoo, Nii Amoo <NDodoo@semprautilities.com>	Sharepoint <Sharepoint@semprautilities.com>; SempraHelp <SempraHelp@sempra.com>	Tran, Johnny Q <JQTran@semprautilities.com>; Cerrillos, Jorge <JCerrillos@semprautilities.com>; mmunoz@boots-coots.com		7/18/2017 6:36	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
925	AC_CPUC_0188530	Unspecified Sender	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/8/2017 22:16	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
926	AC_CPUC_0188539	McMahon, Thomas D. <TMcMahon@semprautilities.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
927	AC_CPUC_0188548	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>; Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>	Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; 'John Garner' <Jgarner@boots-coots.com>		9/8/2017 22:18	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

928	AC_CPUC_01 88557	Schwecke, Rodger <RSchwecke@sempra utilities.com>	McMahon, Thomas D. <TMcMahon@semprautilities. com>	Dentici, Roberto <RDentici@semprautil ities.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Clorfeine, Sabina B. <SClorfeine@sempra utilities.com>; Healy, Gregory <GHealy@semprautilit ies.com>; Andrews, Larry J <LAndrews@sempra utilities.com>; Smith, Christopher J <CSmith8@semprautil ities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEU Contractor.com>; John Garner <Jgarner@boots- coots.com>		9/9/2017 7:13	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
929	AC_CPUC_01 88558	McMahon, Thomas D. <TMcMahon@sempraut ilities.com>	Schwecke, Rodger <RSchwecke@semprautilities .com>	Dentici, Roberto <RDentici@semprautil ities.com>; La Fevers, Glenn <GLaFevers@sempra utilities.com>; Clorfeine, Sabina B. <SClorfeine@sempra utilities.com>; Healy, Gregory <GHealy@semprautilit ies.com>; Andrews, Larry J <LAndrews@sempra utilities.com>; Smith, Christopher J <CSmith8@semprautil ities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEU Contractor.com>; John Garner <Jgarner@boots- coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

930	AC_CPUC_0188560	McMahon, Thomas D. <tptdm@enova.com>	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege
931	AC_CPUC_0188562	TMcMahon@semprautilities.com	Schwecke, Rodger <RSchwecke@semprautilities.com>	Dentici, Roberto <RDentici@semprautilities.com>; La Fevers, Glenn <GLaFevers@semprautilities.com>; Clorfeine, Sabina B. <SClorfeine@semprautilities.com>; Healy, Gregory <GHealy@semprautilities.com>; Andrews, Larry J <LAndrews@semprautilities.com>; Smith, Christopher J <CSmith8@semprautilities.com>; BALDWIN, DONALD (Contractor) <DBALDWIN3@SEUContractor.com>; John Garner <Jgarner@boots-coots.com>		9/9/2017 7:35	Email and Attachments sent internally reflecting legal advice regarding company response to SS-25 leak.	Attorney Client Privilege

BLADE ENERGY PARTNERS

December 19th, 2018

Southern California Gas Company
555 W. 5th Street, GT21C3
Los Angeles, CA 90013

Attn: Mr. Glenn La Fevers
Subject: Follow-up Meeting to verify and confirm the Factual data provided for the RCA on SS25

Dear Mr. La Fevers:

Thank you for all the data already provided. We gleaned substantial amount of insight from our meeting on August 24th, 2018.

We have obtained some of the follow-up information and awaiting some additional data. However, based on our review we still have some open items around the condition of the well bore after October 24th, 2018, crater evolution during the kill attempts, fissures where the gas was escaping during the period of uncontrolled well flow. kill attempts and kill associated data.

We would like to propose a discussion at a location and time of your choice. The topics we would like to address during the meeting are as follows:

1. SS25 kill data and the evolution of gas leak during November 2015 to January 2016. Listed below are some of the topics on our list.
    a. Post Kill B annulus pressure measurements
    b. Observations recorded in the reports during kill attempts
    c. Anecdotal data regarding the formation of the South Crater and the behavior of the North Crater
    d. The condition of the 'B' annulus valve post failure.
    e. We have Boots and Coots data; we want to confirm that, along with ADD energy report, we have all the data from the kill attempts.
    f. IPR estimation for SS25.
    g. Data that we have already reviewed, and whether there are any other kill data that we have not analyzed.
    h. There are daily reports that mention modeling SS25 flow dynamics and also flow velocity estimates. Was kill modeling done prior to each kill attempt? If so, any results including input data?
    i. Are there any other anecdotal data regarding the effectiveness of the kill attempts, especially the last ones?
    j. Rationale for the tubing plug prior to some of the kill attempts.

2600 Network Boulevard, Suite 550 Frisco, TX 75034 • Telephone +1 972.712.8407 • Fax +1 972.712.8408

Above are some of the topics that we would like to discuss and confirm during our meeting. From Blade, Randy, Bill, Nigel, and Ismail will join me at the meeting. We will take notes during the meeting and if required follow up with additional data requests. We suggest Boots & Coots personnel who were onsite and were associated with planning and executing kill attempts join these discussions. Names that we have seen in the daily reports and may have knowledge include: Richard Hatteberg, Travis Martel, Jim Lagrone, Rolly Gomez, Danny Clayton, Bud Curtis and Juan Moran.

Please identify Boots and Coots team members that can address the items listed above. Like our previous discussion, we would suggest that regulatory affairs and legal abstain from attending this meeting. The intent is to have an informal discussion regarding data that has already been provided, and confirming and clarifying its completeness. We suggest that one working day (eight hours) is allocated for this meeting. We could have the meeting either in Houston or in Los Angeles.

Please respond by January 9th, with a convenient date and time for the meeting. We would prefer to have the meeting no later than January 30th, 2019.

Thank you,

Best Regards,

Ravi Krishnamurthy, Blade Energy Partners

Lezcano, Margarita

From: Dragna, James J. <jim.dragna@morganlewis.com>
Sent: Tuesday, January 08, 2019 10:45 AM
To: Michael Helsley
Cc: Gruen, Darryl; Sher, Nicholas; ravimk@blade-energy.com; Sabina Clorfeine (sclorfeine@semprautilities.com); Stoddard, F. Jackson
Subject: RE: Aliso Canyon

Thank you Michael.

James J. Dragna
Morgan, Lewis & Bockius LLP
300 South Grand Avenue, Twenty-Second Floor | Los Angeles, CA 90071-3132
Direct: +1.213.680.6436 | Main: +1.213.612.2500 | Fax: +1.213.612.2501
jim.dragna@morganlewis.com | www.morganlewis.com
Assistant: Diane Abeyta | +1.213.680.6601 | diane.abeyta@morganlewis.com

---

From: Michael Helsley <mhelsley@wjhattorneys.com>
Date: Tuesday, Jan 08, 2019, 1:41 PM
To: Dragna, James J. <jim.dragna@morganlewis.com>
Cc: darryl.gruen@cpuc.ca.gov <darryl.gruen@cpuc.ca.gov>, nicholas.sher@cpuc.ca.gov <nicholas.sher@cpuc.ca.gov>, ravimk@blade-energy.com <ravimk@blade-energy.com>, Sabina Clorfeine (sclorfeine@semprautilities.com) <sclorfeine@semprautilities.com>, Stoddard, F. Jackson <fjackson.stoddard@morganlewis.com>
Subject: RE: Aliso Canyon

[EXTERNAL EMAIL]
Jim – I forwarded your request to Boots & Coots and will get back to you.

Thanks,

Michael S. Helsley, Esq.
WANGER JONES HELSLEY PC
265 E. River Park Circle
Suite 310
Fresno, California 93720
Phone: (559) 233-4800, Ext. 127
Fax: (559) 233-9330
Website: www.wjhattorneys.com

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purpose of (i) avoiding penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

From: Dragna, James J. [mailto:jim.dragna@morganlewis.com]
Sent: Monday, January 07, 2019 12:20 PM
To: Michael Helsley <mhelsley@wjhattorneys.com>
Cc: darryl.gruen@cpuc.ca.gov; nicholas.sher@cpuc.ca.gov; ravimk@blade-energy.com; Sabina Clorfeine (sclorfeine@semprautilities.com) <sclorfeine@semprautilities.com>; Stoddard, F. Jackson <fjackson.stoddard@morganlewis.com>
Subject: Aliso Canyon

Michael:

SoCalGas has received the attached letter from Blade Energy Partners (Blade). As you may recall, Blade is the engineering firm conducting the independent Root Cause Analysis of the 2015 leak at Aliso Canyon at the direction of the Division of Oil, Gas and Geothermal Resources ("DOGGR") and the California Public Utilities Commission ("CPUC"). In the letter, Blade requests SoCalGas to set up a meeting between Blade and Boots and Coots related to their investigation. We have advised Blade and the CPUC that Halliburton and its subdivision Boots & Coots is an independent entity and that SoCalGas cannot compel them to meet with Blade. SoCalGas has cooperated with Blade's investigation however, and we would encourage Boots & Coots to cooperate with Blade's investigation as well, just as Boots & Coots has cooperated with the CPUC's ongoing investigation. Please convey Blade's request for the meeting to Boots & Coots as well as SoCalGas' appreciation of their continued cooperation. If there is anything that SoCalGas can do to help facilitate the meeting please let me know.

Thank you

Jim

James J. Dragna
Morgan, Lewis & Bockius LLP
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Direct: +1.213.680.6436 | Main: +1.213.612.2500 | Fax: +1.213.612.2501
jim.dragna@morganlewis.com | www.morganlewis.com
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Lezcano, Margarita

From: Clorfeine, Sabina B. <SClorfeine@semprautilities.com>
Sent: Thursday, February 28, 2019 3:10 PM
To: Gruen, Darryl; Sher, Nicholas
Subject: FW: Sent on Behalf of Jim Dragna re Aliso Canyon
Attachments: Correspondence with SoCalGas Regarding Failure to Produce Boots and Coot....pdf

Darryl and Nicholas,

I wanted to pass this along for your information.

Regards,

Sabina

From: Abeyta, Diane <diane.abeyta@morganlewis.com>
Sent: Friday, February 22, 2019 2:56 PM
To: Michael Helsley <mhelsley@wjhattorneys.com>
Cc: Dragna, James J. <jim.dragna@morganlewis.com>
Subject: Sent on Behalf of Jim Dragna re Aliso Canyon

Michael,

In light of the attached letter from the California Public Utilities Commission (CPUC), SoCalGas is restating its prior request and, per the CPUC's direction, is directly asking Halliburton to produce Boots & Coots personnel to answer Blade's questions related to the Root Cause Analysis (RCA) investigation. While SoCalGas appreciates that Boots & Coots personnel traveled to San Francisco for interviews with the CPUC's Safety and Enforcement Division in August, Blade's RCA investigation is independent of SED's.

Please do not hesitate to call if you have any questions or would like to discuss.

Regards,
Jim

James J. Dragna
Morgan, Lewis & Bockius LLP
300 South Grand Avenue, Twenty-Second Floor | Los Angeles, CA 90071-3132
Direct: +1.213.680.6436 | Main: +1.213.612.2500 | Fax: +1.213.612.2501
jim.dragna@morganlewis.com | www.morganlewis.com
Assistant: Diane Abeyta | +1.213.680.6601 | diane.abeyta@morganlewis.com

---

From: Belinda Ordway <bordway@wjhattorneys.com>
Date: Friday, Jan 25, 2019, 12:08 PM
To: Dragna, James J. <jim.dragna@morganlewis.com>
Cc: Timothy Jones <tjones@wjhattorneys.com>
Subject: Aliso Canyon

[EXTERNAL EMAIL]
Good morning,

Per Mr. Jones' instructions, please see attached letter. Should you have any questions, please contact Mr. Jones directly at the below number.

Belinda Ordway, Legal Assistant to:
Timothy Jones
John P. Kinsey
Nicolas R. Cardella
Calendar Clerk
WANGER JONES HELSLEY PC
265 E. River Park Circle, Suite 310
Fresno, California 93720
Phone: (559) 233-4800, Ext. 268 / Fax: (559) 233-9330
Website: www.wjhattorneys.com

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WANGER JONES HELSLEY PC
ATTORNEYS

OLIVER W. WANGER
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MICHAEL S. HELSLEY
PATRICK D. TOOLE
SCOTT D. LAIRD
JOHN P. KINSEY
KURT F. VOTE
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YLAN H. NGUYEN
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WJH

OFFICE ADMINISTRATOR
LYNN M. HOFFMAN

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January 24, 2019

VIA EMAIL jim.dragna@morganlewis.com & U.S. MAIL

James J. Dragna
MORGAN LEWIS & BOCKIUS LLP
300 South Grand Avenue, 22nd Floor
Los Angeles, CA 90071-3132

Re: Aliso Canyon

Dear Mr. Dragna:

Michael Helsley of my office forwarded your e-mail to me and the letter from Blade Energy Partners ("Blade"). As you know, Boots and Coots has been cooperative with the California Public Utilities Commission with respect to the investigation including taking employees to interviews in California at the CPUC to provide testimony in its investigation. Additionally, Boots and Coots has provided a number of documents responded to questions and provided a multitude of information related to its work at Aliso Canyon to California agencies and Southern California Gas.

After reviewing the further request for information and interviews from Blade, my client believes that it has provided all of the relevant information related to the Blade inquiry as mentioned above. At this juncture, my client believes it has provided all of the information necessary for Blade to answer the questions it has submitted. Some of the questions appear to simply be seeking opinions from our client which we would not allow in any event. Lastly, most of the employees that would have been directly involved in the work that was done on the project are no longer employed by Halliburton and thus Halliburton would have no ability to control or produce them in any particular place or time.

Based on the above, my client is not willing to provide any further information as requested by Blade in its letter. If you wish to discuss the matter further, please do not hesitate either me or Michael Helsley.

Very truly yours,

Timothy Jones

TJ/aar

SOUTHERN CALIFORNIA GAS COMPANY
CPUC-SAFETY AND ENFORCEMENT DIVISION
DATA REQUEST DATED AUGUST 9, 2018

SOCALGAS RESPONSE DATED AUGUST 14, 2018

SoCalGas provides the following responses to the California Public Utilities Commission–Safety and Enforcement Division's August 9, 2018 request for information. These responses are based upon the best available non-privileged information known at this time, especially given the expedited nature of this response, and are subject to change and/or supplementation as SoCalGas' investigation continues, and additional information becomes available.

Data Request 23, Question 1a:

1. With regards to the Examinations Under Oath that the Safety and Enforcement Division has conducted Examinations Under Oath (EUO) of employees of Southern California Gas Company, including but not limited to the counsel and subpoenaed personnel who attended the Aliso Canyon Examinations Under Oath, related to the pre-formal investigation of the October 23, 2015 incident at Aliso Canyon storage facility, please answer the following:

> a. Have any personnel representing or working for Southern California Gas company disclosed to others who do not work for Southern California Gas Company anything that would reveal that SED is conducting these EUO's?

Objections and Response to Data Request 23, Question 1a:

SoCalGas objects to this Request as vague and ambiguous, overly broad, unduly burdensome, and irrelevant to SED's investigation into the incident at the Aliso Canyon facility. SoCalGas further objects to the extent that this Request seeks communications or information covered by the attorney-client privilege, spousal privilege, and attorney work product doctrine. SoCalGas further objects to this Request to the extent that it fails to specify a time period for which SED seeks responsive information. SoCalGas further objects to the phrasing of this Request based on SED's definition of "Personnel." SED defines "Personnel" to include not only SoCalGas employees, but also "attorneys, outside counsel, and others who represent Southern California Gas Company." Based on this definition, SED's Request apparently calls for communications that SoCalGas cannot reasonably ascertain. For example, this Request may capture an unknown number of conversations that SoCalGas' outside counsel may have had with one-another, an unknown number of communications that employees of SoCalGas' third party contractors may have had internally, and communications that SoCalGas counsel may have had to facilitate contact information and outreach. SoCalGas further objects to this Request to the extent that it uses the term "anything" as it is vague and ambiguous in this context. SoCalGas further objects to this Request to the extent that it fails to define the terms "disclosed," and "reveal." SED's use of these terms tend to suggest that SED had an expectation for SoCalGas to maintain confidentiality over the mere fact that SED was conducting Examinations Under Oath ("EUO") in connection with the Aliso Canyon incident. However, SoCalGas has never understood this to be SED's intention. Indeed, on several occasions, SED asked SoCalGas to contact third party

contractor personnel, former employees and other legally represented parties in furtherance of SED's efforts to schedule EUOs with those parties in San Francisco. Consistent with SED's instructions, SoCalGas did so on numerous occasions. Similarly, SED has issued thirteen (13) subpoenas in which SED has sought the appearance and testimony—under oath—of current and former SoCalGas employees and third party personnel. SoCalGas understands that these subpoenas are part of the public record. Further, SED publicly disclosed that it was conducting interviews of witnesses in order to investigate the Aliso Canyon incident as early as December 2015. Additionally, SED recently publicly disclosed that it was conducting EUOs in connection with the Aliso Canyon incident, as reflected in its July 11, 2018 public version of the letter to SoCalGas' Chief Operating Officer, Bret Lane. The CPUC published this letter to the Commission's website on or around July 11, 2018 and, as of the date of SoCalGas' Response to this Request, is still publicly available.

Consistent with and without waiving the Objections identified above, based on the information currently available to it, SoCalGas does not believe that it has "disclosed" or "revealed" any confidential information that it was prohibited from disclosing about the EUOs that SED has conducted in connection with its investigation into the Aliso Canyon Incident.

SoCalGas interprets this Request as seeking information regarding communications that SoCalGas employees have had with persons unaffiliated with SoCalGas regarding SED's Aliso Canyon-related EUOs, notwithstanding the fact that SED had either: (1) asked SoCalGas to make certain communications with non-SoCalGas personnel in furtherance of scheduling and facilitating EUOs, or (2) made the public aware of such EUOs by issuing subpoenas and publishing a letter on the CPUC's website that otherwise disclose that such EUOs were taking place. With this understanding, and excluding conversations that counsel for SoCalGas has had with their client, and excluding conversations with third party contractors in support of SED's requests to facilitate EUOs with third party personnel in San Francisco, or any other request to facilitate the attendance of witnesses requested by SED, SoCalGas responds further that counsel for SoCalGas had conversations with counsel representing the Pacific Gas and Electric Company and counsel representing Southern California Edison Company regarding legal principles related to the attendance of counsel at EUOs.

Data Request 23, Question 1b:

b. If the answer to question 1a is yes, please fill out the attached log and follow the following instructions:

1. Under the column heading "Date of Communication", please provide an entry with the date of each communication where SoCalGas revealed such facts. If there was more than one communication for a given date, please ensure there is an entry for each communication. For example, if there were three such communications on August 1st , 2018, there should be three entries on August 1st, 2018.

2. Under the column heading "Content of Communication", please provide an entry describing in detailed fashion the content of the communication. The

expectation is that as much detail as is possible of the communication be included, with the end result being as close a reflection of the actual conversation as possible.

3. Under the column heading, "Southern California Gas personnel and representatives", please include each individual representing Southern California Gas company who was present for and observed the conversation. Please note that this includes individuals who said nothing during a conversation, but still observed.

4. Under the column heading, "Non-Southern California Gas Company members participating in communication", please include each individual who was not Southern California Gas company personnel, or did not represent Southern California Gas Company who was present for and observed the conversation. Please note that this includes individuals who said nothing during a conversation, but still observed.

5. Under the column heading, "Form of communication", please identify whether the communication occurred via email, phone call, in person, or some other method of communication. If the communication occurred via email, please provide each email. If notes were taken related to the communication, please say so in this column, and provide all such notes.

Objections and Response to Data Request 23, Question 1b:

SoCalGas incorporates by reference its Objections to SED DR 23, Question 1a. SoCalGas Responds to Question 1b as follows: please see SoCalGas' Response to DR 23, Question 1a.

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

February 21, 2019

Mr. Bret Lane
Chief Executive Officer
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013

SUBJECT: Second Memorialization of Southern California Gas Company's (SoCalGas) Failure to Cooperate with Safety and Enforcement Division's (SED) Preliminary Investigation

Dear Mr. Lane:

I am writing regarding Blade Energy Partners' (Blade)[1] request to interview multiple individuals employed by Boots & Coots[2], Southern California Gas Company's (SoCalGas) contractor and agent responsible for multiple well kill attempts of SS-25. I am concerned to learn that Boots & Coots has refused to answer these requests.

In an email to Halliburton's attorney, who represents Boots & Coots, SoCalGas stated that it "would encourage Boots & Coots to cooperate with Blade's investigation." However, Boots & Coots has responded that, "Boots & Coots has been cooperative with the California Public Utilities Commission with respect to the investigation. . .," and then states in the same letter, "my client is not willing to provide any further information as requested by Blade in its letter."

The Commission's Safety Enforcement Division disagrees that Boots & Coots is being cooperative with SED's investigation; refusing to provide the specific information requested by Blade is not cooperation.

Moreover, the correspondence from SoCalGas to Halliburton is deficient. SoCalGas' act of generally encouraging Halliburton to cooperate with Blade's investigation is not the same thing as directly asking Halliburton to produce those individuals Blade requests and answering

[1] Blade is the engineering firm conducting the independent Root Cause Analysis of the 2015 leak at Aliso Canyon at the direction of the California Public Utilities Commission's Safety and Enforcement Division and the Division of Oil, Gas and Geothermal Resources

[2] A subsidiary of Halliburton Company (Halliburton).

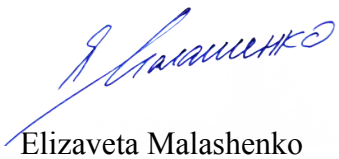
questions Blade has as part of the Root Cause Analysis (RCA). This much is apparent because of Boots & Coots' posture that it can cooperate and refuse to provide additional information at the same time. Part of my concern is that SED needs to write this letter, and point out this deficiency to SoCalGas, rather than SoCalGas taking the appropriate initiative to ensure that Halliburton and Boots & Coots provide Blade with information necessary to timely and properly complete Blade's Root Cause Analysis (RCA).

Blade's RCA is part of the Commission's, and Division of Oil, Gas, and Geothermal Resources's (DOGGR) investigations, and Blade is performing its RCA work at the direction of the Commission and DOGGR. It remains our position that SoCalGas and its contractors both have the same duty to comply with the Public Utilities code provisions authorizing the Commission to do discovery. In this role, Blade's discovery rights apply to both SoCalGas' employees and its contractors. Failure to appropriately respond to discovery may result in sanctions.

It is unfortunate that I need to memorialize a second instance in which SoCalGas has failed to cooperate with the Commission's investigation into the largest natural gas leak in California's history. This most recent lack of cooperation may impair Blade's ability to deliver a complete RCA in a timely fashion.

The timely and complete cooperation of SoCalGas and its contractors, Halliburton, and Boots & Coots, with Blade's requests is imperative to Blades' ability to complete its RCA of the largest natural gas leak in California's history.[3] Therefore, pursuant to California Public Utilities Code Sections 311, 314, 315, 316, 451, 581, 582, 701 and 702, we direct SoCalGas to make certain that Blade's requests are responded to in a timely and complete manner.

Sincerely,



Elizaveta Malashenko
Deputy Executive Director
Safety and Enforcement Policy
California Public Utilities Commission

[3] Not to mention said cooperation comporting with the broad discovery rights the Commission has over SoCalGas and its contractors.

SOUTHERN CALIFORNIA GAS COMPANY
CPUC-SAFETY AND ENFORCEMENT DIVISION
DATA REQUEST DATED AUGUST 9, 2018

SOCALGAS RESPONSE DATED AUGUST 14, 2018

SoCalGas provides the following responses to the California Public Utilities Commission–Safety and Enforcement Division's August 9, 2018 request for information. These responses are based upon the best available non-privileged information known at this time, especially given the expedited nature of this response, and are subject to change and/or supplementation as SoCalGas' investigation continues, and additional information becomes available.

Data Request 23, Question 1a:

1. With regards to the Examinations Under Oath that the Safety and Enforcement Division has conducted Examinations Under Oath (EUO) of employees of Southern California Gas Company, including but not limited to the counsel and subpoenaed personnel who attended the Aliso Canyon Examinations Under Oath, related to the pre-formal investigation of the October 23, 2015 incident at Aliso Canyon storage facility, please answer the following:

> a. Have any personnel representing or working for Southern California Gas company disclosed to others who do not work for Southern California Gas Company anything that would reveal that SED is conducting these EUO's?

Objections and Response to Data Request 23, Question 1a:

SoCalGas objects to this Request as vague and ambiguous, overly broad, unduly burdensome, and irrelevant to SED's investigation into the incident at the Aliso Canyon facility. SoCalGas further objects to the extent that this Request seeks communications or information covered by the attorney-client privilege, spousal privilege, and attorney work product doctrine. SoCalGas further objects to this Request to the extent that it fails to specify a time period for which SED seeks responsive information. SoCalGas further objects to the phrasing of this Request based on SED's definition of "Personnel." SED defines "Personnel" to include not only SoCalGas employees, but also "attorneys, outside counsel, and others who represent Southern California Gas Company." Based on this definition, SED's Request apparently calls for communications that SoCalGas cannot reasonably ascertain. For example, this Request may capture an unknown number of conversations that SoCalGas' outside counsel may have had with one-another, an unknown number of communications that employees of SoCalGas' third party contractors may have had internally, and communications that SoCalGas counsel may have had to facilitate contact information and outreach. SoCalGas further objects to this Request to the extent that it uses the term "anything" as it is vague and ambiguous in this context. SoCalGas further objects to this Request to the extent that it fails to define the terms "disclosed," and "reveal." SED's use of these terms tend to suggest that SED had an expectation for SoCalGas to maintain confidentiality over the mere fact that SED was conducting Examinations Under Oath ("EUO") in connection with the Aliso Canyon incident. However, SoCalGas has never understood this to be SED's intention. Indeed, on several occasions, SED asked SoCalGas to contact third party

contractor personnel, former employees and other legally represented parties in furtherance of SED's efforts to schedule EUOs with those parties in San Francisco. Consistent with SED's instructions, SoCalGas did so on numerous occasions. Similarly, SED has issued thirteen (13) subpoenas in which SED has sought the appearance and testimony—under oath—of current and former SoCalGas employees and third party personnel. SoCalGas understands that these subpoenas are part of the public record. Further, SED publicly disclosed that it was conducting interviews of witnesses in order to investigate the Aliso Canyon incident as early as December 2015. Additionally, SED recently publicly disclosed that it was conducting EUOs in connection with the Aliso Canyon incident, as reflected in its July 11, 2018 public version of the letter to SoCalGas' Chief Operating Officer, Bret Lane. The CPUC published this letter to the Commission's website on or around July 11, 2018 and, as of the date of SoCalGas' Response to this Request, is still publicly available.

Consistent with and without waiving the Objections identified above, based on the information currently available to it, SoCalGas does not believe that it has "disclosed" or "revealed" any confidential information that it was prohibited from disclosing about the EUOs that SED has conducted in connection with its investigation into the Aliso Canyon Incident.

SoCalGas interprets this Request as seeking information regarding communications that SoCalGas employees have had with persons unaffiliated with SoCalGas regarding SED's Aliso Canyon-related EUOs, notwithstanding the fact that SED had either: (1) asked SoCalGas to make certain communications with non-SoCalGas personnel in furtherance of scheduling and facilitating EUOs, or (2) made the public aware of such EUOs by issuing subpoenas and publishing a letter on the CPUC's website that otherwise disclose that such EUOs were taking place. With this understanding, and excluding conversations that counsel for SoCalGas has had with their client, and excluding conversations with third party contractors in support of SED's requests to facilitate EUOs with third party personnel in San Francisco, or any other request to facilitate the attendance of witnesses requested by SED, SoCalGas responds further that counsel for SoCalGas had conversations with counsel representing the Pacific Gas and Electric Company and counsel representing Southern California Edison Company regarding legal principles related to the attendance of counsel at EUOs.

Data Request 23, Question 1b:

b. If the answer to question 1a is yes, please fill out the attached log and follow the following instructions:

1. Under the column heading "Date of Communication", please provide an entry with the date of each communication where SoCalGas revealed such facts. If there was more than one communication for a given date, please ensure there is an entry for each communication. For example, if there were three such communications on August 1st , 2018, there should be three entries on August 1st, 2018.

2. Under the column heading "Content of Communication", please provide an entry describing in detailed fashion the content of the communication. The

expectation is that as much detail as is possible of the communication be included, with the end result being as close a reflection of the actual conversation as possible.

3. Under the column heading, "Southern California Gas personnel and representatives", please include each individual representing Southern California Gas company who was present for and observed the conversation. Please note that this includes individuals who said nothing during a conversation, but still observed.

4. Under the column heading, "Non-Southern California Gas Company members participating in communication", please include each individual who was not Southern California Gas company personnel, or did not represent Southern California Gas Company who was present for and observed the conversation. Please note that this includes individuals who said nothing during a conversation, but still observed.

5. Under the column heading, "Form of communication", please identify whether the communication occurred via email, phone call, in person, or some other method of communication. If the communication occurred via email, please provide each email. If notes were taken related to the communication, please say so in this column, and provide all such notes.

Objections and Response to Data Request 23, Question 1b:

SoCalGas incorporates by reference its Objections to SED DR 23, Question 1a. SoCalGas Responds to Question 1b as follows: please see SoCalGas' Response to DR 23, Question 1a.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.	))))))))

EXAMINATION UNDER OATH OF BRET LANE

REPORTER'S TRANSCRIPT
San Francisco, California
January 24, 2018
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Reported by: Thomas C. Brenneman, CSR No. 9554
Carol A. Mendez, CSR No. 4330
Karly Powers, CSR No. 13991
Jason Stacey, CSR No. 14092

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA
SAN FRANCISCO, CALIFORNIA

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

IN THE MATTER OF: SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.

Appearances: (Examination Under Oath, January 24, 2018)

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BE IT REMEMBERED THAT, by (Subpoena of the Witness), and on Wednesday, December 17, 2009, commencing at the hour of 10:02 a.m. thereof, at the offices of the CALIFORNIA PUBLIC UTILITIES COMMISSION, 505 Van Ness Avenue, Room 5012, San Francisco, California 94102, before Thomas C. Brenneman, CSR No. 9554, Carol A. Mendez, CSR No. 4330, Karly Powers, CSR No. 13991, and Jason Stacey, CSR No. 14092 personally appeared.

BRET LANE,

called as a witness herein, who, being duly sworn, was thereupon examined and interrogated as hereinafter set forth.

* * * * *

MR. GRUEN: Let's go on the record, please. So my name is Darryl Gruen, and I am staff counsel for the California Public Utilities Commission safety and enforcement Division.

I would ask just as a starter if we could go around the room and everybody could state their name and titles and who they are representing for the record please.

MR. LANE: Bret Lane, B-R-E-T L-A-N-E, and I'm with Southern California Gas, and I'm the chief operating officer.

MS. TOMKINS: I'm Sharon Tomkins, S-H-A-R-O-N, Tomkins, T-O-M-K-I-N-S. I'm the general counsel for Southern California Gas Company.

MR. DRAGNA: Jim Dragna, D-R-A-G-N-A,

with Morgan Lewis, L-E-W-I-S.

MR. SHER: Nicholas Sher. N-I-C-H-O-L-A-S. Last name, S-H-E-R, counsel for the Safety and enforcement Division.

MR. BRUNO: Kenneth Bruno, B-R-U-N-O. Program manager in the Safety and Enforcement Division of the California Public Utilities Commission.

MR. HOLTER: Randy Holter, H-O-L-T-E-R. Senior engineer utilities engineer specialist. Gas Safety and Reliability Branch, Safety Enforcement Division, California Public Utilities Commission.

EXAMINATION

BY MR. GRUEN:

Q Thank you, everyone. Okay. So just as a bit of background or context, rather, for this intro. This is an examination under oath. We may use the term, "EUO," which is referring to Examination Under Oath.

It's like a deposition except there is no underlying proceeding here. No underlying investigation or anything like that. We do not know where we are going to go with what we learn today. We are not in any formal proceeding, but we can use this information later in a formal proceeding if

we choose to do so. Do you understand that?

A Yes.

Q Okay. Excuse me. When members of the Safety and Enforcement Division team who -- including Mr. Sher, Bruno and Holter and myself ask questions today, it is important that you provide truthful and complete answers to them.

Please answer our questions directly. We may ask questions -- certain questions very broadly but please keep your answers directly responsive to the questions that we ask. Do you understand that?

A Yes.

Q Okay. If you do not understand a question that we ask, either because we have not articulated it well, or because we've phrased it poorly, please either ask us to repeat it or just say, "We do not understand the question." Please do not speculate or guess about what the question is. Do you understand?

A Yes.

Q Okay. Did you receive -- actually before we go further, if I could just ask, I probably should have done this at the outset. But if I could ask for one of the court reporters to ask for the out of stationer for

swearing in.

THE REPORTER: Do you solemnly affirm that the testimony you're about to give will be the truth, the whole truth, and nothing but the truth?

THE WITNESS: I do.

MR. GRUEN: Thank you.

BY MR. GRUEN:

Q All right. And with that understanding, the questions that I've asked you, do your answers remain the same?

A Yes.

Q Thank you. Did you receive a subpoena to appear today?

A Personally, I did not.

Q Did counsel receive the subpoena on your behalf?

A My understanding is they did.

Q Okay. Have you seen the subpoena to appear?

A No, I have not.

Q Did counsel advise you that you were required to appear?

A Yes.

Q Okay. And that would be true for tomorrow as well?

A Yes.

Q Okay. So, Mr. Lane, you're here

under compulsion of subpoena and witness fees. The California Public Utilities Commission Safety and Enforcement Division has a statutory authority to issue the subpoena, to compel the attendance of employees to testify and produce documents as part of our supervorial authority over utilities including Southern California Gas Company.

This means that you're not here voluntarily and the information you provide us is not voluntary. You are answering questions because we're requiring it to do so. Do you understand that?

A Yes.

Q Okay. Thank you.

And just for the record, Southern California Gas Company is prohibited from retaliating against you for information you disclose to us in response to questions we ask of you. So we're not asserting at this time that SoCalGas or Southern California Gas Company has retaliated against you as we have no information suggesting that this has happened. This is just for clarity.

If -- however, the Safety and Enforcement Division will do everything in its power under the law to ensure there is no

retaliation against you for any information that you provide to the CPUC.

We take very seriously our legal duty and prerogative to protect persons who provide information to the CPUC needed to promote safety to the public interest or both. Do you understand that?

A Yes.

Q Okay. Do you have any questions about what that means?

A No.

Q Okay. If you feel that you were being threatened for retaliation or actually retaliated against by anyone at Southern California Gas Company, you can inform us promptly of the nature of the threats or actual retaliation. Do you understand?

A Yes.

Q Okay. All right. And with that -- bare with me a moment.

MR. DRAGNA: While you're getting organized, can I just make a couple points for the record?

MR. GRUEN: Why don't we just go off the record momentarily.

(Off the record.)

MR. DRAGNA: Just a point for the record based on our

off-the-record-conversation. First, it's our understanding that the transcript is and shall remain confidential.

MR. GRUEN: That's our understanding as well.

MR. DRAGNA: And second, while our goal here is to be as minimal interference as possible to allow for a full examination, we do understand and agree that if the transcript is used, we reserve the right to object to any particular question in whatever proceeding the transcript is proposed to be used.

MR. GRUEN: That precisely captures our understanding of our off-the-record-conversation. Thank you for adding that.

MR. DRAGNA: You're welcome.

BY MR. GRUEN: Q Good. Okay. Mr. Lane, with that contribution, I'll just ask you briefly what was the date that you started your employment for Southern California Gas Company?

A It was January of 1982. I don't recall the specific date.

Q That's fine. The month is adequate. Okay. And with that, I will defer to Mr. Holter here to a set of questions.

EXAMINATION

BY MR. HOLTER:

Q Is it okay if I refer to you as Bret? We know you're Bret Lane.

A Please.

Q Appreciate it. Okay. Bret, this set of questions covers your professional background from the time of your initial employment as you stated to the date roughly around 2017. We don't have a hard end date, but that's kind of where we're going with the timeline.

If you can provide a brief chronology of your titles and positions held at SoCalGas and briefly describe your duties and responsibilities in those high level information. A short summary is sufficient. 10 to 15 minutes if it takes that long, but kind of keep it to that amount of time.

A Without reference I'm not sure I can remember --

Q Your best.

A -- the positions I've had. I think it's well over 15 maybe over 20 different positions that I've held through the company. I started, as I stated, in 1982 I joined the gas company as part of its storage engineering staff and went to Aliso as a

project engineer for a few months.

After that I became what's called a reservoir engineer for Aliso Canyon, and the best of my recollection that was '82 to some time in '84.

This is where I'll start getting blurry a little as far as the different positions that I held. I believe from there, I went back to the staff on the engineering side. Held a staff position. I would say the period between '84 to '87 between staff, and I think I was on the drawing side for awhile. I was what's called the station supervisor of Honor Ranch for a brief period of time. And then from -- and again my chronology -- I might actually be flipping some jobs at times. So just I think it was somewhere in the '87 timeframe where I went to our Public Affairs Department and worked there for a period of time there.]

I worked for a period of time, again, I think it's '87, '88. From there, I went to what is called -- what we now call Gas Acquisition. It had a different title back at that time. I did leave the company for a brief period of time in '87. Again, I believe it's '87, '88 time frame and came back. It was a little less than a year later

when I came back to the company. I came back on the staff of the Storage side. Again, and I believe it was around '89 or '90 is when I went to -- I think I went into -- it was called Environmental Services at the time. And from there, I believe I went into HR for a period of time, a year or so. So this is maybe '91 or '92, something like that.

From there, I ran our -- what was called our Building and Real Estate Group. Again, '93 or four time frame. And I believe it was '95 when I became Director of Labor Relations, when I was overseeing all union negotiations for the company.

And then somewhere around '98 or '99, I think I actually became head of -- Director of HR for SoCalGas. '98 was about the time of our merger between the parent SoCal and the parent of SDG&E. And I became the head of Labor Relations for both SoCal and SDG&E. Again, I think it was around '99 or 2000. I held or became VP of Labor Relations. I'm sorry. And I held that position until, again, that may have been 2002 when I became VP of Labor Relations. I do not fully recall the dates.

I believe it was 2005 when I became VP of Environment, Safety, I think it was,

and Facilities for both companies for SoCalGas and SDG&E. I think that was from 2005 until 2007. And I believe it was 2007 time frame, to the best of my recollection right now, that I became VP of Transmission and Storage coming back into Operations. And then I held that title -- and again this is for both SoCalGas and SDG&E.

And it was a couple of years later or so I became VP of what was called Field Services. That job included our Gas Operations piece of Distribution, Transmission, Storage, as well as our customer service field elements.

I believe it was 2012 or '13 I became Senior Vice President of Gas Operations and System Integrity, somewhere in that time frame for SoCal San Diego. And that position I had Field Operations, as well as Engineering System Integrity, those pieces.

And then I think it was 2015 when I became Chief Operating Officer. And then 2016, I believe, is when I became President and Chief Operating Officer.

Q I'm sorry. What was the difference between those two steps right there?

A Not much difference really.

Q So one was the VP and the other one was actually Chief Operating Officer; is that what it was?

A Can you clarify?

Q If you could just restate those two steps. I just didn't catch that. Sorry.

A For clarity, the last two steps.

Q Yeah.

A Again, I think it was in the 2013 time frame I became Senior Vice President of Gas Operations System Integrity, 2015, I became Chief Operating Officer. So I had -- my duties then became not only all of the Gas Operations System Integrity. I had all the customer service as well, Gas Acquisition elements of our external affairs reporting to me. And then 2016 is when I added the title President and Chief Operating Officer and generally the duties were the same.

Q Okay. Great. I appreciate that.

Just a couple of fill-in questions on that. When you left the company for a year, what did you go and do?

A For a brief period of time I went to work for the government for the Department of Justice.

Q And what were your duties there?

A I went to the Drug Enforcement

Administration.

Q Okay. Okay. I appreciate that. I think that will take care of that set of questions.

On your storage-related -- these questions are about storage-related assignments.

In 2007, when you became VP of Storage, are you able to recollect, could you provide who you reported to and who your direct reports were at that time? 2007 is right around that time.

A The title, again, was I believe it was VP of Tran --

Q Transmission?

A My recollection is Transmission and Storage. I'm not firm on the title. It was under my responsibility. I recall Lee Stewart was the -- I believe the Senior Vice President of Gas Operations at that time. That is who I reported to. Direct reports at that time I believe Rudy Weibel was the Director of Storage. I don't recall who the Director of Transmission or our distribution regions were at that time.

Q I'm looking at 2007. All right.

Let's move a little closer to a year before October 2015. And who were you

reporting to in your position and then who were your direct reports specifically related to Aliso Canyon storage fields?

MR. DRAGNA: I'm sorry. The years 2014?

MR. HOLTER: Q This would be a year prior to October 2015. That year prior.

A So the 2013 time frame?

Q 2013-14 into '15. 2014, 2015. October 2015.

A So 2014? Again, my recollection -- I'm the senior VP of Gas Operations at the time. Jimmie Cho reported to me as the VP of one area of Operations. Beyond that, I don't recall because we had some movement occurring at the time and I don't recall if it's '14 or '15 of -- when Rick Morrow retired is an example.

Q Excuse me. I didn't catch that name?

A Rick Morrow.

Q What was his responsibility and title?

A VP of Engineering at the time. And I believe Rick reported to me for a period of time along with Jimmy, as the two VPs of the area. And, again, I just don't recall the time frames between '14 and '15.

Q So, directing -- the question is: Who was directing field engineering at Aliso Canyon in that time frame? And did they report to you or did they report to somebody else?

A I do not know who or recall who was that -- no, they did not report to me. They reported to me, I will clarify, if I may, Randy, use your name as well.

Q Yeah. Yeah. Absolutely.

A For the record, the chain reported to me. It's under my organization, but they did not directly report to me.

Q Yeah. I understand. A large organization is hard to know. So it's more directly that you dealt with who would then probably have other direct reports down the chain so.

MR. BRUNO: If I may, Mr. Lane, do you have a current résumé and CV for your time at SoCalGas?

MR. DRAGNA: I'm sorry. For his historic time, the whole time there?

MR. BRUNO: Yes.

THE WITNESS: I have a CV or résumé. I'm assuming it's pretty current.

MR. BRUNO: Safety Enforcement Division would like to request a copy of that, along

with reporting structure from the period 2014 to the present, both superiors and subordinates, direct reports and superiors.

MS. TOMKINS: Do we want to go off the record just so I can get the clarification of what you're looking for?

MR. GRUEN: That will be fine. Let's go off the record.

(Off the record.)

MR. GRUEN: Let's go on the record.

While we were off the record, we had discussed getting a résumé showing Mr. Bret Lane's experience, titles at Southern California Gas Company from 2010 through 2015, including who reported to him and who he reported to, if he was indeed reporting to anyone; more broadly put, the reporting structure within Mr. Lane's universe I think was the term that was used. Does that capture the understanding correctly?

MS. TOMKINS: Yeah. But two different -- probably two different types of documents. One is his CV from 2010 or his current CV. The other one would be any reporting structures that we have from 2010 to 2015 time frame.

MR. GRUEN: That's most helpful. Does

anyone have any clarifications?

MR. SHER: Essentially he's providing an organization chart.

MR. DRAGNA: And you had said October of 2015. Do you want it December of 2015?

MR. GRUEN: Why don't we do until December 2015, with the clarification that -- just a clarification using October as clarifying the duties that ended in October and then going from October to December as well, so that we're clear with the October delineation. Does that make sense?

MR. SHER: To the degree there were changes in the organization charts, then you provide us those changes if they occurred after October 15th to December 15th.

MS. TOMKINS: That is exactly what I was going to clarify. Thank you.

MR. HOLTER: Somebody needs to ask that on the record.

MR. GRUEN: We have been on the record for all of this. This has all been captured.

With that, if we could move on, Mr. Bruno is going to follow up with some questions at this point and he is sitting in the chair two spots to my right.

MR. BRUNO: Thank you. Thank you, Darryl. Thank you, Mr. Lane, and SoCalGas.

EXAMINATION

BY MR. GRUEN:

Q So this set of questions covers the chronology from the time you became aware of the leak at Aliso Canyon reported to the California Public Utilities Commission on 10/25/2015 involving Standard Session SS25.

When I refer to the leak in that context, do you know what I'm referring to?]

A Based on possibly what you've just described, you're referring to the leak on SS25?

Q Yes, sir.

A Yes.

Q Okay. Thank you, Mr. Lane. When did you personally first become aware of the SS25 leak?

A My recollection is the -- I believe it was a Saturday evening, which I believe would be October 24th.

Q Thank you. And how did you become aware of the leak on that Saturday approximately October 24th?

A My recollection is I received a phone call that evening.

Q Yes, sir. And do you recall who that phone call was from?

A The one I recall is from Todd Van

de Putte.

Q And did he call you -- did he call you on a personal number or a work number? Do you recall where you were?

A I recall I was at home. And he called me on my company cell phone.

Q Mr. Lane, do you recall the cell phone number for your company cell phone?

A My cell phone number?

Q Yes, sir.

A Yes.

Q Could we have that, please?

A Yes. It's [redacted].

Q Thank you, sir. Mr. Van de Putte, I believe, do you happen to know how to spell his name?

A No, I don't.

Q I don't either, but we'll refer to him as Todd Van de Putte. Is that approximately how you pronounce it?

A I can get close to it if you wish.

Q No. That's okay. Am I pronouncing it right, "Vanderputte"?

A Van de Putte.

Q Van de Putte. Yes, sir. What was Mr. Van de Putte's role when he called you?

A My recollection is Todd was -- I believe he was drilling manager, but I'm not

exactly certain of his title.

Q And is drilling manager for Mr. Van de Putte, is that a -- is that an Aliso Canyon specific title, or did he cover other storage fields?

A My understanding is he covered other storage fields.

Q Yes, sir. Do you know if he was on site when he called you?

A I do not recall.

Q Do you know if he had been on site when he called you?

A I would -- well --

MR. DRAGNA: If you know.

THE WITNESS: At the period of time when he called me I don't know where he was located. Based upon his description of that evening, that it -- I took that he was on site during the day.

MR. BRUNO: Yes, sir. I understand.

Q At that point in the leak was Mr. Van de Putte the responsible person in charge of the leak?

A I'm not sure what you mean by "responsible."

Q Was he the senior person responding to the leak that we described that was reported to the PUC on October 25th, 2015?

A He was there in his role of trying to kill the leak.

Q Yes, sir. And by "kill the leak," could you briefly describe what you mean?

A A process of using fluid to overcome the pressure in the well to create enough hydrostatic pressure that would stop the gas from flowing up to the surface.

Q Yes, sir. Was there anyone on site at Aliso at this point in time, so this is approximately the point in time when you received the phone call, that was sort of a SoCalGas incident commander, if you will, the senior manager in charge at that point in time?

A I do not know.

Q Okay. Do you recall any parts of the conversation from Mr. Van de Putte when he called you?

A I recall some generalities of the discussion.

Q Could you elaborate, please?

A When Todd called, he -- again, this is the best of my recollection.

Q Sure.

A He described that the facility had discovered a leak. And again, what I recall is the night before, so that, that would be

Friday, and that he had mobilized what would be the normal equipment to try -- in an attempt to kill the well, bringing large pump trucks out to pump the fluid, and during the pumping operation that the tubing pressure immediately started rising, which to him indicated there's some sort of plug in the tubing.

Q Yes, sir.

A He said they then tried to go down what they described as the back side, which is more the area between the tubing and the casing, to see if they could pump down in that direction. And the pressure increased as well. So that there was some sort of blockage on both sides.

And I did not know Todd well. I recall he came from the geothermal side. But Todd's view that he shared was, this is very, very strange, and it's very different. And he stated that they're going to contact well kill -- sorry -- a well kill expert, Boots & Coots, to get them out to see or to get their help on this. And he called to give me a briefing on that in particular since my very early years I had some experience within the storage realm.

Q Yes, sir. Thank you for that. So

if I understand correctly, when Mr. Van de Putte called you, they had already initiated a SoCalGas kill attempt. Is that accurate?

A What was relayed to me -- what I recall on the phone call.

Q Yes, sir.

A Was that they had attempted what we would describe as normal kill attempt on a Saturday. Now, at what time they did that I do not know or recall when they said.

Q Thank you, Mr. Lane. Can you describe a normal kill attempt briefly? And, well, yeah, let's keep it at that. Can you describe a normal kill attempt.

A I'll -- to the best of my memory, again, from my experience of many years ago, and that is you have a kill fluid, generally some type of a -- you could describe it is a saltwater of types that has different types of chemicals for the properties that you're looking for to seal the formation, the sand at the bottom, and what we would describe, I believe, we being the gas company, and again, this is -- I'm basing this off of my experience from 30 years ago, that you pump this fluid down the tubing, and there's an opening toward the bottom of the well, generally a sleeve device or something like

that where there's ports, that the fluid then can exit the tubing into the outside tubing casing annulus. And then the fluid comes up to the back side, or that annular space. And again, what you're looking for is enough hydrostatic head, just purely the weight of the fluid that's in there, that eventually it weighs more than the pressure you're trying to overcome at the bottom.

Q Yes, sir. What information is needed prior to achieving a hydrostatic head to overcome the pressure of the gas trying to get out?

A I can describe my general memory, but again, it's been a very long time.

Q Yes, sir, please do.

A That it's generally you want to know the reservoir pressure. You'll want to know the size of the tubing and the size of the casing so that you understand the volumes, inside volume of the tubing, the volume between the tubing and the casing. I know there's other steps that are there. I don't recall them.

Q I appreciate that, sir. Is your expectation that Mr. Van de Putte would have went through similar understanding those variables prior to initiating a kill attempt?

A I would have the expectation that Todd and whoever else was out there would have gone through and understood the parameters it took to attempt it in a normal kill.

Q Yes, sir. Do you know approximately how many times a typical well kill, normal well kill, would occur at a storage field throughout a year on average? Is this an extremely rare event? Do they happen, you know, a few times a year? Just some ballpark figures if you could, sir.

MR. DRAGNA: I'm sorry. I don't mean to interrupt, but there were about five questions in that question. So if you could break it down so the answer is clear in the record which question he's answering.

MR. BRUNO: Q So the question is how many normal well kill attempts would you expect in a year?

A I wouldn't know or recall a number.

Q Are normal well kill attempts a rare event?

A I would say no, they're not rare.

Q Are they a common event?

A I don't know what you mean by "common." If you could --

Q 12 times per year?

A I would have to guess there of what that range would be. I don't have the data. And it's been a long time, you know, with storage of what to expect.

Q Yes, sir. Would it be -- based on your knowledge, are most normal well kill attempts successful?

MR. DRAGNA: I'm sorry. I don't mean to be interrupting. It's just really not clear. I'm not clear what you're talking about.

MR. BRUNO: Let me Clarify.

MR. DRAGNA: Kill attempts. I mean I think they're all unique in their own way.

MR. BRUNO: Q I think we described a well kill attempt, Mr. Lane did, and I'm referring to that exact definition.

So the question is do most normal well kill attempts, are they successful to kill the well?

A My experience of 30 years ago, yes, that they were successful. And you know, from that period until this last period, that I -- I cannot opine one way or the other. I'm not close to it.

Q Yes, sir. I appreciate your answering that question. What I'd like to get at is, is it unusual to learn about well

kill attempts as Chief Operating Officer?

A Can you restate that, please.

Q Would you normally in your role as Chief Operating Officer have the phone call on a Saturday about a well kill attempt?

A No. That has not been my experience.

Q If the well kill attempt was successful, do you expect you would have received a phone call?

A No.

Q Okay. So at this point in time when Mr. Van de Putte calls you on that Saturday, approximately the 24th, something extraordinary has happened?

A I would define it as it was very different.

Q Yes, sir. Thank you, Mr. Lane.]

What information did you request of Mr. Van de Putte at that time during the phone call?

A I don't recall requesting any information.

Q So it was mainly listening?

A The best of my recollection is listening to his description of what happened and that they were calling in the outside experts to help on that --

Q Yes, sir.
A -- issue.
Q Do you know how that decision was made to call on the outside experts?
A No, I don't.
Q Do you know who made that decision?
A No, I do not.
Q And by "outside experts," we are referring to Boots and Coots?
A Yes, for this initial call.
Q Who was the responsible person in charge of Boots and Coots for this well kill operation?
A For what time frame.
Q When they were called to come on. When Mr. Van de Putte called you and said that they had called Boots and Coots, do you know the person in charge of the job they were asked to come do?
A My expectation would have been Todd Van de Putte.
Q Todd Van de Putte on the SoCalGas side; but on the Boots and Coots side, sir?
A Oh, I do not know.
Q Okay. Was there a contract with Boots and Coots?
A Can you give me the time frame for that?

Q I'm referring to the point in time when Mr. Van de Putte called you and said they had reached out for outside help, essentially. I'm just asking if there was some sort of contract to retain that outside expertise to come on to help kill the well?

A At that time --

Q Or shortly thereafter.

A Yeah. For me, at that point in time, I did not know or do not know.

Q Yes, sir.

Did you -- Mr. Lane, did you, after learning of this event, come on site at Aliso Canyon?

A Yes.

Q Do you know approximately when you came on site?

A It was the Monday morning of --

Q And did --

A -- I believe that's the 26th. I would have to check calendars, but --

Q Okay. But that Monday?

A That Monday.

Q And when you arrived on site that Monday, did you go to the leak -- to the leaking well?

A Yes. I eventually went up to the well site.

Q Could you describe your observations when you first went up to the well site?

MR. DRAGNA: I'm sorry. At the well site?

MR. BRUNO: Q Yes, sir.

A So once I arrived up, and Boots was on scene at that time, to my recollection, there was to one side -- you could describe it as a small crack in the ground -- that if you got close enough, you could hear the hissing of some gas. You could occasionally smell the odorant. Although, it was not strong at the site nearly at all, but you could occasionally smell it. And you could -- from what I can recall, you could feel it a little bit from the crack.

Q Was SoCalGas monitoring the lower explosive limit at that point in time?

A When I arrived Monday?

Q Yes. When you arrived, you know, during your time, were you guys monitoring the lower and upper explosive limits?

A Again, when I arrived, I don't know or I don't recall.

Q After your arrival, at some point, were they doing that?

A Yes.

Q Okay. Do you remember, this crack in the ground that you described, approximately where that was in proximity to the wellhead SS25?

A My recollection, which I think we -- strike that -- not we -- that was generally described for the site was it was on the north side of the well pad which is where the hill slopes up.

Q Yes, sir.

A And I believe that's what we call -- or that's what was called the north side.

Q Did you see the crack?

A Yes.

Q And you could feel gas coming out of the crack?

A My recollection is you could feel something.

Q Do you recall the origin of the crack and the end point of the crack, approximately, the distance?

A No, I do not.

Q Would you say it was less than 10 feet?

A I would be guessing. I don't recall.

Q Yes, sir.

Does SoCalGas have any pictures of

this crack in the ground?

A I do not know.

Q Yes, sir. Mr. Lane, when you were on site that Monday morning at Aliso Canyon at the SS25 pad, what I refer to as the leak incident scene, what was your role there?

MR. DRAGNA: On that -- I'm sorry. On that Monday?

MR. BRUNO: Q Yes, sir?

A My role at that time was simply observing to understand what was going on, what any of the discussions with Boots at the time of what the issue was with the well.

Q And what was Boots and Coots's role at that time when you arrived?

A What I recall was once we brought them on, their role is to kill the well, design and implement a program that would kill the well.

Q Do you recall if Boots and Coots asked you for any data or asked SoCalGas for any data?

MR. DRAGNA: At that time on Monday? I'm sorry. At that time on Monday?

MR. BRUNO: Q At any time before the first kill attempt.

A The -- what I recall from the discussions, or the discussions at the site

and location, is well history file for that well. They may have asked for more, but that's the one I remember.

Q What about the variables we described earlier about Mr. Van de Putte that one would need to know to design a successful kill? The reservoir pressure, and the bore diagram, et cetera, do you know if they requested that information? Or would that be in the well file?

A The well file would generally describe the configuration of the well. And then understanding the reservoir pressure, as an example, that would be something they would have to request from the operations group from Aliso as well.

Q And who was in charge of the operations group at Aliso at that time?

A I cannot say with certainty. I believe it was Gwen Lefevre.

Q Do you recall what approximately the reservoir pressure was when you arrived?

A The best estimate I can give is it was over 3,000 PSI.

Q And based on your history at Aliso Canyon and your experience, is that a high pressure? A full reservoir? A nearly-full reservoir?

A Well, from my prior experience and understanding the inventory and how much gas was in the field at the time, it was approaching being close to high inventory. I believe it was in the 70 -- somewhere in the 70-range ACF, so...

Q And that's 70 billion cubic feet of gas of volume, approximately?

A Yes.

Q Is it fair to say that as volume increases, pressure increases?

MR. DRAGNA: I'm sorry. At Aliso, generally? What's the question?

MR. BRUNO: Q Generally.

A I -- you're going to have to be more specific on that question. Are you talking about natural gas?

Q So let me rephrase the question.

At Aliso, when you arrived, it was approximately 70 billion cubic feet volume in the reservoir of working gas. If it were 50 billion cubic feet of gas, would you expect the reservoir pressure to be lower?

A Yes.

Q If it were 100 billion cubic feet of gas, would you expect the pressure to be higher?

A We're talking theoretical, I'm

assuming?

Q Yes. So, generally, volume and pressure are directly correlated?

A Well, you --

MR. DRAGNA: Again, just for clarification purposes, that's a very broad question as to whether it's --

MR. BRUNO: I beg to differ, sir. It’s very specific.

MR. DRAGNA: If he can answer the question specifically with his personal knowledge, he can answer it.

THE WITNESS: I do not understand the question.

MR. BRUNO: Q Are you familiar with the mathematical equation that deals with pressure and volume?

A Generally, yes.

Q What is the name of that mathematical equation?

A I don't recall.

Q Is it Boyle's Law?

A I cannot specifically remember, no.

Q Is it ideal gas law?

A I don't recall.

Q Okay.

MR. DRAGNA: Can we go off the record?

MR. GRUEN: We can go off the record

for just a moment.

(Off the record.)

MR. GRUEN: Back on the record.

MR. BRUNO: Mr. Lane, thank you.

Q When Boots and Coots requests the well file, do you know, was there a point of contact for SoCal who they would go over that with, go over the well file with, ask questions to?

A A single point of contact?

Q Or responsible senior point of contact?

A And on the timing? I --

Q Yeah. Let me rephrase the question.

Who did Boots and Coots get the well file from?

A I do not recall.

Q Would it be a group at Aliso?

A My recollection, it would be the engineer for storage at Aliso.

Q And was that Mr. Lefevre?

A No.

Q Who was it, sir?

A The engineer was Tom, and I can't remember his last name, for the facility.]

Q Is his last name Schroeder?

A No.

Q Okay. Well, we'll follow up.

MR. GRUEN: If I was to offer it, would it be Tom McMahon?

THE WITNESS: No.

BY MR. BRUNO: Q Okay. And just for clarity, I think I've asked you this before but the reservoir information Boots and Coots would have requested that from Mr. Lafevre or the operations group at Aliso?

A I don't recall who they ask. With Todd on site, they could have requested it from him who then got the information from operations.

Q Do you know what data was given to Boots and Coots regarding reservoir pressure and flow rate?

A What I recall is they received the overall well file showing the history of the work over on the well as well as any kind of flow testing on the well that may have occurred.

Q Okay. Based on your knowledge and experience, would Boots and Coots be doing any calculations, or are they just receiving data from SoCalGas?

A My observations were they used that data to help them build their kill program on how to eventually attempt to kill the well.

Q Yes, sir. Thank you. The Boots and Coots well kill program as you just labeled it, is that something that SoCalGas also looks at?

MR. DRAGNA: I'm sorry. Could you read back the question?

(Reporter read back.)

THE WITNESS: When I say program, it's -- there -- they take that data to build the calculations and how they are looking at possibly killing the well. And from that, that is how they're going to go about it.

MR. BRUNO: Q Yes, sir. Thank you. Is that plan, if you will, memorialized in a document?

A For their first kill attempt?

Q For the Boots and Coots first kill attempt. Not the SoCalGas.

A From my recollection, I recall a sheet that kind of described the steps of the attempted kill.

Q Was this sheet generated by Boots and Coots?

A Yes. From my recollection.

Q Was it looked at in terms of -- was it -- excuse me. Let me rephrase the question.

Was the sheet given to SoCalGas to

comment on?

A There was -- again, this is my recollection of -- by the time we get to their first kill attempt, which is I think, several weeks after the first kill attempt, there is a discussion with them on how they're doing it. But it's ultimately their call on how to do it.

Q Yes, sir. Thank you. So the decision making process at this point in time prior to the first well kill attempt by Boots and Coots, is it fair to say that they are autonomous in their decision making?

A Can you define "autonomous"?

Q Do they need approval from SoCalGas to proceed in a certain direction?

A The overall oversight of that time was not the specific mechanics of the kill attempt itself but the overall site safety of moving forward.

Q Yes, sir.

A That was a SoCal decision. The actual well kill design and well kill attempt, that was a Boots decision. And if -- there was, you know, for clarity for you guys it's what we were looking at, "Is there anything about it that was -- that would present some other kind of unknown

risk?" Because they're the experts. They're the ones that have done hundreds of these things. That's why we brought them in. It's that is there something about it? Are we making sure that the site itself is safe of the surrounding area is safe as we attempt to do it? So that was the role SoCal played on the attempts.

EXAMINATION

BY MR. HOLTER:

Q Okay. When you say "we," can you explain the people involved with SoCalGas who were making those oversight decisions for safety?

A Timeframe?

Q No. You said, "We look at their plan." So one question is: who are those people who are doing that at that time?

A What timeframe?

Q Boots and Coots presented you with a sheet, am I correct in that?

A For their first kill attempt?

Q I'll take you to a statement that you said Boots and Coots showed a sheet. Am I correct?

A Yes. We were talking about the first kill attempt.

Q What is the name of that sheet?

A I don't recall if there was even a name on it. I don't recall.

Q Okay what is the program then? When you say they develop a program to kill?

A They developed a plan.

Q Okay. All right. So the sheet is what? What's that called?

A I don't recall if there is a name attached to it or not.

Q So that's the time period we're talking about that event. Who is reviewing that from SoCalGas on your team?

A Again, in response to the first kill attempt?

Q That's what we're talking about, yes.

A The first kill attempt. I reviewed it --

Q Okay.

A -- at that time. I believe the best of my recollection is that Todd reviewed it. There were a few people up on site.

Q Anybody else beside you and Todd?

A I don't recall.

MR. HOLTER: Okay. Thank you.

EXAMINATION

BY MR. BRUNO:

Q Mr. Lane, does SoCalGas still possess that sheet?

A I do not know.

Q Would you expect Boots and Coots to have that sheet?

A I would expect them to.

Q Yes, sir. Thank you. From the time that Boots and Coots is on site to the Boots and Coots first well kill attempt, can you describe the mobilization? Was there equipment en route? Kind of describe that timeframe.

MR. DRAGNA: I'm sorry. Boots and Coots' mobilization or SoCalGas?

MR. BRUNO: Yes. SoCalGas called in Boots and Coots, they arrive on site, there's some time between the first Boots and Coots well kill attempt. I'm just asking you to describe the mobilization of Boots and Coots to SS25.

MR. DRAGNA: Thank you.

THE WITNESS: Again, from my recollection of once Boots arrived, that there were -- there was an identification of some type of plug. I think that the suspicion was some type of ice was inside the tubing.

There was a period of time that I recall we had wireline units up running this thing called a "bailer." Trying to go in to see if can you get a piece of it? Is this what it is?

At some point there is a verification that it's an ice plug and that the decision is made with discussion that what is needed is a coil tubing unit that has a certain size. And unfortunately there's not one in California.

Q Yes, sir.

A And so I believe the unit that was contracted came from Louisiana that came out. Because it also needed to be enclosed because of any concern of a spark up there citing equipment on site as well. And so that period of time one of the big pieces that I recall is just simply getting that unit and that crew moved from Louisiana to onsite.

Q To your knowledge had that ever -- that type of mobilization ever occurred in the past where an outside consultant or company like Boots and Coots brought equipment on to Aliso Canyon?

A I don't recall to my knowledge.

MR. HOLTER: For clarification, your first contact with Boots and Coots when you

arrived on site, who were the name and titles of the people you were dealing with Boots and Coots for the plan before they arrived on site?

THE WITNESS: I recall the first names of Danny and Danny. I don't recall their last names.

MR. BRUNO: Danny and Danny?

THE WITNESS: Yeah.

MR. HOLTER: Q two of them?

A Yes.

Q Two different individuals?

A Yes.

Q Each named Danny?

A Each named Danny.

Q Okay. What were their roles and titles?

A One Danny was, I believe, the lead. I do not recall their titles.

Q And then when the equipment was coming out weeks later, are these the same two individuals? Or were there others that you were dealing with? And what are their names and titles?

A There's more than those two. I can't -- my recollection is there were four from Boots. But maybe three. But I think it was four.

Q Let me clarify. Who is the lead responsible party in charge for Boots and Coots that you are dealing with? That is making decisions for Boots and Coots, giving you information from Boots and Coots, giving you plans and sheets from Boots and Coots, who is that individual or individuals?

A It's one of the Dannys.

MR. HOLTER: Okay. Would we be able to get that information from you at a later time?

MS. TOMKINS: What --

MR. HOLTER: We're requesting the information of Boots and Coots who you dealt with at that time. Thank you.

MR. GRUEN: Let's go off the record so we can come to an understanding.

(Off the record.)

MR. GRUEN: We're back on the record. While we were off the record -- please clarify if you understand this differently -- SED and SoCalGas clarified that SED would ask several data requests for documentation. The first being all contracts with Boots and Coots between Boots and Coots and Southern California Gas Company related to the first well kill attempt. That would include all Boots and Coots employees who were involved

in any way in the first well kill attempt as well as their titles.

Does that comport with the understanding of Southern California Gas Company?

MS. TOMKINS: My understanding would be there are two separate requests. One would be any contracts related to the first well attempt with Boots and Coots.

The second would be any employees that were involved from Boots and Coots in their titles relative to the first well attempt.

MR. GRUEN: That's precisely -- is there anything more that you wanted to clarify on that, Ken?

MR. BRUNO: So Safety Enforcement Division will issue a data request. All contracts with Boots and Coots involving the SS25 leak.

MS. TOMKINS: Okay. And my understanding from our discussion off the record is that a formal written data request will be issued relative to all of the documents being requested during this EUO?

MR. BRUNO: That's an affirmative.

MR. GRUEN: Second related to point. The second point that we discussed just as we

were off the record moments ago as I understand it, is the steps that Boots and Coots took in order to do their well kill attempt, the first well kill attempt on well SS25, we understood that to be described or characterized off the record as a "Well Kill Plan." And that if we ask a data request using that term that Southern California Gas Company will understand that we are using the term to describe the steps that Boots and Coots took. A sheet showing the steps that Boots and Coots took in order to do their well kill attempt the first time the well kill attempt was done on SS25. Do we understand that term correctly?

MS. TOMKINS: Yes. And it's a written document from Boots and Coots.

MR. GRUEN: Great. Thank you.

EXAMINATION

BY MR. BRUNO:

Q Mr. Lane, earlier you described a suspicion of an ice plug by SoCalGas. And this is the SoCalGas first well kill attempt. My question is what led to the suspicion that it was ice?

A If I can clarify?

Q Yes, sir.

A It was that the -- again, back to

what I recall my discussion with Mr. Van De Putte it was, "It appears the tubing is plugged."

What I recall the discussion of it potentially being ice, was when I came out the next week with Boots and from what I recall that discussion at that time of potentially being some sort of ice plug.

Q So if I understand correctly, SoCalGas determined it was plugged, and then Boots and Coots later determined it was plugged by ice?

A Again, what I recall is the response from that very first kill attempt indicated it looked like a plug. There was no determination --

Q Yes, sir.

A -- of what it was. It appeared there was some sort of plug in it. After Boots arrived and looked at the site, what I recall is a discussion around, "It appears it could be ice." And that's why subsequently, the wireline equipment was brought up running the bailer to see can that be verified in some way.

Q Do you know if it was verified in some way?

A What I recall is based upon the

wireline runs, and the small sampling that was brought up that it appeared to be an ice plug.

Q Had you in your experience at Aliso Canyon or any other storage field ever experienced an ice plug?

A In a well?

Q Yes, sir.

A Not that I recall.

Q In a storage field?

A Yes.

Q Could you describe that a little bit?

A In a storage field on the surface piping at times you can get what is described as hydrates of water freezing around the methane molecule, and we would have these at times especially downstream of a very high pressure drop around well laterals where you could have an ice plug on the surface pipe.

Q And the change in pressure contributes to an ice plug? The rapid change in pressure?

A The change in pressure results in a rapid change and decrease in temperature.

Q Is there a mathematical equation that describes that phenomenon?

A From what I recall, there is. What

it is I do not recall.

Q That's about my recollection too. Thank you, sir.

Mr. Lane, you described your role at SS25 as an observer. Did that description -- did that role ever change from your initial time at arriving at the leak to when the leak was ultimately sealed?

A Yes.

Q And could you describe that change?

A From my arrival that Monday, and again from my experience, this was something very different of talking to our people on site such as Todd whose been around quite a bit. This was very different.

Having Boots out was something very different for us as well. This was something beyond what you would call normal. And it was -- what I recall it was within either the end of week one or the end of week two that I talked to some of our people -- primarily Jimmy Cho -- that we were going to implement our incident command structure around this, which is different for us.

We saw that the issue we had with the complexity of it that we needed to have a structure around it. And so it was within the first -- my recollection the first two to

three weeks is we start implementing the structure where Jimmy initially, and then he was rotated, Jimmy was the incident commander and I was the operations chief reporting to Jimmy for this structure because of my, although very dated, background of generally understanding storage.

Q Thank you, Mr. Lane. Could you briefly describe the role of incident commander that Jimmy Cho initially fulfilled?

A So how generally the structure works, it evolved over time, is he would be responsible for the overall incident which would include the operations side, elements of planning as well.

You know, there's the other -- there's other formal elements under it that for periods of time we may not have had but eventually did like finance. The public information officer often called it the "IO." So that -- the response eventually grew to that type of structure.

On the initial side, again, he was the incident commander. I was the operations chief responsible for the operational element, and I believe logistics also. Initially, I had logistics but then it came out and reported to Jimmy, which he generally

does in a standard structure.]

Q Thank you, Mr. Lane. And just so I understand, the operational -- Operations Chief in the incident command structure that you just described, does that involve Boots & Coots' operations or are they separate? In other words, is Boots & Coots operating in this structure?

A Yes.

Q But they are essentially designing their plan and implementing their plan?

A If I may clarify?

Q Yes, sir.

A So they, Boots & Coots and their responsibility, that -- once we implemented that structure, they reported to me. And so they did design and implement the well-kill attempts. I had general oversight of those, not input from a technical standpoint generally, maybe for clarification for understanding, but from an overall perspective on how the response was going to -- or how their plan was going to be implemented and what else we needed to do around the site to safely implement the plan they developed.

Q Is it fair to say that SoCalGas had final approval prior to implementing the

Boots & Coots' plan?

A Yes.

Q Any quality assurance or quality control done by SoCalGas on the Boots & Coots' plan? And I'm specifically referring to the technical side?

MR. DRAGNA: I'm sorry. Are we still talking about the first plan?

MR. BRUNO: Q We're talking about in the role of Chief Operations in the incident command structure with Boots & Coots reporting to you, was there any quality assurance or quality control done by SoCalGas on the Boots & Coots' plan or was it just a go/no-go decision?

MR. DRAGNA: I'm sorry. Are we still talking about the first plan? I don't mean to be obstinate, just to make sure we're talking about --

MR. BRUNO: Q We are talking about the first Boots & Coots' well-kill attempt.

A So it was a review for understanding, but it was ultimately a yes, no.

Q Do you know if Boots & Coots had a quality assurance, quality control plan?

A I do not know.

Q Would you expect Boots & Coots to

have a quality assurance, quality control plan, in other words, to check the accuracy of the technical details?

A If I can, is that what you mean by QA QC program is testing the accuracy --

Q Yes, sir.

A -- of what they're doing?

Q Yes. That is how I'm using the term.

A Okay. I would expect them to have a process in place of discussion of the people on the ground with their people, staff, I believe it's Houston, but I may be wrong on their home location.

Q So, your expectation is by the time it gets to you as an Operations Chief in the incident command structure that it has went through that expected process?

A My expectation was that once the plan was developed from them that they had done their own internal review and discussion on this is the best approach for that kill attempt.

Q Great. Thank you.

Mr. Lane, other than switching from an observer to an incident command structure as Operations Chief, was there any other change in your role from the time of the leak

to the time of sealing the well?

A Can you clarify what you mean change in role?

Q Yeah. So you described your initial role upon arriving on site as observer and then eventually as Operations Chief in the incident command structure. And my question is: Was there any other changes besides that or was that it?

A So, as you know, the point I arrived at Monday, I'm simply observing. I mean I'm the Chief Operating Officer of the company at the time, so a lot of other varied duties. But as I'm standing there and seeing the incident and the level of the incident as we saw that the complexity of the response that we were going to have to have, that over time not only was I Operations Chief, we actually changed our overall organization for a period of time up until the well was confirmed sealed. So that even from an organizational standpoint, I was assigned out there and the responsibilities that I had of all these other functions generally were picked up by my boss at the time.

Q Your boss at the time was?

A Dennis Arriola.

Q Is Mr. Arriola still with the

company?

A He is still with Sempra.

Q Still with Sempra. Thank you, sir.

Do you recall prior to the leak the last time you were at Aliso Canyon?

A I do not recall.

Q How about when you were a VP of Storage, that's the approximate title we'll get to, when you described the VP of Storage and Operations, was that an Aliso-specific position?

A No. If I may, it was VP of Transmission and Storage.

Q Yes, sir.

A And this, again, I was responsible for all of the transmission for SoCal and San Diego in that 2010 time frame. And I also had storage which was all the storage fields.

Q But you had been on site at Aliso prior to the leak on SS25 at some point?

A During --

Q Prior to the leak. At any time in your career, you had been to Aliso approximately how many times?

A I could not estimate.

Q Do you think it was more than 20 times?

A I would say yes. Again, if I may clarify, I was assigned there for my first two and-a-half years at Aliso. And after that point I would either go out for work if I was in drilling at the time. After I became a VP and was responsible for Transmission and Storage, I would occasionally visit. How often that was -- it was not frequent. I don't recall how often.

Q So the two-and-a-half years you just described, you're saying when you joined the company as a staff --

A As a reservoir engineer.

Q As a reservoir engineer. Okay. So that was a permanent Aliso position and then later as VP of Transmission and Storage. On occasion and just for clarity, you would estimate at least 20 times?

A Total.

Q After your two and-a-half years of permanent duty there?

A It would be a guess.

Q Would a hundred times be too many?

A It would be a guess. I just don't recall.

Q All right. Thank you, sir.

How many times would you expect a VP of System Integrity and Storage to visit a

storage field?

MR. DRAGNA: I'm sorry. A general VP of --

MR. BRUNO: Gas, Transmission and Storage.

MR. DRAGNA: For which company? SoCalGas? For any company? I don't understand the question.

MR. BRUNO: So I am referring to SoCalGas. This is the Chief Operating Officer for SoCalGas. I'm asking your VP for System Integrity and Storage, just in general, would you expect them to visit storage fields?

MR. DRAGNA: I'm sorry. You mean the -- I'm just going to intervene. You mean current position when he was senior VP? I understand the concept, but just if you could narrow it down into a specific time frame or a specific title, since the title has changed over time.

MR. BRUNO: Q The specific time frame is any point in time that SoCalGas has owned Aliso Canyon. The role of VP of Storage and System Integrity or Storage Operations, however you described it, would you expect that position to visit storage fields?

MS. TOMKINS: Would that be as the

Chief Operating --

MR. BRUNO: No.

MS. TOMKINS: His expectation as the Chief Operating Officer? His expectation when he is the Chief Operating Officer, is that when the expectation is?

MR. BRUNO: Yes. I am asking him as Chief Operating Officer because that is what he is.

MS. TOMKINS: Right.

MR. DRAGNA: So as Chief Operating Officer, would you expect your senior VP for Transmission and Storage to visit Aliso?

MR. BRUNO: That is not my question, sir.

MR. DRAGNA: Okay.

MR. BRUNO: We'll start again. I think the record states my question.

MR. DRAGNA: You can have it read back if you like. It's your choice. I don't want to stop you from asking your question.

MR. BRUNO: Q Mr. Lane, the role of Vice President of Operations and Storage, is that an accurate title for a permanent VP position at SoCalGas?

A For today?

Q Yes, sir.

A Today there is a VP of Transmission

and Storage. That is not a permanent title. That title changes over time.

Q Okay. Was there always an officer or senior officer at VP level in charge of storage fields, irrespective of the specific title, a VP level?

A At least since my time with the company. I can't speak before that.

Q And that is from 1980 --

A '82.

Q '82. Would you expect that position to visit storage fields?

A Within their span of responsibility that I would expect a visit on -- as needed. There could be some issue or as a general notion. Would I expect them to visit every facility once a year when we have 52 bases, plus transmission bases, plus four storage fields? That can be difficult.

Q Yes, sir.

A That is the purpose of the directors they have, the managers they have and the people they have.

Q Would you describe yourself as an Aliso Canyon subject matter expect?

A No.

Q Did you know the fields well enough to know where SS25 was when you heard about

it?

A Its specific location, no. I do not recall.

Q You didn't know how to get there?

A When I arrived, no. I did not recall how to get there.

Q Could you describe the first Boots & Coots' well-kill attempt in terms of the goals of it?

A If by goal, you mean the attempt was to kill the well.

Q Yes, sir. So the goal was to kill the well?

A Yes.

Q Could you describe the results of that goal?

A Again, in general, it did not work. It did not kill the well.

Q Was there any effort to understand why it did not work?

A There was discussion around what part of the dynamics from a pressure standpoint and those kind of things of what could be learned leading up to the second kill attempt.

Q Yes, sir. And those discussions, they involve Boots & Coots and SoCalGas; is that correct?

A Yes.

Q Was there any other consultants, other than Boots & Coots and the operator of SoCalGas involved?

MR. DRAGNA: I'm sorry. Between the -- after the first kill?

MR. BRUNO: After the first kill to assess the success or failure of it.

MR. DRAGNA: Before the second kill?

MR. BRUNO: Yes, sir.

THE WITNESS: Not that I recall, no.

MR. BRUNO: Q. So would you expect Boots & Coots to understand why the first kill attempt didn't work prior to initiating the second kill attempt?

A My expectation was to try to understand what happened on the first kill attempt so that the second design would hopefully address what didn't work.

Q And do you recall approximately how long it was from the first Boots & Coots' well-kill attempt to the second Boots & Coots' well-kill attempt?

A I do not recall.

Q But during that time, whatever time period that is, your expectation is that Boots & Coots would be analyzing the first results and adjusting the plan prior to the

second kill attempt by Boots & Coots?

A Yes.

MR. BRUNO: Thank you, sir. I have no further questions.

So, off the record.

MR. GRUEN: Off the record, please.

(Off the record.)

MR. GRUEN: On the record, please.

Just off the record we discussed that -- it is now 11:45 approximately and we will reconvene after lunch at one o'clock p.m.

(Whereupon, at the hour of 11:47 a.m., a recess was taken until 1:07 p.m.)]

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AFTERNOON SESSION - 1:07 P.M.

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BRET LANE

resumed the stand and testified further as follows:

MR. GRUEN: If we could go back on the record.

Q Mr. Lane, I'm going to do a couple of follow-up questions just from this morning's session briefly and then defer back over to a few others. I think perhaps -- okay. Perhaps it will just be -- it will just be a few follow-ups and then we'll move on to a new line of questions. So we'll tag them for you as we move forward.

I just wanted to clarify the term well file. Do you recall speaking about the well file for -- first of all, do you understand the term well file? Do you understand what that means, as we discussed it earlier this morning?

A I understand it in the context of how I used it, yes.

Q What does it mean in the terms of how you used it?

A It's a file that contains the drilling and workover history of the well

that there is a DOGGR, or I'm sorry, a Division of Oil and Gas and Geothermal Resources, I believe that's correct, form that is filled out once a well is drilled or there is a workover on it. And that's part of the well file; that it generally contains the configuration of the well of -- it has this kind of tubing in it, this kind of casing. That is generally of how I look at a general well file.

Q And might it include other things as well in certain instances?

A Yes.

Q Like what?

A And again these could be singular file or it could be two or three. When I say file, I'm talking about a file that you could close. That it could include the temperature surveys that are run at whatever the required frequency is. It could include history if a survey such as what is called a noise log was run on the well. It could include that; other types of surveys like pressure surveys that are done in the well. It could include that data. If there was any kind of flow testing or flow testing calculations, it could include that as well. It may contain other things. I just don't recall.

Q And the things that you're describing, are you describing a well file, generally-speaking, or are you describing the well file that pertains to SS25?

A Well files in general.

Q In general. Okay. Regarding well SS25 then, with that in mind, what is -- did you observe the well file for SS25?

A I did look at the well file for 25.

Q And that was prior to October 23, 2015?

A I may have looked at it when I was the reservoir engineer, but I don't recall. The time that I recall looking at it was once I'm on site after the leak, after Boots arrives.

Q How many times did you look at the file? Do you recall approximately?

A During that time frame, after?

Q Yes.

A Because I don't recall, again, if I looked at it back in the early '80s. I don't recall. A few.

Q Okay. What did you see in the file when you looked in it?

A My recollection, again, is the -- it had the drilling history of the well and then it had the history of the workovers that

had been done on the well. It had the mechanical -- I'll call it the mechanical drawing of what the configuration of the well was. There were -- and again these may be two or three separate files, I think for this well, that were together. There were temperature surveys, I believe one or two noise logs that were run on the well. I don't recall pressure surveys. They may have been there. I just don't recall them. There were some -- I don't know if they were well flow tests or well flow calculations.

Q Okay. Anything else?

A That's all I recall.

Q Okay. And the well file that you're describing now for SS25, was this information shared with Boots & Coots?

A Yes.

Q And it was shared -- the file was shared as containing the contents that you just described?

A Yes.

Q What other information was shared with Boots & Coots?

MR. DRAGNA: I'm sorry. Before the leak? After the leak? Before the first well kill?

MR. GRUEN: Q Let's start with -- I

appreciate the clarification. Let's start with when Boots & Coots was first contracted. Do you have that date in mind?

A If you're referring to when they showed up on site, I don't know when they were contracted, so.

Q Okay. Understood. Let me strike that. How about when they first received information pertaining to well SS25?

A I don't know. I was not there when they arrived on that Sunday.

Q Okay. Do you have a general understanding of the body of information that Boots & Coots received from Southern California Gas Company?

MR. DRAGNA: Again, after the leak?

MR. GRUEN: Q I'm speaking generally now.

A Again, my knowledge of what they had of -- after they arrived on site, on the Sunday, is it's limited to the well file containing that information. They may have received other information. I don't know or don't recall.

Q Okay. Who would know? And I will specify to after the leak. I appreciate that. And I think that's where your answer was headed, so I will follow. Who at

Southern California Gas Company would know the extent of the information that was provided to Boots & Coots?

A It would be between at least awareness of what was provided. Todd Van de Putte is the first response there.

Q Okay. Thank you. Regarding -- you mentioned -- I think you were mentioning an engineer's name. You mentioned the first name Tom who worked for Boots & Coots, I believe. Do you recall talking about that this morning?

A The Tom I was referring to worked for SoCalGas.

Q I see. I stand corrected. Thank you. The reason that I mentioned Tom's name is just we were struggling to get a last name from you. So, you have in mind who I mean by Tom, right?

A Yes.

Q And what -- can you remind me of his role?]

A Tom was the reservoir engineer for Aliso Canyon.

Q Okay.

A At the time of the leak.

Q And is reservoir engineer his title as well?

A I don't believe so. I'm referring to what I remember of that's what I was called 30 some years ago. We can give you the title. I don't know specifically what it is today.

Q I'll take a chance and ask this on the record. We would ask if you -- we'd like to know who Tom is including his last name and the spelling of it so that we can understand that.

So with that understanding, if we asked for Tom, the reservoir engineer at the time of the leak, would you understand what we're asking in a data request so that you can give us his last name?

A Yes.

MR. GRUEN: Okay. And I'm looking to counsel too just to be sure.

MS. TOMKINS: Yes. Yes. Sorry. I'm writing it down. Yes, we will find out who that Tom is and his name and his official title.

MR. GRUEN: Thank you.

MR. DRAGNA: We might just frame the data request just because of how cool it would look, "Please describe who Tom is." It may be a first for me.

MR. GRUEN: For lack of a better

understanding. But we do what we can to identify. I appreciate the light shed there.

Q You mentioned the goal of -- I think you said to stop the leak was when you were asked about a goal this morning. Do you recall being asked about what your goal was for Aliso when you came on site?

A I don't recall it being framed that way. I recall the use of the word "goal."

Q Okay.

A Which -- my recollection, it was to kill the well.

Q Thank you for the clarification. I don't -- it's not my intent to mislead. I appreciate the clarification. To kill the well. Indeed, that reflects my notes. I should have done better at reading them.

What steps did you understand would be taken to kill the well on the first attempt that was made to do so?

A The very first attempt?

Q Correct.

A Again, I'm thinking in terms of my history, so it's 30 something years ago, of how they would attempt to kill the well of pumping down the tubing and then bringing the fluid back up between the tubing casing annulus. That would be my frame of reference

as I talked to Todd that Saturday evening.

Q Okay. And with your frame of reference, was Todd Van de Putte following that frame of reference then in order to attempt to kill the well?

A That was what I took from our conversation.

Q Okay.

A Was what I described from my perspective as a normal kill.

Q Could you walk us through the steps that are associated with a normal kill attempt?

A Again, from my memory of how when I was in the field at the time, that you would pump -- you would design the kill fluid so that its weight, the weight of the fluid you're using, was sufficient, looking at the configuration of the well, that once the well was full it had enough hydrostatic pressure to be greater than the reservoir pressure. And you would start pumping with these large pump trucks down the tubing, the metal, and as you're pumping, you're relieving pressure from the casing because you're displacing gas as you go along.

And it's -- generally in these -- I've worked in this. I believe the general

approach for how we kill wells for workovers is you calculate the time or you track how much volume you're pumping down the tubing. You know when you get the tubing full and it's starting to come back up. And you're relieving so much gas pressure out as you're doing it that ultimately you create that overbalance that stops the flow.

Q Okay.

A In a very general sense.

Q That's exactly the level that I'm asking. Thank you.

What -- do you recall being asked about assessing the steps of the first kill attempt to assess what steps of the design for it would not work?

A I don't recall.

Q Okay.

A The conversation I had with Todd that evening, again, that's the first contact I have on it, what I recall on that conversation is we tried pumping down the tubing, and very quickly the pressure rose, which would indicate some sort of plug in the tubing.

Q Okay. And so because there was a plug in the tubing?

A You could not do, quote, "a normal

kill." So they then shifted to try to kill it from the casing side, which is a little different, quite a bit different. They started pumping down the casing and saw the pressure go up there quickly again.

Q I'll defer. That sounds like we're moving beyond the first kill attempt at that point.

A It's the same kill.

Q Same kill. Okay. Okay. So it's pumping down the casing. Okay.

And in your assessment at the time when you noticed the plug in the tubing, what other steps if any did not work?

A If I can clarify. It's not my assessment. It's Todd is on scene. They're attempting it. As far as if they look at any other options, I don't know.

Q Okay.

A That's what I recall that was reported to me of what they attempted.

Q Great.

A Which --

MR. HOLTER: Excuse me. I'm sorry. But you said casing. Can you clarify the size of the casing you're speaking of?

THE WITNESS: I believe on this one specifically for 25 is 7 inch.

MR. HOLTER: Thank you.

MR. GRUEN: Q Okay. So Todd gave you his assessment of the success of the first well kill attempt?

A I would characterize it, he gave me his assessment of the unsuccessful attempt to kill the well.

Q What did he tell you was unsuccessful?

A That they encountered some sort of blockage that did not allow the fluid to be pumped down the tubing and what appeared to be some sort of blockage to not allow fluid to be pumped down the casing.

Q Anything else?

A That's all I recall.

MR. GRUEN: Okay. Thank you very much. At this point unless there are any additional followup questions, I'm going to defer for the next round of questions. So do you want to go ahead?

MR. HOLTER: Yes. Thank you.

EXAMINATION

BY MR. HOLTER:

Q Okay, Mr. Lane, we're going to continue on in the timeline here. So my question is, when your conversation with Todd occurred, was the first attempt by SoCalGas

complete to kill the well?

A Can you reframe? I don't understand the question.

Q You had a conversation with Todd on the evening of the 24th?

A Yes, the Saturday.

Q Is that correct?

A Yes.

Q And at the end of the conversation what was your understanding as to the completeness of the attempt to kill the well?

A That the kill attempt was unsuccessful.

Q Okay. And then when you arrived on Monday the 26th of October, what was the state of the well at that time?

A As I had described, when I arrived on site, the well itself on the surface, at least what was reported to me as, quote, "the valves were closed in," I've described the crack that you can see. But that was the configuration at that point in time.

Q Were there any fluids coming out of the well?

A Not that I recall observing.

Q Was --

A If I might clarify that. Fluid is described as gas or liquid. So there was gas

that I had described that I could feel and smell. You're smelling the odorant some but out of the crack. But I did not observe any liquid coming out.

Q Did you observe any equipment connected to the well that was not a part of the well?

A I don't recall observing any.

Q Moving on to the second attempt, can you identify what the second attempt to kill the well is called? Is there a type of process?

A Not that I recall.

Q Okay. Who attempted to kill the well, SoCalGas or somebody, another party?

A Boots & Coots was brought in and were the ones that designed and implemented that second kill attempt.

Q And what date was that?

A I don't recall.

Q Okay. Who would know that, the answer to that?

A To know the specific date?

Q Yes.

A I don't know if our people would recall the specific date.

Q Okay. So let's go to that, when they were out there. You mentioned a

timeline between that first day when you arrived and when they had mobilized and moved out to the site. That was rough -- do you have a timeline roughly how long that took them to come out?

A Who were they?

Q Boots & Coots.

A My understanding is that Boots & Coots arrived that Sunday, and I went on the site the next day, Monday.

Q Okay. And what were they doing on site?

A When they arrived on Sunday?

Q What did you observe them doing when you arrived on site?

A When I arrived on site, what I recall of, they were describing at least what they had seen and what actions might -- might need to be taken to try to understand what was plugging the tubing at the time.

Q And how did you receive that information?

A In the discussions with them, them being Boots.

Q Okay. So name the parties on the first meeting you had regarding the state of the well when you arrived.

MR. DRAGNA: With Boots & Coots.

THE WITNESS: So the Monday that I arrived?

MR. HOLTER: Yes.

MR. DRAGNA: The meeting was with Boots & Coots?

MR. HOLTER: Q I'm asking him to tell us who he met with when he arrived at the site.

MR. DRAGNA: Oh, sorry. Go ahead.

THE WITNESS: So Boots & Coots was there. Who I recall from the company was Todd Van de Putte. I believe Phil Baker was there, who was the director of storage. There could have been others. I don't recall.

MR. HOLTER: Q And non-SoCalGas personnel you were meeting with in that same meeting?

A Well, the Boots & Coots personnel were non-SoCal. I don't recall if there was any others outside of that.

Q And their names?

A As I described this morning, I recall the two Dannys, and I think there were two others. I believe their names were Mike and James, but I'm not certain of that.

Q Okay. And what was your role during this meeting?

A As I described earlier, I was there observing trying to understand the issue we had with the well and their support for Todd and Phil.

Q Okay. You described a transition in your role. Did that transition take place before the third attempt to kill the well?

A Yes.

MR. BRUNO: Just one second. I want to jump in. Could we go off the record real quick?

MR. GRUEN: Off the record.

(Off the record.)

MR. GRUEN: Let's go back on the record.

MR. HOLTER: Q For clarification, can you please clarify what the first well attempt was, and we'll identify that for the purposes here as Attempt 1, who was in charge of that well attempt to kill to the well?

A So the first kill attempt, which I believe was the Saturday the 24th, was run by SoCalGas employees.

Q Okay. And then for purposes here of clarification, the next attempt after directly following that, we'll call it Well Attempt 2, who was responsible for the operations to kill in that attempt?

A So for overall Kill Attempt 2 that is Boots & Coots for the planning and implementation of that kill attempt.

Q Okay. All right. So we are on we'll call it Attempt 2, and it's Well Kill Attempt 2. So we have discussed prior about some of the planning portions of that. To clarify again, when they completed the planning of Well Kill Attempt 2, did you verify that personally, their plan?

A They being Boots & Coots.

Q Did you verify Boots & Coots's plan personally to kill Well 25?

A I reviewed and discussed their plan for the kill attempt for their -- for overall Kill Attempt 2 from Boots.

Q And your role in reviewing that, explain your role in reviewing that event, that document?

A Again, it was, they were responsible for the planning and implementation of it. My role at that time was oversight, understanding what they were trying to do and what were any implications from any kind of potential change that could occur to the configuration of the well or what could be the surface impact of that kill attempt for overall safety as one example of

the people on site to really fully understand that.

Q And please provide other SoCalGas staff who reviewed that plan you are referencing, the Boots & Coots plan provided to you?

A My recollection is Todd reviewed it. I don't recall if others reviewed it.

Q Okay. The plan we were speaking of, is that the plan that was used to submit a notice of intent document to Department of Oil and Gas District?

A But I don't recall a notice was submitted for Kill Attempt 2.

Q Okay. So no notice was --

A No. I don't recall.

Q You're not aware. I'm sorry. Don't let me speak over you. Go ahead and say what you say.

A I don't recall or not aware that we did or didn't submit one.

Q Is that standard procedure that is required by the Department of Oil and Gas?

A I do not know what's required today, or back at that time if a kill attempt is required or a notice is required from them.

Q Are you aware of any Department of

Oil and Gas District personnel, District 2 from Ventura, were they present?

A There were -- on that specific timeframe for Kill Attempt 2?

Q Yes.

A I don't recall if they were there for that one or not. I recall they were there for some of the kill attempts. Which ones I don't recall.

Q Understood. Thank you. And specifically to that plan that Boots & Coots submitted, the technical soundness of it, are you aware of who in SoCalGas approved the final technical soundness or engineering plan of that submittal from Boots & Coots?

A I'm not aware of anybody from SoCal. Again, these are well kill experts that have to do this or have done hundreds of these. We do not have that kind of in-house expertise to review from a technical or approve from a technical perspective.

Q Yes.

A That's what they're hired for.

Q Okay. In light of what you said, is that a understood part of the contract? Is that stated in the contract when you go to -- go into contract agreement with Boots & Coots, is there a statement in their contract

telling that they are, for layman's terms, the experts and that they will make the final decision on the engineering soundness of their plan?

A I'm not familiar with the terms of the contract. I don't know.

Q To the best of your knowledge, is that a understanding that you have with them when you hire them to kill a well?

Let me be more -- excuse me. Scratch that.

Is it the understanding that that time for Well Kill Attempt Plan 2 that they were the engineering -- they had their engineering finality on that?

MR. DRAGNA: I'm sorry. Are you asking him for the contract?

MR. HOLTER: No. We're asking now -- okay. Scratch this again.

Q For the plan that we are speaking of, the plan to attempt to kill the well a second time, Boots & Coots, was it your understanding that they were the experts and they were getting your approval to go forward as the experts?

A Well, my understanding and how I implemented it was they were brought in specifically for their expertise in

addressing these type of well kill efforts and that they had final say as far as the plan and execution of that plan with the understanding that if, from an overall standpoint, that if we felt that there was some overriding safety issue as an example, site issue as an example, that we would not change their technical design but we could stop it and that they may have to go back and redesign something. But they have final -- they designed it, and they implemented it. They, again, want to be specific, they being Boots.

Q Okay. Understood. Thank you. And the summary of, assessment of that from SoCalGas personnel assess that, am I correct to say that it was you and Todd Van de Putte for Well Kill Attempt 2 by Boots & Coots?

MR. DRAGNA: I'm sorry. Who assessed what?

MR. HOLTER: Q The plan. The Boots & Coots plan that was submitted, the two individuals for SoCalGas that approved that were Todd Van de Putte and Bret Lane; is that correct?

A So again, for well attempt, Well Kill Attempt 2.

Q Yeah, yeah.

A What I recall, Todd reviewed it. I reviewed it. I don't use the word "assessment." We reviewed it.

Q Okay.

A And based off that review overall, that we said "Yes, we'll go forward and you implement your plan you have designed."

Q Okay. Thank you. So let's move on to the events right after that. What happened next to the best of your memory at the site?

A During?

Q After you approved it that day. Do you recall the day that you approved it?

MR. DRAGNA: I'm sorry. I think he testified that he reviewed it.

MR. HOLTER: I'm sorry.

Q That he reviewed the plan. The following period of time after that to the time that they begin to attempt to kill it, can you fill in what events transpired, what your duties were, what your roles were, what Todd was doing, just the general idea of what SoCalGas was doing in that time?

A And maybe it would be helpful if just context for you as well that, you know, I arrived on that Monday and didn't leave until it was confirmed sealed a hundred and

whatever days. I think I was gone three days. A lot of this is a blur.

Q Okay.

A To me. Recalling specific dates, I just don't recall them. Even specifics of certain kills. So again, I'm trying to, to remember, but a lot of these are blurs for me.

So specifically on your question as far as for Second Kill Attempt 2, what I recall about it is we now have the coil tubing unit on site. And we're -- and the plan for that is to see through the coil tubing, can they use a fluid to try to eliminate that tubing plug, which the suspicion again is it is an ice plug.

So a lot of the discussion has been around of using something like a glycol that you could place down on the plug to see would that actually help dissolve it. And as -- the best of my recollection right now there was I think maybe even a small bit on the bottom of the coiled tubing unit that could help drill or munch up the ice plug a little bit.

THE REPORTER: The ice plug?

THE WITNESS: I'm sorry.

MR. DRAGNA: "The ice plug a little

bit."

THE WITNESS: Yeah. A little bit. I'm sorry. Again, the first objective was to see, can we -- can we clear the tubing.

MR. HOLTER: Q Okay.

A And that was a big step in the plan.]

Q Okay. Thank you very much.

Did this plan succeed?

A What I recall on the second kill attempt is they were able to clear that ice plug in the tubing. And the specifics of how much fluid could be pumped at that time, I don't recall. My recollection is they were able to get through the plug. The coil tubing went down close to the bottom.

Well, I'll -- actually, I'll stop there. My memory is getting fuzzy now. Actually, I'm not sure we tried to kill it once they killed the plug or if there was another step in there. I just don't recall.

Q Was there another attempt following -- was there another kill attempt following the kill attempt to -- the plan that you're speaking of right now, was there another attempt following this one?

A Once the tubing was clear, the coil tubing unit was used to try to go down to the

-- I don't want to say the total bottom of the well -- but close to where the packer is, and to try to use that to try to pump killer fluid to the tubing.

Q Are you aware of how deep that is roughly? You don't have to give an exact number.

A Very roughly, it would be below 7,000 feet.

Q Was that successful? Was the well then killed at that point?

A No, it was unsuccessful.

Q Describe the meeting that you may or may not have had or the exchange of information with the group of people we've been talking about, you, Todd, and Boots and Coots personnel, anybody else, was there a discussion at that time about that unsuccessful attempt?

MR. DRAGNA: This would be the third attempt, or Number 3; right?

MS. TOMKINS: Number 2.

MR. HOLTER: Q We're at the end of unsuccessful Number 2.

A Okay.

Q So at the end of that, please describe, kind of, the discussion and format you had there.

A I'm sure there was a discussion. Who and what was discussed, I don't recall.

Q Understood. I understand.

To the best of your memory, what was the outcome of that discussion about the unsuccessful attempt of killing the well the second time?

A Well, the general outcome was that it was unsuccessful.

Q And please describe the general action items you took with SoCalGas and Boots and Coots for the next steps.

A The specifics I don't recall; other than what is the next kill attempt? What are we going to do?

Q And describe that to the best of your memory.

A I don't recall what the next design was.

Q Was that -- who submitted that design? We are now talking about a design for well Kill Attempt 3. Okay?

Now we're transitioning to that, there's been a decision, am I correct, that was made at the end of that? And then please describe your understanding about well Kill Attempt 3.

A A decision was made that a new

design of -- and, again, it may have been a tweak. I recall -- but, again, was it Kill Attempt 2, 3, or 4 or 5? I don't recall. Using more fluid is one example of how a plan might change. But the difference between 2 and 3, specifically, I don't recall.

Q You used the term "new design." Please break down the components of, to the best of your ability, what that means. A new design is what? Please explain that.

A Well, when I use the word "new design," it may be, again, simply that they are going to change the volume of the fluid that they are using for the kill attempt. But the specifics, I don't recall.

Q Okay. I appreciate that. Thank you. I appreciate that. Thank you.

MR. SHER: May I?

EXAMINATION

BY MR. SHER:

Q Each plan for each different well kill attempt was in writing?

A Yes. What I do recall is that there was a sheet. And, again, it may have been two or three sheets that laid out the steps for the kill plan itself.

Q To the degree your memory is not a hundred percent, one could turn to those

sheets to determine what the design was and what the changes were, if any?

A I think, generally speaking, yes.

Q Okay. Thank you.

A Yes.

EXAMINATION

BY MR. HOLTER:

Q Okay. Thank you.

So on this same subject, at this time do you -- what information or what was requested -- what information was requested from SoCalGas by Boots and Coots about the state of the field?

And examples would be stability of the site, the gas pressures, some of the other components that an engineer would need to make a decision for the third attempt. Were there requests? Or did you provide at that time additional information to give them as basis for their design?

MR. DRAGNA: Was this between Kill 2 and 3?

MR. HOLTER: This is Kill 3 now.

MR. DRAGNA: I'm sorry --

THE WITNESS: For Kill 3?

(Crosstalk.)

MR. HOLTER: Q For Kill 3. Yeah.

A I don't recall if they requested or

if we gave them anything.

Q Is that -- generally, what was done to the best of your memory through this process? Are you aware that there was information provided by SoCalGas to Boots and Coots in a running timeline, that updated information was provided to them about the field? Is that something that could be --

A I don't recall a running timeline as you described. But I -- to the best of my recollection, we did provide them information like I described earlier, as far as well file, all of that information, reservoir pressure. At the time, we started putting wells on withdraw around it, trying to start holding some pressure down --

Q Why did you do that?

A -- that kind of information would be provided to them.

Q Why did you do that?

A Again, it’s to try to start lowering the pressure around that well bore itself to see if that would help actually in the kill attempts by having less pressure on the well. And, I think as you know, ultimately, we got an order from the Commission placing the field on full withdrawal as fast as we could. That

ultimately took it down to the 14 or 15 VCF.

But we, SoCalGas, started that fairly early on. I don't recall if it was into week one, week two, but it was somewhere in that time frame.

Q This procedure, drawing down the well, who at SoCalGas was responsible for that at that time?

MR. DRAGNA: For implementing it?

MR. HOLTER: Q Who was responsible for the engineering information regarding the pressures in the field and the process by which you draw down the gas in the field?

A Specifically for --

Q Aliso Canyon, yes.

A Well, for Aliso Canyon, but for addressing this well and leak in this well?

Q Yes.

A So that pressure is draw out to help the -- try to help the issue with the leaking well. I was the one overall responsible for the implementation of that plan.

Q Who was your direct report at that point for that activity that provided you information to make that directive?

A The Tom with the name I can't remember.

Q Would it by chance be Egbert?
A Yes.
MR. DRAGNA: Very good.
MR. HOLTER: Good.
MR. DRAGNA: Good. We're going home, we got it.
(Laughter.)
(Crosstalk.)
THE WITNESS: I don't have the proper spelling, but I believe it's E-g-b-e-r-t.
MR. HOLTER: Q Okay. So at this time that's Tom Egbert who's providing that. And he's directly reporting to you during this?
A He -- not directly reporting to me. He's the engineer of the field, so there's no -- as I recall, at that point between 2 and 3, he's reporting into a structure that reports to me, but not directly.
Q And, at this time, please restate your role or title that you took on for this incident?
A So at this time, again, specifically between Kill Attempts 2 and 3 is, I believe, about the time frame that we made an organizational structural change where, even from the organization, I came out of the role as Chief Operating Officer and was assigned as Operations Chief to that

incident.

Now, the exact timing of -- you know, was it between 2 and 3, or 3 and 4, I don't recall. But it was somewhere in that frame of -- I think that's November-ish that we did that.

Q I appreciate you recalling to the best of your ability.

To the best of your memory, please take me to the action of the field activity of actually attempting to kill the well and state who was doing that and what your role was in that as they were actively killing it?

MR. DRAGNA: Which kill?

MR. HOLTER: Q This is attempt 3. The actual field activity that was put into action.

A The kill plan, or -- I don't --

Q No, the activity of killing the well. We've now moved to, actually, the physical operation of killing the well. Please state who was doing that at Kill Attempt 3.

A Boots was implementing the plan for Kill Attempt 3.

Q Is this the same crew and equipment that was used in Kill Attempt 2?

A It was the same crew. There may

have been some modifications to equipment, I don't recall.

Q All right. And on the SoCalGas side under this project management team, list who was present there along with you and Todd Van de Putte, and now we know Tom Egbert.

Were there any others who were part of that process?

A The process being physically there on the kill attempt?

Q Yeah.

A I don't recall who from our side was there at the time.

One clarification, I'm not -- I don't recall specifically, but sometime in November, I mean, we had started the planning for the relief well. And that's when I moved Todd over to be responsible for the overall design of implementation of starting the relief well.

So Todd is moved to that element as well. And I believe somewhere in this time frame is when -- again, it may be three. It may be four -- when I say three and four, kill attempts three and four. Somewhere in this time frame, I have Rodger Schwecke come in as my Deputy Operations Chief that's helping me out.

Q Are you aware what he was doing in his role or title before you called him, Rodger Schwecke?

A On the leak itself, Rodger was our VP of our Major Markets Customer Group at the time. And, again, I don't recall if it was week one or two or three. He responded and was helping out the incident response, what I call down below, in the -- by the plant area for a short period of time.

It may have been a week, two weeks or three. And then that's when I had Rodger come up to help me and was assigned into the operation side. And I don't recall if Rodger was there for Kill Attempt 3, but it's somewhere 3, 4, or 5 is when Rodger comes in.

Q Thank you. Todd Van de Putte, as you stated prior, moved to relief well efforts. Did you replace him?

A I had a number of engineers that were, again, part of that structure from the reservoir standpoint. Todd was still on the kill attempts -- at that point in time I would bring him for advice as well with his expertise on looking over the plant.

But, again, I just wanted to point -- at some point, he transitioned from being on that side every day or part of that

response to designing and implementing the relief well. But others that were like Todd in that regard, there was not somebody that, quote, replaced Todd.

Q So you did not replace him? Or you -- is that your answer?

A Again, from the response on the kill attempts -- and, again, I don't recall between three and four or maybe five, I had Todd to consult. But he was not there every day on this issue, as it also shifted to planning on the relief well.

Q You mentioned three or four others. If you could answer the question, did they replace him and his function?

A No, what I meant by three or four was kill attempt three or four.

Q Oh.

A No, I Did not directly replace Todd.

Q And to be specific, we are talking specifically about the kill attempt three, engineering function that Todd was in, that was not replaced in kill attempt three?

A No. I'm saying it was somewhere -- I don't know if it was three or four or five, somewhere in that point, I had Todd move to the relief well efforts. But I could still

call upon him for his expertise as needed. But his main assignment was the relief well.

Q So is he available to you at that time?

A Yes.

Q Would you consider that equal capacity that he was still available to you?

A Yes.

Q Okay. Thank you.

All right. So to -- let's speak about the end of the kill attempt three. Can you speak about what happened at the end of kill attempt three? This is Boots and Coots kill attempt three.

A Well, it was unsuccessful.

Q Okay. And can you explain to the best of your memory what was done at the end of well kill attempt three?

A Can you clarify what you mean?

Q Did you have a meeting discussing the unsuccessful kill attempt on -- at the end of well kill attempt three?

A I'm sure we had discussions. The content of those discussions I don't recall.

Q Did you at that time seek other consultants, expand any of your recourses of expert input, any capacity during this time on well kill attempt three?

A Between three and four?
Q Well --
A Kill attempts three and four?
Q Yes. At what time did you begin to expand your recourses for consultants, input? So I'm going to first ask, did you seek other consultants and input at this time or other resources for engineering consultation on how to kill this well?
A Again, just being specific on timing, between kill attempts three and four?
Q Well, you tell me. If you could just answer that question generically, for the process, did you add consultants or seek other consultants during the time that the wells were failing the attempts to kill them, kill the SS25 well?
A Yes. Between the first kill attempt to the last kill attempt seven, I did bring in some other outside, as well as augmentation from others from Boots that came in, including some that had arrived on the relief well side that I would actually bring them over as that process started to help in the consultation for the kill attempts.
Q Okay. I would like you, to the best of your memory, list those for me, those consultants, and what their role was.

A I don't recall all those from Boots. There were several that came in from Boots, different areas. Specifically from the outside, I brought in a person named Don Shackleford. And Don was recommended, very well known in the industry for addressing these types of very difficult kill attempts of trying very unique kills, I think what they call exotic-type kills.

To the best of my memory, Don arrived, I believe, late November, early December. I may be off a week or two either direction on that. I also had -- more for how to manage the event, not so much on the technical side, a gentleman named Jim Fox. And because Jim had experience with a large issue up in Bakersfield many years before.

And as you guys know, there were a lot of different agencies up there trying to manage the issue. So his was somewhat of a high-level view from the technical side. But now it’s more about how to manage the response in that issue.

I think it was between kill attempt six and seven a former employee, Jim Mansdorfer, M-a-n-s-d-o-r-f-e-r, was brought in specifically for the kill attempts. But, again, by this type time the relief well now

was been drilled. So mainly for the relief well, I brought in other experts.

I brought in a person named John Wright, W-r-i-g-h-t. I also brought in a world expert on kill modelling, Morton -- I would have to get you Morton's last name. I think he's from Norway or Sweden. Again, primarily he was on the relief well, But he also involved with the modelling.

As you can recall, we also had the national labs come in in the November, December time frame. I think it was Sandia, Berkeley, Lawrence Livermore, may have been a fourth. But they also looked at the kill attempts trying to understand why they were not working.

MR. HOLTER: I think we're going to take time out in my questions and go to our panel and see if there's any fill-in or follow-up questions that you would like to ask at this time.

EXAMINATION

BY MR. BRUNO:

Yeah. I have a couple questions. Thank you, Mr. Lane.

Q The efforts of the labs that you just mentioned, was there any findings by them on why the kill attempts were failing?

A My recollection of one meeting up there -- "up there" being Aliso Canyon -- of their report out, they were asking us why the kill attempts didn't work. Because the modelling they had done would indicate it should have killed the well.

Q So the labs did the modelling, and they were asking you why it didn't work?

A That's what I recall.

Q But they were brought on to find out why the kill attempts didn't work?

A To help understand -- my understanding of when they were brought in from the federal side to help on the issue is to understand the configuration and designs up to that point why they weren't working. But what I recall from that discussion -- and I believe at least Shackleford was there by then, was a lot of discussion around their modelling would indicate that the kills -- and I don't recall if it was all of them or certain ones from their modelling perspective should have killed the well.

Q Sure. Did they request data from SoCalGas or Boots and Coots, "they" being the labs, to run their models?

A As I recall, yes, they did.

Q Do you recall what type of data was

given to them or what was requested?

A Not specifically.

Q Would you expect it to be the same type of data that would you would expect any person to design a well kill to request?

A That would be my expectation of understanding the well configuration. What was the kill plan or kill design? And then what were the results? What did you see while you were trying to kill the well?

Q Thank you, Mr. Lane. Did the labs ever produce a report? Any sort of tangible findings?

A To my recollection, I -- I don't recall seeing a report. They may have, but I don't recall it.

Q Thank you, sir.

Mr. Lane, I want to go back to the relief well, the decision to begin a relief well. Can you describe how that decision -- how that plan came about?

A And this -- from my recollection, it was -- you know, "we" being the SoCal team. And I think -- we were having -- I'm sorry, I used we.

The SoCalGas team was having discussions about planning for that as a contingency. And I believe this started

before the second overall well kill attempt. Looking at who the people would be needed, what site to actually drill it from, and, you know, all the work and logistics associated was starting that plan design so that by the time we were in November, we had started executing on that plan. And again, the best of my recollection it was two to three weeks into it we were having -- we, SoCalGas team, were having discussions about as a contingency, this is the prudent thing to do.

Q Yes, sir. Thank you.

Was Boots and Coots involved in any plan for a relief well?

A Boots and Coots was -- they have a separate arm that does relief well design. So we, SoCalGas, brought them in to help on the ultimate design of that relief well.

Q Okay. So now there's two groups of Boots and Coots, one on the top kills, if you will, and one on the relief well. And I guess my question is, the initial group doing the top kills, were they on board also with SoCalGas's decision to start a relief well?

A I would say that there was a -- some discussion around -- well, we still -- the one group responsible for the top kills of that -- these designs that, especially

considering the overall magnitude of the event of the reaction, the response from different agencies and community, of not giving up on the top kill efforts. At the same time, they understood -- "they" being the top kill group -- where some may have been voicing that they didn't think we needed to do it.

From my perspective, again, that's what a prudent person would do. So we implemented it, starting the plan. Once we got that team from Boots on the ground, which again, added other engineers, other planers, and leads, I integrated those two so they could share knowledge with each other as we, SoCalGas, and Boots continued looking at additional top kill efforts knowing that it was going to take quite a while for the relief well efforts.

Q Mr. Lane, do you recall if the relief well decision was -- did that start after the first failed Boots and Coots attempt?

A So that would be the second -- just for clarification --

Q The second --

A The second kill attempt overall?

(Crosstalk.)

THE WITNESS: My recollection is we, the SoCalGas team, had started discussions around what we would need to do before that.

MR. BRUNO: Okay. All right. Thank you sir.

Just, if I may, so just really quick, my understanding is the relief well was a plan that hopefully you wouldn't need to use, but just in case the top kills don't work, you sort of have a back up?

A That it was -- the original design of it was a contingency of hoping that we could top kill it. But, again, knowing that the amount of planning and then actually drilling would take months to do it. But we needed to start as soon as we could.

Q Thank you, Mr. Lane.

EXAMINATION

BY MR. GRUEN:

Q Just a quick -- on the last piece, when you say you needed to start as soon as you could, the design for the relief well, when conceptually did you say that you had started -- that the design for the relief well had started?]

A I'll clarify because to me design means something different. "Planning for" is what would we actually need to do to start a

design of a relief well.

My recollection is we were starting -- we the SoCalGas team were starting that around the second, third week of November, which I believe was before the kill attempt. Right during or right after. Again, I don't recall the specific dates.

Q Okay.

A Because the planning phase then gets you into the design phase. And this is where we had to bring the outside experts in because this is where you'd have to look at all the wells in the field, and these wells don't go straight down. They kind of move like corkscrews.

You have to find a site that's far enough away, from a safety standpoint, but that's close enough that you're not going to take a long time and you can intercept it at that depth at the right three dimensional angle. And then they have to run what's called, "Collision avoidance." You don't want to collide with any of these other wells as you're going down. And ultimately how do you find it? Which means I want to pick a known out. "A known" being a well that is away from the leaking well that you can put a type of instrument down that's going to send

a signal out to say, "Here I am." And the relief well as it's drilled by it will pick that signal up. And now it knows exactly where it is compared to that because, again, of trying to find ultimately the leaking well.

So that design phase is fairly heavy once you bring, in our case, "our" being SoCal, the Boots relief well team for the design. And that got really heavy going -- I think that was more of mid, late November all the way into actually starting the drilling of it because it's up high. It didn't matter as much for the first week or two. But once you get below a thousand feet how you're going to drill it.

Q Okay. You said a lot there. Just to understand things like collision avoidance and finding the well at a certain depth. Things of that nature are more at the planning stage you'd say? Or is that the design stage?

A Design stage.

Q That's the design stage. So what elements -- and I get that planning is before design. Just so I understand as a non-engineer. Planning would entail what?

A So, again, to the best of my memory

on this it was -- I had some engineers, geologists on my team that I had -- My team being SoCal -- assigned to what is it we need to be thinking about, and who's out there?

So we talk to Boots in particular. Their office is back in Houston. Here are the things as far as you want to be within a certain radial distance from the well as one example.

From a planning standpoint, if I need to be between a quarter and a half a mile on the surface, then you can just draw the radius around the well. And what site can we actually use that can fit that?

And for those that have been to Aliso, it is a very hilly terrain. There's no flat spots up there. One of the greatest challenges we had was actually building the path to put the rig on.

Those were the early planning parts of it of what do we need to be thinking about? Once we got -- we SoCalGas -- got the relief well team in from Boots detail, you could go into a lot more detail planning and then they could actually start the design of the relief well itself.

Q Let me ask it this way: To your knowledge, when was the idea of a relief well

first introduced?

A From the best of my recollection, it was within two to three weeks.

Q To two three weeks of what?

A Of the leak.

Q Okay.

A So timing reference, somewhere around the second week of November.

Q And how do you know that?

A That's what I recall of just the discussions that were held. I recall it because of a lot of the questioning that we got from a lot of the regulatory agencies on the oversight as far as you should have started this day two. So that one kind of sticks in my memory. Again, it was just a lot of questioning.

Q What's your first recollection of having a relief well mentioned or communicated in any fashion to you?

A Again, I think it's within the first two weeks.

Q Who communicated the idea of a relief well to you first?

A I communicated it to our team.

Q It was your idea?

A Yes.

Q I follow. How did you come up with

the idea?

A Again, from my perspective it was prudency. We at least -- we SoCal -- at least at that point in time with the huge unknown we had with the leaking well of even getting through the plug.

"Is it an ice plug? I think it is but not sure. What other way can you get at it?" And you get it at by going at it from the bottom.

So at least to start that process to understand what is it we need to do in case we really need to fully shift to it.

Q What other actions did you consider other than a relief well?

MR. DRAGNA: This is options to kill the well?

MR. GRUEN: Correct.

THE WITNESS: From my recollection with the focus was on "Can it be top killed?" And if not top killed, then the relief well was the other option. I don't recall other options.

A lot of discussions on containment of the gas escaping. But not controlling. Again, as far as I recall.

MR. GRUEN: Go off the record for a second.

(Off the record.)

MR. GRUEN: Let's go on the record. So off the record we discussed our understanding that we will request each well kill attempt sheet for -- that describes -- each well kill plan, excuse me, and we understand that term to describe the sheets that itemize the steps in each well kill attempt.

Did I understand that correctly?

MS. TOMKINS: Yes.

MR. GRUEN: Okay. Thank you. Also we agreed to go on a break. Does ten minutes sound okay?

(Off the record.)

MR. GRUEN: Back on the record, please.

Q While we were off the record, if I could generally state, it's my understanding that you don't have a day-to-day recollection of the sequence of the events while you were on site, while you've been onsite at Aliso Canyon. Is that a fair way to characterize it?

A I would say generally speaking, yes.

Q Okay. Just to ask, did you take any notes or have a daily log or anything in writing that recorded your observations while you were -- while you have been at Aliso

Canyon since the leak happened?

A I did not, no.

Q Okay. Anyone else to your knowledge who has collected documents, taken writings of observing the events that have transpired since the leak at Aliso?

A The -- specifically the kill attempts?

Q Let's start with the kill attempts.

A I'm not aware of somebody. They may have. I'm not aware. I don't recall if anyone did.

Q Okay. What about other things? Well, let's say it more broadly than kill attempts. It's assessments of the kills, things related to the relief well? Anything broadly related to the leak at Aliso? Any documents or writings that you're aware of that anyone has taken who was on site?

A I don't recall if somebody did or didn't on that.

Q Okay. Did anyone --

A If I may? From the gas company other than Boots. Their kill plan we talked a lot about and then recording their observations of -- I don't even know if it's observations. They recorded kill data, which -- what I do recall is I believe it was

Halliburton who is on site with the kill pumps with the kill trucks. And they record pressures and stuff.

Q Yeah.

A That data is something Halliburton had. Because I think now back to our earlier discussion on the labs. I think it was that kind of data that was submitted to the labs that I recall. Beyond that kind of numbers' type of information, I don't recall.

Q When you say, "Data that was submitted to the labs," who was -- to your knowledge, who was responsible for submitting the data to the labs?

A I do not recall if it was us specifically or if it was Boots at the time.

Again, just the context of the regulatory oversight that we were under from both the state and federal level and the discussions and interactions by some agencies directly with them. "Them" being Boots in this case. So I don't recall if that was something Boots directly submitted or Halliburton submitted or if we collected it and submitted it.

Q Do you have -- based on what you know, do you know who would know who was responsible for submitting the data to the

labs?

A I don't recall a specific person from the team that would be responding to that.

Q What about on the receiving end? Was there -- are you familiar with who would -- to your knowledge who would be responsible for receiving information on behalf of the labs? Receiving the data that we've been talking about?

A Actually, I recall one of the professors first name Barry. I can't remember which lab Barry was from. I would think but I'm not certain that we had their names as far as part of that process. But we -- I would think we have that.

Q Okay. Can you recommend how we would couch a data request in order to get that information? How would you suggest we do that?

THE WITNESS: May I?

MS. TOMKINS: That's fine.

THE WITNESS: I -- again, I want to be helpful as much as -- my suggestion would be the frame of what provide any and all data that was submitted to the national labs from the kill attempts. I think we would understand exactly what you're asking for

there.

Q Thank you. Okay. And similarly, I think if we couch -- what if we couched a data request that says "Provide any and all writings capturing the understandings of those on site from the time of the incident until the completion of the final well kill attempt. Until the completion of the final successful well kill attempt."

MS. TOMKINS: It may be useful just to go off the record to sort of work this out.

MR. GRUEN: Off the record, please.]

(Off the record.)

MR. GRUEN: Back on the record. While we were off the record, we received -- asked for and received some insight from Southern California Gas Company as to types of writings that would document things that happened on the hill, if you were -- as it were, or on and near SS25, around Aliso, from the time of the leak to after.

So I wonder if -- and I appreciated a particular distinction that was made. It's not just documents showing observations but also communications in writing that went to people that were outside of the incident command structure on the hill that may have related to changes on organizational

structures or what was happening on the hill is how I understood that and I want to make sure that I have captured the understanding correctly so that we can do a data request later to ask for that.

So I think I have said a lot. Let me boil it down to a question. With that in mind, what I've just said, does that capture accurately what we discussed, what we heard from you off of the record, to cover the writings that would describe the incidents of what happened on the hill during the incident and after the incident as well as communications related to it?

MS. TOMKINS: And it may be easier for me to answer that. I think it captures what we talked about.

MR. GRUEN: Okay.

MS. TOMKINS: And I think the time period at the end of the time period would be, and I just want to confirm this, would be at once the well has been confirmed sealed from a -- I don't know if you want it more than that or --

MR. SHER: What we discussed off the record is that time period. There may be at some point in the future we are interested in documents that were promulgated after the

well was successfully killed, but as Darryl has described and as you have said, the time period is from when the leak started to when the leak was killed eventually.

MS. TOMKINS: And I think if you asked the data request in that fashion, we will understand what you are getting at; worst case scenario, we'll call you up and make sure we understand.

THE WITNESS: Again, for me to understand, as far as helping to respond to the data request, the difference between killed and sealed. Because there is a time frame there. My understanding is you want through confirmed sealed.

MR. SHER: Correct.

MR. GRUEN: Yes, please. Yes. Thank you. Okay. I'm seeing nods around the table. So I'll take that as an understanding that we've got a starting point for how to ask our data request.

MS. TOMKINS: Yes.

MR. GRUEN: Q Tom Egbert. I just wanted to confirm the spelling of his last name. Having had your memory refreshed, does the spelling -- could you spell his name for the record?

A I believe this is correct, but I

could be wrong on it. It's E-g-b-e-r-t. I may actually be missing a "g." It is one we can confirm for you.

Q Great. Thank you. Thank you.

That's all I have at the moment.

Does anyone else have any other follow-up questions before we turn the questioning back over to you, Randy?

EXAMINATION

BY MR. HOLTER:

Q I have a follow-up question, too, for you.

You stated your observation that, Bret, Mr. Lane, you stated your observation of the well site on the Monday you reported it was the first time it came out after learning of the well incident. What did you -- describe any noticeable changes that you can that come to mind, in line with you noticed gas coming out of cracks.

Can you further that and say any progressive changes you noticed at the site and discuss those features with us?

A Going through the various well-kill attempts?

Q Yes. I'm not going to restrict you to one or the other. If you could just give us a sequence of updates that you noticed

happening physical. Just put yourself physically at the site and explain how the site transformed to what we now know was a crater there. So if you could do that, please.

A So my -- to the best of my recollection of, after getting the coil tubing unit there and the subsequent kill attempts of 2, I don't recall the exact number of 2, 3, 4, 5, but as the well itself lifted the kill fluids back up out of the well, that at some time -- again, I don't recall if it was 2 or 3 or maybe even four where the fluid, in this case liquid, sorry to be more precise, liquid started coming out of the ground around the well site where originally there was not any concrete. A physical description which you know about, it did have a concrete pad around two sides, I think north and south is how you kind of orient. This kill fluid started coming up around and eventually created around the well itself -- the casing around the well of what collectively I believe we described as the crater. And the well cellar, which is what the pipe comes up -- the casing comes up through the surface casing. It is bounded by a concrete barrier. In this case, I would

estimate it was probably 3 or 4 feet deep at the start. And it did have -- not fully enclosed, but a partial enclosure of concrete on the bottom that through the kill attempts was eroded away by liquid coming up out of the ground. And each subsequent kill attempt we would see the degradation of the site of the crater itself again getting larger as the well ejected the kill fluid from each attempt.

Q Thank you. Going back to the statement of observing kill fluids coming up and around the pad, at that time had you transitioned to the role of incident operations manager? Is that term right?

A I was the Operations Chief.

Q Operations Chief. Had you transitioned to that role at that time?

A Yes. At about that time or maybe before Kill Attempt 2 is when the company had put in place this more formal incident command structure and I was the quote "Operations Chief."

Q And that would be -- my understanding and your understanding was a temporary assignment for this incident?

A Yes, to address this, the complexities associated with it, the amount

of oversight that we had that this was a temporary move of me and several other people to be able to focus fully on the response to the well leak, until it was successfully stopped, the leak.

Q Did observing that initiate in your position at the time any directives regarding the approach to killing the well?

MR. DRAGNA: I'm sorry. When you say that you mean --

MR. HOLTER: Observing the kill fluids coming out of the ground around the pad. Describe any concerns you had, any directives, any changes in course that you can recall that you put into action regarding the method of killing the well, to the best of your recollection.

A From what I can recall, again, my understanding of your question that again I don't recall if Kill Attempt 2 or 3 -- when the liquid started coming back up. The method of killing it was still focused on the quote "top kill." As far as understanding the surface limitations that we had in doing that, it was a lot of discussion, especially around the site safety, safety of the personnel on site, to be able to implement any kind of future kill attempt. As far as

the plan and design of the kill itself, that remained with Boots as we've discussed before.

Q Thank you. Have you in your experience, professional experience, encountered a situation where you were either a part of a team or part of an engineering team or part of a company function of killing a well and kill fluids were coming out of the ground and coming to the surface daylighting out of the surface?

A I have not had any experience of how the fluid came out of that well; that well-being SS25 while attempting to kill it.

Q Any well in your experience at all that you've ever had similar to that?

A That I have personally attached to, I have not seen any response from a well like that one when it was -- the kill job was implemented.

Q Would it be correct to say that it was the first time you've seen fluids coming out of the ground during a kill attempt in your professional experience?

A Yes.

Q Okay. Thank you.

MR. SHER: To clarify, fluids meaning gas and liquids?

THE WITNESS: Yes. Thank you. It's both gas and the kill fluid that was being used on the well.

MR. HOLTER: Thank you. Okay. Any follow up from the panel here?

EXAMINATION

BY MR. BRUNO:

Q Yes. Mr. Lane, thank you for describing the degradation of the cellar and the carving out of the crater, if you will. Did you notice any change in the crack that you mentioned before, the crack where you were able to put your hand over and feel gas? Did that propagate over time? Do you recall?

A I don't specifically recall that crack changing. What I recall is the crater forming as the kill attempts went forward.

Q And what did that indicate to you, the formation of the crater?

A From my perspective and again as best of my recollection of some discussion around that whatever the damage was below appeared to be fairly shallow, as fast as the liquid kill fluid would come back up to the surface. And so that was one piece that just how quickly it was coming up and also the location of those what again was thought of as ice plugs was some indication of whatever

the damage was, be it a hole or whatever it was -- it is that the RCA ultimately determines, that it was a shallow enough depth to have the fluid come up to the surface in the nature that it did.

Q So, thank you, Mr. Lane. In terms of the depth of this well, when you say fairly shallow, can you give me an approximation of what you mean by that?

A What I recall of just the general discussions was it was something within a thousand feet.

Q Within a thousand feet from the surface?

A Yes.

Q Great. Thank you.

A Specific, if I may just, to be a little more precise, it was somehow coming up and around the surface casing shoe in some way.

Q Yes, sir. Thank you.

Mr. Lane, you mentioned the fluid coming out of the ground. Was the fluid also coming out of the well bore or the tubing at any point?

A At one point, it may have been Kill 6 or so, of when the wellhead itself was moving. And, again, my recollection is 6,

maybe even 7, that the piping that was connected to it to push the fluid down, that it parted off. And so there was some kill fluid coming out, I think. I'm not absolutely certain about that.

Q And, in your opinion, what was that a result of?

A Of the kill fluid coming back up?

Q Yes, sir.

A That as a result of pushing the fluid down, it was unsuccessful of establishing enough hydrostatic head or pressure to keep the reservoir pressure down.

Q And, if I may, who designed that plan to push fluid over the pressure coming up?

A I didn't -- I don't understand that question.

Q Yes, sir. So, we were just referring to, if you will, pushing pressure down to try to kill a well from the top. Who designed that? Who designed that? Was it Boots & Coots?

A Boots, yes.

Q Every subsequent well-kill attempt from Boots & Coots Number 1, through the last Boots & Coots well attempt, Boots & Coots designed the well-kill attempt?

A I would say there's on Kill Attempt 7, the last one in particular, that is when I had the other consultants Shackleford, Mansdorfer was involved. So there was a lot of discussion between Boots and those parties as well of the ultimate design of that. And then I would say with the input of the consultants that Boots formalized the final design and then they're the ones that implemented it with some help from the consultants.

Q Do you recall the significant design changes in Kill Attempt 7 that you just described where there was other consultants collaborating and ultimately communicating that to Boots for the ultimate final design?

A What I recall was the main difference, there was a site change that was made at 5 or 6 where the kill equipment was moved uphill because of the difficulty of setting south of the well and with the north winds that the issue of running equipment with possibly gas coming on. So that was the mechanical difference. As far as the kill design itself, I think what I recall from my view, one of the primary -- big difference was the use of what is called drilling mud,

which is much heavier than the kill fluid that had been used before.]

Q Yes, sir. Thank you. Was there indication that the weight of the fluid that had been used before was not sufficient to overcome the pressure?

A Not that I recall.

Q So then take me through that decision to use heavier drilling mud.

A I don't recall the mechanics or the specifics on the mechanisms on the, I'd say the flow characteristics between the two of -- I recall a lot of discussion, but I don't recall the content of the discussion on trying something different.

Q So I want to understand this a little better. The flow characteristics are determined. They're calculated. And then a design to overcome that rate is put in place. And when we say drilling mud it just means heavier top fluids come down to overcome that?

A Yes.

Q So theoretically a heavier weighted drilling mud or a heavier fluid, if you will, can conquer a higher flow rate?

A I don't know.

Q Okay. Fair enough. I was trying

to understand that. But again, just so I understand it, the 7th kill attempt, I think you said, when there was collaboration with other consultants, I think you said Mr. Shackleford and Boots & Coots and yourself, SoCalGas, essentially the drilling mud was a heavier medium than the fluids in the prior attempts?

A Yes.

EXAMINATION

BY MR. HOLTER:

Q May I clarify something? Can you clarify what the 7th attempt was for the record?

A Can you be more specific? The 7th was another kill attempt.

Q Yes. But how -- what was it? Was it another top kill?

A It was another top kill, the last top kill attempt from what I recall.

Q Okay. And then the relief well, what number of kill attempts do you consider that? Besides final?

A That's how I -- it was the final kill.

Q So you don't include that in the kill attempt sequence?

A Not the way I look at it.

Q Okay.
A Okay. Top Kills 1 through 7.
Q Top Kills 1 through 7?
A And then the relief well.

EXAMINATION

BY MR. BRUNO:

Q Mr. Lane, I want to go back to this 7th kill attempt where we use the what we just described as drilling mud, heavier weighted mud. So do you recall, is my understanding correct that that came up from the consultant other than Boots & Coots, that idea?

A I don't recall who brought it up.

Q Do you recall how Boots & Coots received that, you know, that collaborative plan? Were they receptive?

A To my recollection, we implemented it. So.

Q And the result of that 7th attempt was?

A It was unsuccessful.

Q After that point was there plans for another top kill, or was that decided it was the last?

A There were discussions around in particular the configuration of the well, the size of the crater, the ability to even

access the crater, because between -- I can't recall if it was between 5 and 6 or 6 and 7 that the bridge had to be built and installed over the crater to actually access the well to install the equipment on it. And then after the 7th kill attempt was unsuccessful and all of that or a large percentage of that heavy drilling mud came back out of the crater or it was ejected, that looking at the overall site and from a safety perspective decided that we're not going to attempt any more top kills.

Q Yes, sir.

A And if I can footnote. And that was with a lot of discussion in collaboration with the agencies involved.

Q Yes.

A Plural.

Q Mr. Lane, do you recall the approximately -- approximate working gas inventory around that 7th kill?

A No, I do not. I do not recall.

Q But it theoretically was a lot less than the first SoCalGas kill attempt. I think we said it was 70 billion cubic feet approximately.

A Yes. What I do recall is the pressure, reservoir pressure at the time of

the leak of being over 3,000 psi. I don't remember the exact number. By the time of the 7th kill, well, I'm going to have to guess. I'm actually thinking of the relief well when it intercepts. I don't recall what it was on the 7th kill. But it was less.

Q Would you say it was significantly less?

A Well, I don't know what you mean by "significant." It's --

Q Over a hundred psi.

A As compared to the first kill attempt, yes. Yes.

Q And that is a result of less working gas?

A A result of the field going on withdrawal. And from my recollection by that time we were on a max withdrawal to a degree that SoCalGas was of pulling gas out of Aliso to lower the pressure.

Q Right. And again, my understanding is lower working gas results in lower reservoir pressure. And just to clarify, earlier I think I mentioned volume and pressure relationship, which actually is an inverse, inversely related, but we're talking about working gas inventory versus reservoir pressure. So I think we're on the same page

now. Thank you, sir.

MR. HOLTER: Want to make sure. Any more clean up?

MR. GRUEN: I have a little bit.

MR. HOLTER: Go ahead.

EXAMINATION

BY MR. GRUEN:

Q Okay. So Kill Attempts 1 through 6 used liquid, and Kill Attempt 7 used mud, speaking at a high level; is that right?

A I would -- if I may just to try to clarify.

Q Please clarify. Please correct me. Please.

A Kill Attempts 1 through 6 from what I recall is it uses what is described as kill fluid. My recollection was that was potassium chloride. It's a heavier saltwater. Whereas Kill Attempt 7 was, it's still a liquid drilling mud based upon a different composition of types of materials that are put in it that that actually makes that liquid heavier.

Q You know, I think I should use the term "fluid" rather than "liquid" then is what I'm hearing for Kill Attempts 1 through 6. If I use a general lay person's term, would that be the right thing in your mind to

do? Would that be accurate?

A Kill fluid.

Q Kill fluid. Good. Thank you.

A If I may.

Q Yes, please. That's helpful. Thank you.

So when kill fluid came out of -- I assume it was kill fluid that came out of the well for failed attempts. Is that accurate?

A Yes. When it did start pushing it out.

Q Okay.

A Again, I don't recall if 2 or 3 or 4, when it -- a lot of it started coming out, but it was kill fluid. Eventually as the reservoir pressure came down, that reservoir, besides gas, it has water and oil in it, and so that that also was pulled up to this well. And so there was eventually some oil that was coming out that was from the reservoir.

Q So at a general level, the oil that was coming out didn't come out on the first attempt but came out at some attempt later?

A Yes.

Q Okay. And you don't remember exactly which one?

A No. I do not recall.

Q Do you remember approximately which

one?

A I do not.

Q Okay. What else, what other things about the kill fluids and other things, when there was fluid coming out of the wells during the kill attempts, what other differences did you notice among them? What other differences did you notice among them?

A Can you rephrase that? I don't understand.

Q Sure. Maybe it's best to touch on the example that you noticed oil come out on some of the later kill attempts but not the earlier ones, at least not the first one. We know that much.

Okay. Like in a similar sense to the oil, what other differences did you notice in later kill attempts that you did not notice happen when fluid was coming out in the first or the earlier kill attempts, if anything?

A I don't recall big other differences at this time.

Q The amount of fluid that came out?

A I think it was -- the amount of fluid seemed to be generally related to the amount of fluid used for the kill attempt of how much would come back or be ejected

outside the well.

Q And when you say "related," can you be specific about what you mean? The amount of fluid that came out related to the amount that went in?

A The amount of kill fluid that was used for the kill attempt, what I recall is there were -- there were maybe two or three that used far more than what you would normally calculate. As just purely a example, if the tubing and casing area of says I need 250 barrels to fill it up, that you might use 4 or 500 to circulate around. In other words, pump it down and around just to make sure you've got enough fluid.

There were a couple of kill attempts, and it may have been more than this, but where it could be 800 to a thousand barrels is used. And so if it was a higher volume kill attempt, generally you would see more of that kill fluid coming back up, that the well itself was unloading whatever was pumped down it.

Q So the more fluid that was pumped in, the greater the amount of fluid you would see come out. Am I getting that right?

A Generally speaking, yes.

Q Do you think you saw all of the

fluid that was pumped in come out?

A I do not believe so, to my recollection.

Q What about Well Kill Attempt 7 prompted the use of mud?

A I don't recall the specifics other than lots of discussion of looking at it and thinking of a different method, again, of using Shackleford as an example where Don was very specialized in using certain types of kill fluid that can interact with each other. If you pump one certain type and then right behind it you pump another, and when they actually interact and you can time how it interacts, it could actually form almost like a glass gel that had been used successfully in other types of environments.

So there were what I recall is different discussions on different methods to do it. And this, this method ultimately was -- is the one that it was different of using a heavier fluid creating, which I think to answer your question, it does create a higher hydrostatic pressure with less fluid on it. It is just pure weight. That it --

But it also posed the least risk of having another option to try to kill it from the top side or a top kill attempt, because

some of these designs, you can try them, but if it essentially, in some ways, if you think about it, it cements the bottom of it, then you don't have a path to try to kill it again. And I do recall that was discussions going on of trying to make sure you have an option. If this doesn't work, the options are still open to try something different.

Q Couple of questions about this. So am I reading right that the first six attempts used the same fluid as the other six, each of the first six attempts used the same fluid as the other six?

A Not exactly.

Q Okay.

A What I recall is there is, the best of my recollection, the base, that the KCL or potassium chloride, that was the common water that was used. The additives could change to it. At some point one of the kills, and it may have been more than one, I believe baryte was introduced. It's a very heavy material. Again, to try to add weight to it when it comes out of solution.

But it was -- so again, the best of my recollection, the common fluid was KCL with some polymer. It makes it -- the best analogy I can describe it as is it makes it

very viscous, almost snotty like. That's a property that you want to try to seal the bottom. But there's others, others that were introduced, and what they were for each one I don't recall.

Q Okay.]

MR. BRUNO: Q Mr. Lane, the shackle for options, if you will, were those memorialized anywhere in a document.

A I don't recall if they were or weren't.

Q But in terms of understanding what was described earlier, ultimately Boots and Coots incorporated input for the seven kill attempts, so they would have put it on their sheets?

A Yes. So whatever the collective discussion, that would have been memorialized on the kill plan.

Q Great, thank you.

MR. SHER: Just a team note for the court reporter, we have 20 more minutes.

MR. GRUEN: Thank you. I'm going to defer at this point. Unless there are other follow-ups, I'm going to defer back to Mr. Holter.

EXAMINATION

BY MR. HOLTER:

Okay. Mr. Lane, I would like to take you back to a statement earlier in the session. You used the term "different" as, my understanding, your observation or assessment. Can you, again, provide the context of "different" when you first learned of the incident?

MR. DRAGNA: I'm sorry. The observation of what?

MR. HOLTER: Q Scratch the word observation. You used the word "different" earlier today. Can you restate the context in which you used that term?

A I don't recall. What context was I using the word "different"?

Q It was under the context of an exchange you had with Todd Van de Putte and your conversation with him about the first attempt by SoCalGas to kill the well. The response of the well was "different" rather than -- I think the word was offered unusual, and you said you used the word "different."

MR. GRUEN: I took a note if it helps? And, if I have this right, I understood you to say at that point was that "Todd's view that he shared was this was very strange and

very different."

Does that refresh your recollection?

THE WITNESS: Yes.

MS. TOMKINS: And "this" being the leak?

MR. GRUEN: Well, that's the notes that I took of Mr. Lane's words.

MR. HOLTER: Q So if I could take you there again and make sure, first of all, I'm clear in what you meant by that. And then we can go into questioning from that.

A So what I recall, again, back to the answer of the question, was my discussion with Todd that Saturday evening. What I recall him stating was, the response was different than what would be expected, that that was what Todd was relaying to me.

Q Okay.

A And how I took that was there's something in the tubing that is not allowing the kill fluid to be pumped down. There's something in the casing not allowing the kill fluid to be pumped down. And they have surface indications of gas. So there is some type of leak, and they are not able to execute, as described before, a normal kill on it.

Q Okay. That makes sense.

So, at that time, did you concur with him? Or did you give him a response saying that you concur with his assessment or the conversation in general? And if you're not able to recollect exactly, what was your understanding? Did you agree where what he was saying at that time?

A My recollection of the discussion, Todd described it of what they had encountered for the kill attempt. Again, from his perspective it was different, which, to me, I would agree with that. That's a response that is unexpected.

Q Okay.

A And his decision to call out Boots at that point in time was -- I think that was a good idea. Get the experts out, this sounds very different.

Q Understood.

So what I would like to do now is to take a set of questions and take me to the point at which you may or may not have changed your assessment of different -- on each well kill attempt.

So on well Kill Attempt 2, what was your assessment of the well's response? Including having Boots and Coots there and having more information. So what was your

updated assessment at that time?

A Well, again, to the best of my recollection for Kill Attempt 2, at least the plug in the tubing had been clear, that finally allows the coil tubing to go down. The kill itself of it not working, for me -- and I have a pretty good technical foundation understanding this, but -- and no means an expert in particular in that realm. And that was different of why it would not be killed.

Each subsequent one to that of -- for me, at least, it was confusing. And I think also confusing to others as it was looked at of these subsequent kill attempts by design should be able to overcome the flow that is coming up from the reservoir. So I think from -- at least from my perspective, it stayed different all the way until it was killed.

Q Okay. Understood. That makes sense.

So does, I'm going to use your word, "different" encompass the decision that you stated earlier to begin planning for relief well 39? In other words, are the degrees different or escalated difference, to say this is so different as X? Can you take me through that decision in your head to

begin planning for a relief well?

A Again, what -- the best of my memory of two to three weeks in, whatever it is, that of -- and, again, it may have been that we had the coil tubing on site by that time, it was somewhere very close to that, of seeing the difficulty of actually even getting inside the well, and can it be killed, it being the well, through a conventional top kill?

Also, the level of oversight, discussions, questions from the regulatory side, the community response to the issue that from my perspective, we need to look at other contingencies. And, again, you know, having discussions with the Boots team, as well as far as what are those others that in the event that at some point what if we were unsuccessful at killing the well? And it's prudent to start thinking about what is that contingency out there.

Q If we could pause on the timeline quick and say, as you were making this decision to begin planning for a relief well, was Boots and Coots part of that relief well planning conversation?

A What I recall is having discussions with the four Boots people on the ground of

-- some had some experience with relief wells of things to start thinking about. They helped us to start identify, "Here's the kinds of things to think about." There's experts back in Houston you can reach out and talk to of what you need to do to start thinking it from a planning perspective. Were they deeply engaged in that? No.

Q Okay. And you're referencing the top kill Boots and Coots? Or the relief Boots and Coots?

A The top kill.

Q Okay. And at that same time, did you reach out to Shackleford for input about that relief well?

A Not at that time, no.

MR. HOLTER: I'll defer here to Ken.

MR. BRUNO: All right. Thank you, Mr. Holter.

EXAMINATION

BY MR. BRUNO:

Q Mr. Lane, I want to go back to a word you used, "confusing," in the context of why the kill attempts weren't working. And, again, I think we understand the process by which each subsequent kill attempt is designed and implemented.

Did you go back to the core

variables, the inputs, the -- was there -- were the basics checked by Boots and Coots, by SoCalGas?

A I don't know what you mean by basis.

Q The basis for any kill attempt. If one were to design a kill attempt, they would look at certain things: Core variables, I think we talked about the reservoir pressure, were inputs checked of that nature?

A Well, you -- for each kill design, the basics are looked at as far as configuration of the well, knowing the geometry of the well, knowing the reservoir pressure of trying to overcome -- those are basic inputs.

Q So -- thank you, Mr. Lane.

So nothing is assumed. Each subsequent attempt goes back to the core and verifies those numbers and builds them up?

A Well --

Q Or do they just draw from the previous one and start building the planning --

A Well, I would say the one variable that could and did change over time was the reservoir pressure -- of understanding it as it is declining. For that piece of

particular -- again, from my recollection of the discussions, it's not changing so much the weight of the fluid. Because the weight of the fluid that's there is enough to overcome that pressure. But it is factored in.

Q And does SoCalGas have somebody that can make that calculation?

A Our -- we have our drilling engineers that are under Todd, included Todd, that can do the basic calculations of -- of what I would describe as a normal kill -- what do you need to do for a normal kill perspective.

Q And does that calculation have a name?

A I don't recall. It may have -- but that is a normal kill. Not these types of -- I think they are described as "dynamic kills," is I recall is the word.

Q And do you recall why they are called dynamic kills?

A I dot not recall.

Q Mr. Lane, I know we're closing in here at the end of the day. I have two more questions.

The leak itself, the emissions of CH4 natural gas, was there a noticeable

change in the leak from the initial reported leak through the kill attempts? Did the leak get worse?

MR. HOLTER: When you say that, do you mean the amount of gas being released?

MR. BRUNO: Q Yes, sir. Did the amount of gas emitting from the failure, did that get worse? Did the volume increase?

A I do not know. I know it -- once the crater formed, there was a more visible and easy path for it to come to the surface before the creator was created that I don't think the leak itself changed. So it was -- which -- we did do ground surveys around the well and found methane indications in and around an area around the well, which would indicate it was finding different paths to try to come up. I think just over time as the pressure declines, the actual rate itself is dropping just because of the pressure decline.

Q Would you describe the leak as a blowout?

A Yes.

Q Mr. Lane, I have one final question. And that is, do you have any theories now as to why the well kill attempts didn't work?

A I do not.
Q Thank you sir?
MR. GRUEN: I understand we have a couple more questions from Mr. Holter as well.

EXAMINATION

BY MR. HOLTER:
Q I know we're running out of time and these are quick questions. So, just for clarification, the term "normal kill," is that a company standard that is used?
A No. That's how I -- I'm just describing the kill procedure.
Q Does SoCalGas have a standard procedure for normal kills?
A Subject to check, I'm pretty sure we do.
Q And what would be the document? What's it called?
A It would be a procedure like you guys look at of well kills. I don't know the title --
Q One exists?
A But it would be something like that.
Q Okay. Thank you. And --
MR. GRUEN: Can we go off the record a second?

(Off the record.)

MR. GRUEN: Okay. Back on the record.

For today, that's all that we have. Let me -- it's five minutes to 4:00 according to the clock in the room. I believe the understanding was that we would reconvene tomorrow here at 10:00 in the morning. So with that, we're adjourned until 10:00 o'clock tomorrow.

Thank you.]

(Off the record.)

(Whereupon at the hour of 3:57 p.m., the examination under oath was concluded.)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.	))))))

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Thomas C. Brenneman, Certified Shorthand Reporter No. 9554, in and for the State of California do hereby certify:

That, prior to being examined, BRET LANE, the witness named in the foregoing examination under oath, was by me duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said examination under oath was taken by subpoena at the time and place therein set forth;

And that the pages of this transcript reported by me comprise a full, true and correct transcript of the testimony given by the witness on January 24, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 24th day of January, 2018.

_____
Thomas C. Brenneman
CSR No. 9554

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.	))))))

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Carol A. Mendez, Certified Shorthand Reporter No. 4330, in and for the State of California do hereby certify:

That, prior to being examined, BRET LANE, the witness named in the foregoing examination under oath, was by me duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said examination under oath was taken by subpoena at the time and place therein set forth;

And that the pages of this transcript reported by me comprise a full, true and correct transcript of the testimony given by the witness on January 24, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 24th day of January, 2018.

_____
Carol A. Mendez
CSR No. 4330

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.	))))))

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Karly Powers, Certified Shorthand Reporter No. 13991, in and for the State of California do hereby certify:

That, prior to being examined, BRET LANE, the witness named in the foregoing examination under oath, was by me duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said examination under oath was taken by subpoena at the time and place therein set forth;

And that the pages of this transcript reported by me comprise a full, true and correct transcript of the testimony given by the witness on January 24, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 24th day of January, 2018.

_____
Karly Powers
CSR No. 13991

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

SUBPOENA TO PROVIDE DOCUMENTS Public Utilities Code Sections 314, 314.5, 581, 582, 584, 701, 702, and 1791.	))))))

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Jason Stacey, Certified Shorthand Reporter No. 14092, in and for the State of California do hereby certify:

That, prior to being examined, BRET LANE, the witness named in the foregoing examination under oath, was by me duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said examination under oath was taken by subpoena at the time and place therein set forth;

And that the pages of this transcript reported by me comprise a full, true and correct transcript of the testimony given by the witness on January 24, 2018.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 24th day of January, 2018.

_____
Jason Stacey
CSR No. 14092

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon Storage Facility and the Release of Natural Gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from Its Aliso Canyon Storage Facility. (U904G).

STATEMENT OF NON-APPEARANCE

REPORTER'S TRANSCRIPT
San Francisco, California
November 1, 2019
Pages 1 - 6

Reported by: Doris Huaman, CSR No. 10538

I N D E X

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From: Patel, Avisha A <APatel@socalgas.com>
Sent: Thursday, October 31, 2019 12:32 PM
To: Gruen, Darryl <darryl.gruen@cpuc.ca.gov>
Cc: Sher, Nicholas <nicholas.sher@cpuc.ca.gov>
Subject: RE: Your Voice Message

Hi Darryl,

SoCalGas has consistently cooperated with SED's investigation and, in fact, that was the purpose of my call yesterday. I left you a courtesy voicemail letting you know that we were filing our motion to quash today so you could timely cancel the court reporter. The basis for the motion to quash is the same as the concerns we raised during our meet-and-confer discussion last week. On Monday we advised you via email of our intent to file the motion to quash and requested a second meet-and-confer. Receipt of the email was confirmed in Nicholas's email from October 29 (attached). Nicholas politely declined our request for a second meet-and-confer, explaining: "Being that the below issues were discussed at last week's meet and confer I do not believe that an additional meet and confer will resolve anything. At this point, SoCalGas is free to file a motion to quash SED's subpoena."

Your email notes you understood my voice message to say you could cancel the court reporter. To confirm your understanding: we are filing the motion to quash today and we will not be attending the deposition tomorrow.

Be well,
Avisha

Avisha A. Patel | Senior Counsel
Southern California Gas Company
Tel. (213) 244-2954

From: Gruen, Darryl <darryl.gruen@cpuc.ca.gov>
Sent: Wednesday, October 30, 2019 7:35 PM
To: Patel, Avisha A <APatel@socalgas.com>
Cc: Sher, Nicholas <nicholas.sher@cpuc.ca.gov>
Subject: [EXTERNAL] Your Voice Message

Avisha,

I received your voice message at 4:12 pm today (October 30, 2019) providing for the first time a notice to SED that SoCalGas intends to file a motion to quash the subpoena for SoCalGas's person or person(s) most knowledgeable related

to the PHC transcripts pages 88-90 and related documents to appear at the Commission headquarters at 505 Van Ness Avenue. I understood your voice message to say that we could cancel the court reporter.

SoCalGas's motion to quash is not sufficient to cancel the deposition. Short of the ALJ granting the motion to quash the subpoena, it is SED's position that SoCalGas is still required to attend the deposition. Failure to do so will constitute another failure on SoCalGas's part to cooperate with the investigation of Safety and Enforcement Division.

So that we can let our court reporters know whether to let them go from their time, SED is requesting to know whether SoCalGas intends to be present for the deposition on November 1st at 10 am.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

This email originated outside of Sempra Energy. Be cautious of attachments, web links, or requests for information.

SAN FRANCISCO, CALIFORNIA

NOVEMBER 1, 2019 - 10:17 A.M.

* * * * *

MR. SHER: On the record.

We are here today to conduct the deposition of the person or persons most knowledgeable at Southern California Gas Company with regards to Southern California Gas Company's allegation that Mr. Bruno may have inappropriately interfered with the root-cause analysis looking into the cause of the October 23rd, 2015 gas leak at the Aliso Canyon Gas Storage Facility.

In the room today is Karen Shea with SED. Last name S-H-E-A. K-A-R-E-N?

MS. SHEA: (Nodding head.)

MR. SHER: Would like to note for the record that SoCalGas has not shown up for the deposition even though they were subpoenaed to do so. I will also note that SoCalGas filed late last night a motion to quash the subpoena. Being that they are not present, I'd like to mark some exhibits for the record, and then there's no further purpose in having this deposition.

Also note that I went downstairs to see if SoCalGas was present, and SoCalGas was not present in the lobby.

The first document I would like to mark is the subpoena to SoCalGas. We can mark that as Exhibit 1.

(Exhibit No. 1 was marked for identification.)

MR. SHER: The second exhibit I would like to mark is entitled Kenneth Bruno's Response to Commentary (sic) by Southern California Gas Company and Sempra Energy Regarding Orders Instituting Investigation I.19-06-014 and I.19-06-016.

Mark that as Exhibit 2.

(Exhibit No. 2 was marked for identification.)

MR. SHER: The third exhibit I would like to mark is entitled R. Rex, R-E-X, Parris's, P-A-R-R-I-S's, Response to Allegations by Southern California Gas Company and Sempra Energy Regarding Orders Instituting Investigation I.19-06-014 and I.19-06-016.

That can be marked as No. 3.

(Exhibit No. 3 was marked for identification.)

MR. SHER: I would also like to mark as an exhibit a document entitled L.A. Firefighter (Retired) Daniel, D-A-N-I-E-L, Mehterian's -- that's M-E-H-T-E-R-I-A-N's --

Response to Allegations by Southern California Gas Company and Sempra Energy Regarding Orders Instituting Investigation I.19-06-014 and I.19-06-016.

This will be marked as Exhibit No. 4.

(Exhibit No. 4 was marked for identification.)

MR. SHER: Lastly, I would like to mark as an exhibit an email from Pejman Moshfegh. And it's P-E-J-M-A-N. Last name M-O-S-H-F-E-G-H. And it's -- the email address is pejman.moshfegh -- and again, that's p-e-j-m-a-n.m-o-s-h-f-e-g-h, @morganlewis.com, M-O-R-G-A-N L-E-W-I-S.com, sent on Monday, October 28th, 2019 at 10:25 p.m., and the subject is Meet and Confer Request Pursuant to Rule 11.3.

And this could be marked as Exhibit No. 5.

(Exhibit No. 5 was marked for identification.)

MR. SHER: Noting that SoCalGas is still not present, there is no purpose in continuing this deposition, and for that reason, this deposition is now closed.

Off the record.

(Whereupon, at the hour of 10:23 a.m., the Commission then adjourned.)

Lezcano, Margarita

From: Sher, Nicholas
Sent: Tuesday, October 29, 2019 11:44 AM
To: Moshfegh, Pejman; Gruen, Darryl
Cc: Patel, Avisha A; Stoddard, F. Jackson
Subject: [EXTERNAL] RE: Meet & Confer Request Pursuant to Rule 11.3

Good Morning Pejman,

Thank you for your email. Being that the below issues were discussed at last week's meet and confer I do not believe that an additional meet and confer will resolve anything. At this point, SoCalGas is free to file a motion to quash SED's subpoena.

On a separate note, we look forward to receiving the emails mentioned in your email below, do you have an estimated time frame in which they will be produced?

Yours,
Nicholas

From: Moshfegh, Pejman <pejman.moshfegh@morganlewis.com>
Sent: Monday, October 28, 2019 10:25 PM
To: Sher, Nicholas <nicholas.sher@cpuc.ca.gov>; Gruen, Darryl <darryl.gruen@cpuc.ca.gov>
Cc: Patel, Avisha A <APatel@socalgas.com>; Stoddard, F. Jackson <fjackson.stoddard@morganlewis.com>
Subject: Meet & Confer Request Pursuant to Rule 11.3

Nicholas and Darryl,

As we discussed at our meet and confer last Thursday, SoCalGas is in receipt of your subpoena, which requests that a "Person or Persons most knowledgeable at SoCalGas about SoCalGas' allegations that SED's 'lead investigator' interfered with the RCA into the Aliso Gas leak" appear at the Commission's offices on November 1, 2019. The subpoena followed Darryl's October 18 email, which requested the appearance of a Person Most Knowledgeable (PMK) on the same topic, and specifically called out portions of the prehearing conference transcript, and SED Data Request 41. For the reasons described at our meeting yesterday, and as further described below, SoCalGas continues to object to SED's subpoena insofar as it is based on a mischaracterization of SoCalGas' position, is inappropriate, and premature. SoCalGas is not, at this time, affirmatively alleging that Ken Bruno acted to improperly influence either the Blade or SED investigations. Notwithstanding SoCalGas' clear position on this issue, SED refused SoCalGas' request that SED retract the subpoena for the PMK deposition. In accordance with Rule 11.3 of the Commission's Rules of Practice and Procedure, SoCalGas requests a meet and confer to further discuss an alternative resolution to this dispute before SoCalGas moves to quash.

SoCalGas has not made any factual statements or allegations that could serve as a reasonable or appropriate basis for a deposition or examination under oath. SoCalGas has asserted only that Mr. Bruno's dual roles as both a private plaintiff claiming personal injury as a result of the leak at Aliso

Canyon and an investigator for the CPUC regarding the same incident present an apparent conflict of interest. This is a conflict of interest by definition. *See, e.g.*, CONFLICT OF INTEREST, Black's Law Dictionary (11th ed. 2019) ("[a] real or seeming incompatibility between one's private interests and one's public or fiduciary duties."). SoCalGas has plainly described Mr. Bruno's conflict of interest in its filings with the Commission:

> SoCalGas has not stated that SED's lead investigator committed an improper act with respect to Blade's or SED's investigation into the Aliso Canyon incident. Rather, SoCalGas has identified a serious concern regarding an apparent conflict of interest: the lead investigator who directed and oversaw the Aliso Canyon investigation for over three years filed, the next business day after the final of Blade's supplemental reports were issued, a personal injury lawsuit against SoCalGas for injuries he allegedly sustained as a result of his involvement in the Aliso Canyon investigation. SoCalGas has not prejudged the issue—only stated a fact that warrants further inquiry.

(Reply Comments of SoCalGas in Response to ALJ's Ruling Regarding Reimbursement of the State's Investigation-Related Costs, Sept. 11, 2019, pp. 6-7). While this is one example, SoCalGas' statements on this issue in other submittals and at the PHC are generally consistent with the above excerpt. SoCalGas is still in the process of investigating and evaluating whether Mr. Bruno did in fact engage in any inappropriate conduct related to Blade's or SED's investigations in to the Aliso Canyon Incident.

Indeed, as SoCalGas described at yesterday's meeting, SoCalGas has reviewed Blade's recent document production, which appears to include some but not all communications between Mr. Bruno and Blade. SoCalGas has not, however, received any documents from the CPUC in response to its June 19 Public Records Act request. The materials requested in this PRA request were specifically designed to help SoCalGas evaluate whether Mr. Bruno acted improperly. Further, several of these PRA requests call for information distinct from the documents produced by Blade. SoCalGas has been in frequent contact with the Commission regarding the status of this PRA request, but has not yet received a single document as of today.

Further, SoCalGas has not yet had an opportunity to depose either Mr. Bruno or Blade personnel with whom Mr. Bruno communicated. These depositions will likely provide additional information regarding Mr. Bruno's conflict of interest and whether and to what degree it affected how he performed his duties. As we informed SED yesterday, the deposition of Mr. Bruno has been noticed, and the deposition of Mr. Krishnamurthy has been scheduled for November.

In the meantime, SoCalGas will agree to produce to SED communications from the set of Blade emails, which SoCalGas believes are relevant and which may warrant further investigation. To that end, SoCalGas will produce an initial set of emails under separate cover. Your confirmation during our call that Mr. Bruno was not authorized to direct Blade's investigation was helpful in this regard.

Thanks,
Pejman

Pejman Moshfegh
Morgan, Lewis & Bockius LLP
One Market, Spear Street Tower | San Francisco, CA 94105
Direct: +1.415.442.1451 | Main: +1.415.442.1000 | Fax: +1.415.442.1001
pejman.moshfegh@morganlewis.com | www.morganlewis.com
Assistant: Christine Mustin | +1.415.442.1508 | chris.mustin@morganlewis.com

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This email originated outside of Sempra Energy. Be cautious of attachments, web links, or requests for information.

NICHOLAS SHER, STAFF COUNSEL
CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102
415.703.4232

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon Storage Facility and the Release of Natural Gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from Its Aliso Canyon Storage Facility. (U904G.)	**SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH** **Public Utilities Code Sections 311(a) and 314(a)** **SUBPOENA TO PROVIDE DOCUMENTS** **Public Utilities Code Sections 311, 314, 314.5, 581, 582, 584, 701, 702, and 1791**

TO: Person or Persons Most Knowledgeable at Southern California Gas Company

Pursuant to sections 314, 701, 702, and 1791 *et seq.* of the California Public Utilities Code,

1. You are:

a. ☒ Ordered to appear in person on November 1, 2019, at 10:00 a.m. at 505 Van Ness Avenue, San Francisco, CA 94102.

b. ☐ Ordered to produce the documents described in …, at least three full business days prior to the personal appearances described herein, i.e., at or before _____. The personal attendance of the custodian and other qualified witnesses and the production of the original records is required by this subpoena.

c. ☐ Not required to appear in person if you produce copies of the documents described in **Declaration in Support of Subpoena** to the person named in item 4, below, prior to the date and time indicated above.

2. If you have been subpoenaed as a witness, you are entitled to witness fees and mileage actually traveled, as provided by law. You may request one day's witness and mileage fees for travel to and from the place you are required to appear. You may demand these fees a t the time of service from the process server or from the party or attorney requesting the subpoena. If they are not paid or tendered at that time, or unless the subpoena was obtained by the Commission staff, you are not required to appear (Public Utilities Code Section 1791).

4. IF YOU HAVE ANY QUESTIONS ABOUT THIS SUBPOENA, OR YOU WANT TO BE CERTAIN WHETHER YOUR PRESENCE IS REQUIRED, CONTACT THE FOLLOWING PERSON: Name: Nicholas Sher, CPUC Staff Counsel Telephone: 415-703-4232

DISOBEDIENCE OF THIS SUBPOENA MAY BE PUNISHED AS CONTEMPT BY THIS COMMISSION.

By order of the Public Utilities Commission of the State of California.

Dated this 21st day of October 2019.

/s/ Alice Stebbins

By: Alice Stebbins
Title: Executive Director

DECLARATION IN SUPPORT OF SUBPOENA

I, Nicholas Sher, declare as follows:

1. I am an attorney duly licensed to practice before all courts of the State of California and am employed as a staff attorney for the California Public Utilities Commission (Commission). My business address is 505 Van Ness Avenue, San Francisco, California.

2. The California Constitution and the Public Utilities Code confer jurisdiction on the Commission to regulate public utilities in California in a number of areas, specifically, Public Utilities Code § 315 requires the Commission to "investigate the cause of all accidents occurring within this State upon the property of any public utility or directly or indirectly arising from or connected with its maintenance or operation, resulting in loss of life or injury to person or property and requiring, in the judgment of the commission, investigation by it, and may make such order or recommendation with respect thereto as in its judgment seems just and reasonable."

3. On October 23, 2015, a gas leak was discovered at Southern California Gas Company's (SoCalGas) Aliso Canyon Natural Gas Storage Facility (Aliso Canyon).

4. On June 27, 2019, the Commission opened an Order Instituting Investigation (OII) on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon Storage Facility and the Release of Natural Gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from Its Aliso Canyon Storage Facility.

5. In a number of instances, SoCalGas has alleged that the Safety and Enforcement Division's (SED) "lead investigator", due to a conflict of interest, improperly interfered with Blade Energy Partner's Root Cause Analysis (RCA) of the gas leak.[1] For example, but not

[1] Blade Energy Partners conducted an independent RCA of the Aliso Canyon gas leak.

limited to, SoCalGas' response regarding reimbursement of CPUC investigation costs,[2] SoCalGas' opening response to the OII,[3] and SoCalGas' prehearing conference statement.[4]

6. SED believes that the Person or Persons Most Knowledgeable may have information that will help determine SoCalGas' basis for alleging that SED's "lead investigator" may have improperly interfered with Blade's RCA of the Aliso Canyon gas leak.

Executed under penalty of perjury under the laws of the State of California, on this 21st day of October 2019, at San Francisco, California.

/s/ *Nicholas Sher*

Nicholas Sher
Staff Counsel
California Public Utilities Commission

[2] Response of SoCalGas regarding reimbursement of CPUC investigation costs, p. 6.
[3] Opening Response of SoCalGas to OII I.19-06-016, pp. 2-3, 13-15.
[4] Prehearing Conference Statement of SoCalGas, pp. 5, 10-11.

PROOF OF SERVICE

I am employed with the California Public Utilities Commission and I am over 18 years of age. My business address is 505 Van Ness Ave., San Francisco, CA 94102

On October 22, 2019, I caused to serve via email the following documents:

SUBPOENA TO APPEAR AND PROVIDE TESTIMONY UNDER OATH

on Ms. Sabina Clorfeine, Person or Persons Most Knowledgeable at the Southern California Gas Company.

Executed under penalty of perjury of perjury under the laws of the State of California, on this 22nd day of October 2019 at San Francisco, California.

/s/ Nicholas Sher

Nicholas Sher

Lezcano, Margarita

From: Sher, Nicholas
Sent: Tuesday, October 22, 2019 2:10 PM
To: Clorfeine, Sabina B.
Cc: Gruen, Darryl; Yip-Kikugawa, Amy C.
Subject: Subpoena To Apppear November 1, 2019
Attachments: 2019_10_22_14_00_47.pdf

Good Afternoon Sabina,

Please find attached a subpoena to have the Person or Persons most knowledgeable at SoCalGas about SoCalGas' allegations that SED's "lead investigator" interfered with the RCA into the Aliso Gas leak, appear at the Commission's offices at 505 Van Ness Ave, San Francisco at 10:00 a.m. on November 1, 2019.

Please let me know if you have any questions.

Yours,

Nicholas

Lezcano, Margarita

From: Sher, Nicholas
Sent: Tuesday, October 29, 2019 11:44 AM
To: Moshfegh, Pejman; Gruen, Darryl
Cc: Patel, Avisha A; Stoddard, F. Jackson
Subject: RE: Meet & Confer Request Pursuant to Rule 11.3

Good Morning Pejman,

Thank you for your email. Being that the below issues were discussed at last week's meet and confer I do not believe that an additional meet and confer will resolve anything. At this point, SoCalGas is free to file a motion to quash SED's subpoena.

On a separate note, we look forward to receiving the emails mentioned in your email below, do you have an estimated time frame in which they will be produced?

Yours,
Nicholas

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Cc: Patel, Avisha A <APatel@socalgas.com>; Stoddard, F. Jackson <fjackson.stoddard@morganlewis.com>
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Canyon and an investigator for the CPUC regarding the same incident present an apparent conflict of interest. This is a conflict of interest by definition. *See, e.g.*, CONFLICT OF INTEREST, Black's Law Dictionary (11th ed. 2019) ("[a] real or seeming incompatibility between one's private interests and one's public or fiduciary duties."). SoCalGas has plainly described Mr. Bruno's conflict of interest in its filings with the Commission:

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(Reply Comments of SoCalGas in Response to ALJ's Ruling Regarding Reimbursement of the State's Investigation-Related Costs, Sept. 11, 2019, pp. 6-7). While this is one example, SoCalGas' statements on this issue in other submittals and at the PHC are generally consistent with the above excerpt. SoCalGas is still in the process of investigating and evaluating whether Mr. Bruno did in fact engage in any inappropriate conduct related to Blade's or SED's investigations in to the Aliso Canyon Incident.

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Thanks,
Pejman

Pejman Moshfegh
Morgan, Lewis & Bockius LLP
One Market, Spear Street Tower | San Francisco, CA 94105
Direct: +1.415.442.1451 | Main: +1.415.442.1000 | Fax: +1.415.442.1001
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UNDERGROUND GAS STORAGE REGULATORY CONSIDERATIONS

UNDERGROUND GAS STORAGE
REGULATORY CONSIDERATIONS

A Guide for State and Federal Regulatory Agencies

GROUNDWATER PROTECTION COUNCIL

StatesFirst
An Initiative of the IOGCC & GWPC

INTERSTATE Oil & Gas COMPACT COMMISSION

SED 01369

Underground Gas Storage Regulatory Considerations

A Guide for State and Federal Regulatory Agencies

States First Gas Storage Workgroup

Disclaimer: This is an informational document, and is not intended to offer recommended rules or regulations. States First recognizes that management and mitigation of the risks associated with underground natural gas storage are best considered at the state level with specific considerations at local, regional, or cross-state levels, due to significant variability in local geology and surface conditions (e.g., population, building conditions, infrastructure, critical facilities, etc.). Neither the Ground Water Protection Council, the Interstate Oil and Gas Compact Commission, (collectively the Group) nor any person acting on their behalf makes any warranty, express or implied; or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or reliance on any information, apparatus, product, or process disclosed; or represents that its use would not infringe on privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favor by the Group nor any person acting on its behalf. The views and opinions of individual authors expressed herein do not necessarily reflect those of the Group.

Recommended citation: Ground Water Protection Council and Interstate Oil and Gas Compact Commission. *Underground Gas Storage Regulatory Considerations : A Guide for State and Federal Regulatory Agencies* . May, 2017. 122 pages.

SED 01370

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Preface

Underground storage of gas is a critical element in the U.S. energy supply and distribution system. It plays an essential role in maintaining the reliability of natural gas supplies and ensuring stable prices for consumers.

The first underground gas storage (UGS)(*Includes underground storage of natural gas and natural gas liquids unless otherwise noted) operation in the U.S. began in 1916 near Buffalo, New York. Today there are over 400 active UGS facilities in the U.S., operated by about 120 companies. Over 80 percent of the U.S. gas storage is in depleted oil or natural gas reservoirs. Most of the remaining storage is in non-potable aquifers or in salt caverns developed specifically for that purpose, with a few facilities utilizing mechanically mined caverns.

Most underground storage facilities have safe histories of operation; however, when an accident occurs, it can have dramatic impacts on public health and safety and the environment. Two of the most serious occurred at the Moss Bluff storage facility in Texas and the Yaggy storage field in Kansas. The Moss Bluff facility was a salt cavern storage operation. In August 2004, casing in one of the wells failed, resulting in a large release of gas and an uncontrolled fire lasting for more than six days. The Yaggy incident involved a wellbore failure which led to a series of gas explosions in Hutchinson, Kansas. The explosions and fire damaged 26 businesses and caused two deaths.

Most recently, there was a serious underground leak at the Aliso Canyon gas storage facility near Los Angeles, California. The leak began in October 2015 and continued for almost four months before it was controlled. It is characterized as the worst natural gas leak in U.S. history, and resulted in the evacuation of about 4,000 homes in the area. The incident has focused attention on the regulation of gas storage operations across the U.S. In response to that concern, states established a Natural Gas Storage Task Force under the auspices of the States First Initiative.

The States First Initiative is a state led program organized by the Interstate Oil and Gas Compact Commission (IOGCC) and the Ground Water Protection Council (GWPC). Its purpose is to facilitate multi-state collaboration and innovative regulatory solutions for states involved with oil and natural gas production and related issues.

This report is the principal work product of the Gas Storage Workgroup of the States First Initiative. The report was drafted by state regulators, with input and advice from experts in academia, industry, non-profit organizations, other state and federal agencies, and other interested parties. The report evaluates potential vulnerabilities at gas storage operations and identifies prospective regulatory responses for consideration by state and federal agencies. It is intended to serve as a resource for regulatory agencies, and not to advocate for specific regulatory actions.

Executive Summary

Introduction to UGS

This report addresses underground storage of both natural gas and liquid petroleum gas (LPG). Natural gas is composed primarily of methane but may have minor amounts of other hydrocarbon gases and other gases. LPG is a product of gas processing and petroleum refining; it is composed primarily of propane, butane, and related hydrocarbons that are gaseous at standard temperature and pressure but are stored and transported in a liquid state under pressure. In this report "gas", "gas storage", and UGS refer to both natural gas and LPG unless the wording or context denotes only natural gas.

The primary purpose of UGS is to provide a buffer between a relatively constant supply and variable demand for natural gas and LPG. UGS allows large supplies of gas to be stored during times of low demand, and withdrawn from storage when demand for natural gas is high, which reduces the need for larger transmission pipelines and allows for continuous supply of gas in the event of supply interruptions such as natural disasters, accidents, or acts of terror.

The need to store large volumes of natural gas to provide a leveling buffer between supply and demand has been recognized since natural gas transmission pipelines were initially being built in the late 1890s. Seeing the importance of a reliable supply of natural gas, the U.S. Geological Survey (USGS) recommended in 1909 that surplus natural gas be stored in underground reservoirs.

The natural gas industry relies on a complex network of transmission and distribution lines to provide the primary link from producing areas to end users; however, the storage of natural gas is an essential component of this system and is critical for maintaining its efficiency and reliability. One of the challenges with using gas is that it is more difficult to stockpile than other fuels, such as coal or oil. To manage this issue, gas is stored in underground formations that provide for the containment of large volumes of gas and quick withdrawal to meet the needs of end users.

Regulatory Framework of Underground Gas Storage (Federal and State)

Gas storage is regulated at both the federal and state levels by a combination of regulatory authorities. At the federal level the principal regulatory authority is the Federal Energy Regulatory Commission (FERC). However, FERC has a limited role in the actual management of facilities. Primary responsibility for gas storage facility safety resides with the Pipeline and Hazardous Materials Safety Agency (PHMSA) which is part of the U.S. Department of Transportation (USDOT). With respect to state regulation of gas storage there are a number of authorities which play varying roles. For example in most states the oil and gas regulatory agency has primary authority over permitting, operation, and closure of storage facilities while public utility commissions exercise authority over gas rates. However, in some states the utility regulatory authority has a greater role in actual facility functions.

With the adoption of the PHMSA Interim Federal Rule (IFR), the states and the federal government now may formally share authority over the nation's 400 plus natural gas storage facilities provided states apply for and obtain certification from PHMSA to do so.

Risk Management

Risk can be defined as the probability of an activity having negative consequences. It is an inherent property of all human activity. While no activity is "risk free", there are varying degrees of risk and the management of risk is a prime component of any gas storage project. The principal purpose of risk management is to identify, assess and take appropriate risk-reduction measures for threats and hazards associated with gas storage.

Risk management plans (RMPs) are developed by gas storage operators in anticipation of potential events. These plans are typically updated on a routine basis and are usually included in the application for a permit submitted to the state.

State Permitting of Underground Gas Storage

The permitting of gas storage facilities at the state level consists of administrative and technical reviews of an application submitted by a gas storage operator. The purpose of these reviews is to assure that the operation of the storage facility will be conducted in a manner that protects the environment and prevents the migration of gas out of the storage zone. The nature of the review depends upon several factors including the location of the facility, the depth to protected groundwater, the type of storage media (porosity or cavern), the location and condition of existing wells in the storage project area and the operation specifications of the particular storage project.

Well Drilling, Construction and Conversion

One of the principal components of any gas storage project is the wells that are used to emplace and withdraw gas into the storage zone (injection/withdrawal wells) and those that are used to monitor gas storage operations (monitoring wells). The drilling, construction, and conversion of injection/ withdrawal wells is typically authorized under the state oil and gas regulatory authority, which requires an operator to develop wells in a manner that prevents the migration of stored gas out of the storage zone and is protective of human health and the environment. While the drilling and construction of wells varies depending upon the type of storage zone to be utilized, in general, this is accomplished through the application of specific requirements on the operator. These requirements typically include the use of materials and methods such as the use of specific drilling fluids, use of blow out prevention equipment, placement of multiple casing strings, cementing of casing using the displacement method, and, where deemed necessary by the regulatory authority, equipping the well with tubing and packer. For further information about the use of multiple barriers please see the United States Department of Energy (USDOE) report. (1) One principal concern is the conversion of existing wells from oil or gas production to gas storage. Because these wells were not drilled or constructed specifically as gas storage wells, it is important to evaluate their capabilities for this use and to perform testing and, as needed, remedial construction to assure they can be safely operated in a gas storage regime where the well will be subjected to pressures and stresses not typically found in oil and gas production.

Well Integrity Testing

After a well has been drilled and constructed in accordance with regulatory requirements it is necessary to assure that the construction has been accomplished in a way that will prevent migration of gas out of the gas storage zone. This is called well integrity and is accomplished by subjecting the well to various tests that demonstrate both internal (casing, tubing and packer) integrity and external (cement) integrity. The principal test of internal integrity is the Standard Annulus Pressure Test (SAPT). It involves filling the

space between the tubing and the casing with a non-compressible fluid, placing the fluid under pressure for a pre-determined amount of time and evaluating changes in the pressure that might indicate a leak in the casing, tubing or packer. External mechanical integrity is often demonstrated by running a variety of tests which can demonstrate the quality of the cement bond between the casing and cement or demonstrate the lack of fluid or gas movement behind the casing. These tests can include Cement Bond Logs (CBLs), Temperature Logs, Noise Logs; Radioactive Tracer Surveys (RATs) and others.

The risks associated with performing tests should be considered when determining testing schedules, and the application or development of tests that require less invasive changes in the well operations should be encouraged.

Reservoir Integrity

In addition to the integrity of the well, the integrity of the reservoir or gas storage zone is of paramount importance to the safe operation of a gas storage project. Reservoir integrity refers to the geologic conditions for safe operation of UGS facilities beyond the wellbore. It is a function of the volume, operating pressure, and physical conditions of the gas storage reservoir or cavern. Likely risk areas for gas leakage are breaches of vertical and lateral confinement. An operator should consider the potential consequences of artificial penetrations of the gas storage reservoir or cavern, faults, fractures, confining zone/caprock sequence, and stratigraphy.

The integrity of gas storage reservoirs or zones relies primarily upon several factors such as the type of storage zone (porosity vs. cavern), the geologic framework (confining zones, structural closure, zone competence, pressure variables), and factors such as pressure maintenance, hydrologic conditions and others.

Injection and Withdrawal Well Operations and Maintenance

Gas storage wells and fields require proper operations, practices, and regular maintenance and assessments to ensure integrity and intended use throughout all stages of the facility's life – from permitting, start of initial testing, injection, and withdrawal from storage, through final plugging and abandonment.

The operation and maintenance of injection and withdrawal wells is highly dependent upon both the nature of the gas storage reservoir and the gas being stored. In porosity storage, gas storage wells often are converted former oil and natural gas producing wells that may be either existing or newly drilled and completed wells, properly tested to assure these dedicated storage wells will have extended lives. Long-term well integrity and functionality depend upon proper field and well operations and maintenance, including changes in the reservoir, fluids, rates, stimulation, remedial, offset, and surface conditions and parameters.

LPG salt cavern storage wells have significant differences in operation compared to natural gas storage; with both a brine side and a product side to the operation. These systems should be kept separate for safety and environmental considerations. Safety equipment, such as gas separators, directed to flares should be used to handle any LPG that enters the brine system. Gas detectors may also be deployed around the perimeter of the impoundment as an added safety feature. One should be concerned with the containment not only of the LPG, but also the brine.

Hard rock cavern storage relies on geomechanical stability that is addressed by the appropriate geomechanical analysis techniques. (2) The main issues and concerns with hard rock cavern storage include roof collapse, pillar collapse and surface subsidence.

Monitoring and Observation Wells

Gas storage projects require monitoring to assure that gas is not leaking from the gas storage reservoir or zone. This is accomplished through both surface and subsurface monitoring systems. With respect to subsurface systems the principal means of monitoring is through wells that are specifically drilled and constructed so that they can be used to assess the movement of gas within and outside of the reservoir or zone. These wells can be utilized to establish baseline conditions and allow for gas, pressure, and liquid monitoring of conditions and changes. They are typically drilled into formations that have relatively high permeability and porosity so that the movement of gas within the formation will reach the monitoring well and provide an early alert that gas has migrated outside of the storage zone. Monitoring or observation wells being considered for placement directly into the geologic formation(s) utilized for gas storage can be limited to the buffer zone (which is established outside of the delineated gas storage field) and can potentially detect additional pathways of gas migration out of the gas storage reservoir within the storage field. The use of and need for observation wells may be determined as part of the risk assessment for each new gas storage project.

Wellhead and Surface Facilities

In addition to the wells used to inject and withdraw gas from the storage zone there are a number of surface facilities related to gas storage operations. This guide deals exclusively with surface facilities between the well and the first isolation valve beyond the wellhead.

The wellhead is a critical surface facility component. It consists of a series of fittings, valves, and flanges often referred to as the “christmas tree”. The wellhead is essentially a well control mechanism that can be used to shut-in the well, to provide access points to the well itself, to be used to monitor well pressure, and to provide the piping that transports gas into the gathering system.

In addition to well and piping related equipment, gas storage facilities typically utilize equipment designed to detect surface leaks of gas. This includes systems such as infrared cameras and flame ionizations gas detectors that can be manually operated or automated. Surface leak detection equipment is designed to provide the operator with a warning in the event of gas leakage to the atmosphere.

Emergency Response Planning

Unlike risk management planning that is designed to evaluate the potential for failure, emergency response plans (ERPs) are designed to lay out the actions to be taken should a failure actually occur. ERPs may be created for foreseeable emergencies such as unintended releases of fluids, unexpected failure of critical equipment, natural disasters, damage to the facility that impedes facility operations, hazardous material and other releases, gas leaks from wells and pipelines, fire and explosions, well blow-outs, emergencies during routine well operations, medical emergencies, or manmade emergencies.

At a minimum, ERPs should be written to include detailed descriptions of the equipment, procedures, training, equipment testing, roles and responsibilities of all required responders, and supporting plan execution. ERPs should address internal and external communication protocols, including emergency contact information and procedures for notification. ERPs should include procedures for all major facility components, including wells, for all identified emergencies.

Temporary Abandonment, Well Closure, and Restoration

As with most human activities there may come a time when the operations of gas storage wells may need to be suspended temporarily or ceased permanently. The process of temporarily suspending the operation of gas storage wells is typically referred to as "temporary abandonment". This process differs from mere shut down of a well in that it is governed by a regulatory process that includes notifications to the regulatory agency and in some cases the application of specific physical tests or well management techniques.

Unlike temporary abandonment, well closure involves changing the status of a well permanently by either plugging the well or applying other abandonment requirements as appropriate for the type of storage zone. In the event a well is permanently plugged this is typically accomplished through the placement of mechanical and/ or cement plugs at pre-defined intervals in the well to assure that gas or other fluids will not migrate through the plugged well. In some types of storage zones, such as in bedded salt caverns, wells may sometimes be left unplugged so that they can be used to monitor the conditions of the cavern over time.

The restoration of a gas storage facility site often includes the removal of surface equipment, grading of sites, and remediation of the surface to as near pre-storage condition as required by regulatory authorities. Removal of pipes, wellheads, tanks, gas processing equipment, fluid storage excavations, treatment equipment and all other surface facilities typically only occurs when the last storage well in the project is officially abandoned.

Chapter 1
Introduction to Underground Gas Storage

The U.S. economy relies upon an uninterrupted supply of energy. This energy is supplied by a variety of sources such as crude oil, natural gas, wind, solar, nuclear and coal. Over time, natural gas has become a vital component of the U.S. energy supply, currently comprising 29 percent of the total. In addition, natural gas is playing an ever-increasing role in meeting the nation's electricity demands. (3) The demand for natural gas is spread across numerous sectors of the U.S. economy and natural gas serves as an important energy source for industrial, commercial, and electrical generation sectors and also plays a vital role in residential heating.

The key advantages to natural gas keep an energy source are that it is clean burning, cost effective, and domestically abundant. Compared to other fossil fuels, natural gas is a cleaner-burning fuel with low air emissions, making it a popular choice for power companies seeking to comply with increasingly strict air emission standards. Additionally, over 95 percent of the natural gas consumed in the U.S. is produced domestically, resulting in a low-cost, stable supply that is not dependent on foreign sources that may be subject to potential instability caused by political stresses.

The natural gas industry relies on a complex network of transmission and distribution lines to provide the primary link from producing areas to end users. The storage of natural gas is an essential component of this system and is critical for maintaining its efficiency and reliability. One of the challenges with using natural gas is that it is more difficult to stockpile than other fuels, such as coal or oil. To manage this issue, natural gas is stored in underground formations that allow for the containment of large volumes of natural gas and quick withdrawal to meet the needs of end user.

As demand for natural gas has increased over the years, the importance of underground natural gas storage to the gas delivery network has increased proportionally. As UGS regulations and demand have evolved, operations have also changed and have allowed natural gas storage to maintain its essential role in ensuring the safe and reliable supply of natural gas to the U.S.

The need to store large volumes of natural gas to provide a leveling buffer between supply and demand has been recognized since natural gas transmission pipelines were initially being built in the late 1890s. Seeing the importance of a reliable supply of natural gas, the USGS recommended in 1909 that surplus natural gas be stored in underground reservoirs. (4)

The first underground natural gas storage project was in 1915 in a gas field in Ontario, Canada. The following year, the first underground natural gas storage project was initiated in the U.S. in a depleted gas field to serve peak demands for the City of Buffalo, New York. (5) (4) This storage field is still in operation and is the longest operating underground storage project in the world. (6) As demand for natural gas continued to grow, there was an associated increase in natural gas storage capacity, and by the 1930s, there were nine underground natural gas storage projects located across six states. (7) See the underground natural gas storage timeline in Figure 1-1.

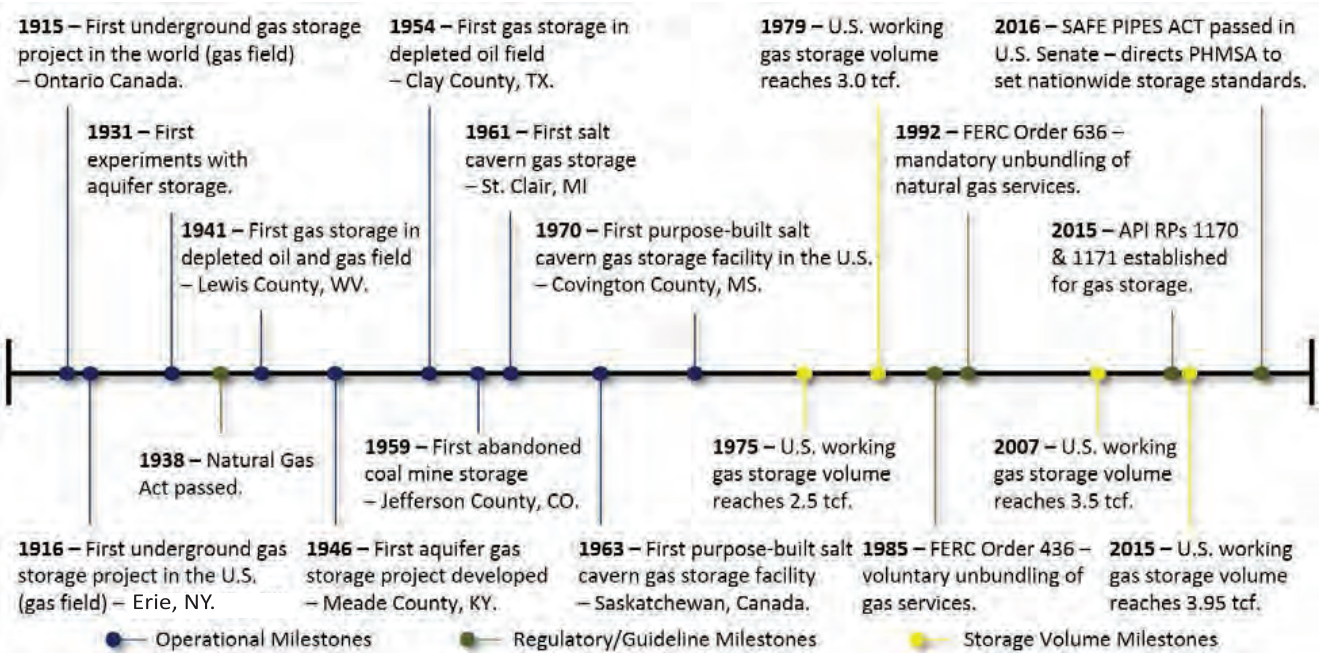

Figure 1-1 Underground Gas Storage Timeline

Until the 1930s, underground natural gas storage in the U.S. had generally been conducted in depleted gas reservoirs; however, with the U.S.'s continued reliance on natural gas, there was an associated need for additional storage capacity throughout the nation, which necessitated additional types of gas storage be used where depleted oil or gas fields were not available. To meet this need, experiments began with underground natural gas storage in different types of storage structures, including depleted oil and gas fields and aquifers. Expanding on the use of depleted hydrocarbon reservoirs for gas storage, the first gas storage project in a depleted oil and gas field was conducted in 1941 in West Virginia and the first storage in a depleted oil field was completed in 1954 in Texas. Early gas storage projects in oil fields were initially conducted to enhance oil recovery but the fields were converted to gas storage once the oil resources were depleted. The presence of oil in the storage reservoirs led to several complications, including enrichment of the gas and oil condensing out of the gas once it entered the pipeline, along with difficulties in assessing gas volumes in the reservoir due to large amounts of gas going into solution with the oil. (13) Since not all regions of the U.S. have adequate depleted oil and gas fields available, natural gas transmission operators began looking at aquifers as a storage option. The first experiments with gas storage in water-bearing formations began in 1931 and the first successful storage project in an aquifer was completed in Kentucky in 1946. (6)

The first usage of a salt cavern for gas storage was in 1961 using an abandoned salt cavern from the Morton Salt Company. Subsequent salt cavern storage facilities were constructed in salt deposits that had been mined for their salt for use in the chemical industry. The first salt cavern designed specifically for use as a gas storage facility was in Saskatchewan, Canada, in 1963, followed by the first "purpose-built" gas storage salt cavern in the U.S. constructed in Mississippi in 1970. (6)

Additionally, storage has historically been conducted in abandoned mines, although none are currently in operation in the U.S. The first abandoned mine used for gas storage was conducted in Jefferson County, Colorado, in an abandoned coal mine. This abandoned mine storage was in operation until 2003 when the city of Aurora, Colorado, bought the mine for use as a subsurface water reservoir. (8)

Over the years, various factors have resulted in a continued increase in the demand for natural gas storage capacity, which has risen 12 percent between 2000 and 2015. (17) As of December 2015, according to the U.S. Energy Information Administration (U.S. EIA), the U.S. has 415 active underground natural gas storage projects, which is more than any other country in the world. (3)

The primary purpose of UGS is to provide a buffer between a relatively constant supply and a variable demand for gas. UGS allows large supplies of natural gas to be stored during times of low demand, and withdrawn from storage when demand for natural gas is high, which reduces the need for larger transmission pipelines and allows for continuous supply of gas in the event of supply interruptions such as natural disaster, accidents, or acts of terror. This helps keep prices relatively stable through seasonal peaks in demand or other disruptions. Further, in a somewhat recent development, gas storage may be used by marketers for price hedging.

Underground natural gas storage facilities play an essential role in reliable natural gas delivery and have been developed to ensure that natural gas is available for delivery to end-users on an as-needed basis. A lack of adequate gas storage could potentially result in the following:

- Black- or brown-outs during unexpectedly warm summers, resulting in a lack of electric power for items such as lights, electronics, and air conditioners;
- Lack of natural gas to heat homes in the winter;
- Lack of power generation for commercial and industrial sectors;
- Increased need for larger and more expensive transmission lines to transport the full volume of natural gas from the point of generation to the end-user; and
- Increased price volatility.

Chapter 2
Regulatory Framework of Underground Gas Storage

a. Federal

Until early 2017, federal regulation did not provide operational, safety, or environmental standards for the subsurface portions of underground natural gas storage facilities (wells, reservoirs, caverns) – the subject of this guidance document. The Natural Gas Pipeline Safety Act of 1968 has been found by a U.S. District Court to provide authority to the PHMSA over such facilities, but until 2017 the agency declined to develop regulations around them, stating in a 1997 Advisory Bulletin that operators should consult industry guidelines and state regulations on the subject.

Responding in part to the Aliso Canyon incident that began in October, 2015, the U. S. Congress passed The Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 (PIPES Act), which provided in Section 12 that PHMSA would develop safety standards relating to underground natural gas storage facilities, with a similar jurisdictional power-sharing arrangement with states to that described below for pipelines (i.e., states could certify with PHMSA to regulate intrastate facilities to PHMSA minimum safety standards plus state requirements that exceed those standards, but for interstate facilities, states many only certify to inspect such facilities while regulatory authority remains with PHMSA).

In December 2016, PHMSA introduced an Interim Final Rule (IFR) that incorporated two American Petroleum Institute (API) Recommended Practices (RP) (API RP 1170, "Design and Operation of Solution-mined Salt Caverns used for Natural Gas Storage," issued in July 2015 (17), and API RP 1171, "Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs," issued in September 2015). (16)The IFR requires operators to comply with both the mandatory and non-mandatory provisions of the RP, with different sections required for new versus existing facilities; and for non-mandatory requirements, operators may decline to comply with justification to be reviewed by auditors. The IFR also provides for reporting requirements for facility operators.

The IFR is effective as of January 18, 2017. Operators have one year to comply with the IFR. PHMSA accepted comments on the IFR until February 17, 2017, but it is not required by law to respond or make adjustments to the IFR. PHMSA has signaled an intention to revise the gas storage rule over time.

Notwithstanding safety standards for the subsurface portions of gas storage facilities, the federal government has had longstanding general authority over gas pipelines and storage fields. FERC has jurisdiction over any underground natural gas storage project that is owned by an interstate pipeline and integrated into its system. In addition, independently operated storage project that offer storage services to interstate commerce, also fall under FERC's jurisdiction. FERC, however, has a very limited role when it comes to the safety aspects of the facilities it regulates, whether such facilities are pipelines, underground storage reservoirs or caverns, or liquid natural gas import or export developments.

The Federal agency with safety primacy over gas storage and transportation is the USDOT. USDOT is mandated to provide pipeline safety under Title 49, U.S.C. Chapter 601. PHMSA's Office of Pipeline Safety administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response

of pipeline facilities. Many of the regulations are written as performance standards which set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety.

PHMSA ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level, as described below. Section 5(a) of the Natural Gas Pipeline Safety Act of 1968 provides that a state agency may assume all aspects of the safety program for intrastate facilities by adopting and enforcing the federal standards upon application to and approval from USDOT; while section 5(b) permits a state agency that does not qualify under section 5(a) to perform certain inspection and monitoring functions. A state may also act as USDOT's agent to inspect interstate facilities within its boundaries; however, USDOT is responsible for enforcement action. The majority of the states have either 5(a) certifications or 5(b) agreements, while nine states act as interstate agents. USDOT pipeline standards are published in Parts 190-199 of Title 49 of the Code of Federal Regulations (CFR). Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues.

Under a Memorandum of Understanding (MOU) on Natural Gas Transportation Facilities dated January 15, 1993 between USDOT and FERC, USDOT has the exclusive authority to promulgate federal safety standards used in the transportation of natural gas. Project developers should attest that they will design, install, inspect, test, construct, operate, replace, and maintain the facility for which a certificate is requested in accordance with federal safety standards and plans for maintenance and inspection. Alternatively, the applicant must certify that it has been granted a waiver of the requirements of the safety standards by the USDOT in accordance with section 3(e) of the Natural Gas Pipeline Safety Act. FERC accepts this certification and does not impose additional safety standards other than the USDOT standards. If the Commission becomes aware of an existing or potential safety problem, there is a provision in the Memorandum to promptly alert USDOT. The MOU also provides for referring complaints and inquiries made by state and local governments and the general public involving safety matters related to pipeline under the Commission's jurisdiction.

FERC also participates as a member of USDOT's Technical Pipeline Safety Standards Committee which determines if proposed safety regulations are reasonable, feasible, and practicable. The pipeline and aboveground facilities associated with any FERC jurisdictional must be designed, constructed, operated, and maintained in accordance with USDOT Minimum Federal Safety Standards in the CFR section 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from a variety of diverse threats including internal, external, and atmospheric corrosion.

In addition to the new requirements set out by the IFR, Part 192 sets out area classifications for gas storage and a transportation system based on population density in the vicinity of the system and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous one-mile length of pipeline. For storage projects this pipeline would be the "pipeline header" connecting the storage project to the interstate pipeline grid.

The four area classifications are defined as follows:

- Class 1 Location with 10 or fewer buildings intended for human occupancy;
- Class 2 Location with more than 10 but less than 46 buildings intended for human occupancy;
- Class 3 Location with 46 or more buildings intended for human occupancy or where the

pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12-month period; and

- Class 4 Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. Pipe wall thickness and pipeline design pressures, hydrostatic test pressures, Maximum Allowable Operating Pressure (MAOP), inspection and testing of welds and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. If a subsequent increase in population density adjacent to the right-of-way indicates a change in class location for the pipeline, FERC jurisdictional project sponsors would be required to reduce the MAOP or replace the affected segment of the pipeline header with piping of sufficient grade and wall thickness, if required to comply with USDOT code of regulations for the new class location.

b. State

States have regulated gas storage facilities since the beginning of the 20th century. Several states have dedicated regulatory frameworks for gas storage facilities (these are especially common in states with significant cavern storage capacity), but in the majority of states with oil and gas development, the states' core well integrity rules (concerning drilling, casing, cementing, and related topics) apply to gas storage facilities as well. States are increasingly considering the development of stand alone gas storage facility rules (hence the development of this report).

While many states have imposed their rules on intrastate and interstate facilities alike, a 2010 decision by the U.S. District Court for the District of Kansas (Colorado Interstate Gas Company v. Wright et.al, U.S. District Court, District of Kansas, April 13, 2010) found that Kansas's regulation of interstate facilities was pre-empted by federal legislation, even though no federal regulation of gas storage facilities existed at the time. While the decision was limited to Kansas, this court-created regulatory vacuum for interstate facilities was part of what prompted increased interest in federal regulation that ultimately led to the PHMSA IFR described in the previous section.

With the adoption of the PHMSA IFR, the states and the federal government now may formally share authority over the nation's 400 plus gas storage facilities provided states apply for and obtain certification from PHMSA to do so. For intrastate facilities, states will now be required to adopt the federal standards but may certify to act as PHMSA's agent and to impose its own rules that go beyond the federal standard. For interstate facilities, states may certify to inspect such facilities to PHMSA standards but may not conduct enforcement activities nor impose any additional rules on those facilities. These certification processes have not been developed as of this report's publication date.

Chapter 3
Risk Management

Introduction

Risk management is an imperative aspect of operating a gas storage project. A risk management plan (RMP)identifies all potential threats and hazards to well and reservoir integrity, as well as to human health, safety, property, natural resources, and the environment. The plan considers all phases of a gas storage project including, but not necessarily limited to, well drilling and rework, completion, injection and withdrawal operations, safety systems, well integrity testing, geological and other hazards, and monitoring. Risk management is conducted regardless of any statutory or regulatory requirement. Risk management addresses both generically-conceived potential risks and site-specific risks. Site- and project-specific planning enables development of risk control and response measures that are appropriate to each facility.

Risk management is a dynamic and ongoing process. Risk assessments and plans are reviewed and updated as necessary as changes occur or at a default frequency, or as determined by regulation. Risk management may include the reasonable tolerance of risk. Risk cannot be completely eliminated. Regulatory authorities may determine or approve levels or types of acceptable risk. Acceptable risk refers to the level of human, property or environmental impact that can be tolerated by individuals, companies, regulators, communities or governments and one for which no mitigation or other risk-reduction effort is made. Acceptable levels or types of risk likely will vary from facility to facility, dependent on state (e.g., specific laws and regulations), proximity of nearby populations, facilities and infrastructure, ecosystems etc., and the reasonably modeled events that might occur if an acceptable risk evolves into an occurrence (event).

Major Issues and Concerns

Risk management is an important element in the operations of storage projects. The major issues and concerns for risk management include:

- Potential threats and hazards to human health, safety, and the environment;
- Assessment and appropriate ranking of potential threats and hazards to human health, safety, and the environment;
- Potential threats and hazards to a storage facility that can affect well and reservoir integrity and performance;
- Preventive and mitigating (P&M) measures to monitor and/or reduce risk; and
- Contingency provisions (e.g., emergency response plans (ERPs); see Chapter 11 of this document) to guide the response to unplanned or emergency events.

Main Take-Aways

- Risk management is undertaken to identify, assess and make appropriate risk-reduction measures for threats and hazards associated with gas storage.
- Risk management is a dynamic, ongoing process that requires periodic updates to the plans.

Risk Management

a. Plan Elements

Risk management has many elements. Many of these elements are discussed in later sections of this guidance and only briefly discussed in this chapter. Elements of gas storage risk management include:

i. Well work such as drilling, completion, workover, and conversion;

ii. Geological characterization of the storage reservoir or salt body;

iii. Well and reservoir integrity monitoring;

iv. Critical above-ground systems; and

v. Monitoring and observation wells.

Risk management should be considered during well and reservoir planning, construction, modification and maintenance. Gas storage operators should consider these factors in combination with local geological characteristics, the type of storage operation contemplated, and gas product(s) to be stored. Risk management and mitigation may affect selection, monitoring, and repair/replacement of casing, tubing, packers, various downhole equipment, and also wellhead components. Maintaining well integrity and other aspects of a storage facility is the goal of risk management.

Conversion of existing depleted oil and gas wells that were designed for the production of oil and natural gas is the most common type of development for gas storage facilities. Prior to converting an existing oil and gas well for use in gas storage, operators should conduct a series of tests to verify both internal and external mechanical integrity of a well.

Gas storage operations should never be conducted at pressures exceeding either the as-new design parameters (e.g., strengths) of a well or the strengths as conservatively recalculated following a thorough evaluation of a well's current condition (e.g. corrosion or degradation of casing; modern evaluation of cement outside pipe; etc.). Risk management includes both continuous and periodic monitoring of pressures, casing thicknesses, and other properties within wells and above ground conveyance and processing equipment. It also includes installation, maintenance, and testing of safety systems. Relevant safety systems include both monitoring systems such as Supervisory Control and Data Acquisition system (SCADA) and mechanical or other systems that may physically prevent a fluid or gas pathway.

b. Identification of Potential Threats and Hazards

Identifying and understanding threats and hazards to gas storage operations is requisite to determining and prioritizing risks and mitigative measures. (10) API RP 1171 lists common threats and hazards for safe storage of gas in reservoirs. API RP 1171 groups risks along themes of well integrity, design, operation, maintenance activities, well intervention, third party damage, outside forces/natural causes, geologic uncertainty, and reservoir fluid incompatibility. (10) Table 1 in API RP 1171 separates these risks into categories to account for threats to storage wells, reservoirs, and surface facilities. (10)

Risk assessment can be performed in various ways. Gas storage operators should utilize an appropriate risk assessment method to "identify potential threats and hazards to a storage facility; evaluate likelihood of events and consequences related to the events; determine risk ranking to develop preventive and mitigating measures to monitor and/or reduce risk; document risk evaluation and decision basis for P&M measures; provide for data feedback and validation; and review and update risk assessments to update information and evaluate risk management effectiveness." (10) P&M measures may not be necessary for all identifiable risks and threats. (2)

The IOGCC document on storage in hard rock caverns lists various factors that should be included in a Process Hazard Analysis (PHA) for storage in hard rock caverns. The document also recommends that personnel performing a PHA for gas storage have engineering and cavern operation experience and knowledge of the specific PHA being utilized. (2) Identification of threats or hazards to salt cavern storage operations should consider general safety, potential loss of product, subsidence effects, and possible environmental impacts with specific regard to potential interactions with abandoned wells within ¼ mile of the cavern or the potential impact on other mining operations in the area. (11)

c. Preventive and Mitigative Responses to Threats and Hazards

API RP 1171 defines preventive measures for reservoir storage as those actions reducing the likelihood of risks to storage facilities and mitigative measures for reservoir storage as those actions reducing the consequences of threats to storage facilities. (10) Some examples of these actions are delineated in Table 2 in API RP 1171 by categories such as wells, reservoir, or surface, and the potential threats and mitigative or preventive measures commonly employed by storage operators. (10)

Some practices should be implemented regardless of storage medium. These practices include regular inspections and testing of instrumentation, valves, pumps, emergency equipment, control systems, shutdown valves, wellheads, and associated pressure monitoring systems. (2) Additionally, caverns, whether in hard rock or salt, and well casings should be tested prior to starting storage operations and regularly after that by an approved method. (2) Subsidence is a risk of cavern storage and such gas storage should include a program to monitor for subsidence. (2) Appropriate security should be in place at any gas storage facility with additional safety and security measures typically necessary during extensive well work. (2)

Cavern gas storage operators should consider the potential for each subsurface activity to adversely impact cavern and facility integrity. (2) Such impacts may include potential loss of product, subsidence effects, and possible environmental impacts with specificity concerning the potential for interaction with activity, current or future, which could have a significant impact on the water table level and allow for gas migration, or other aspects of safe and prudent operation. (2) Wells with long design lives should be constructed to monitor groundwater depth and/or chemistry in the vicinity of storage cavern(s). (2) Cavern storage facilities should be equipped with fail-safe devices which automatically operate in the event of an unauthorized or unsafe condition or status of the facility or in case of other emergency. (2)

d. Approval and Certification Requirements

Gas storage operators should appoint a multi-disciplinary evaluation team, with engineering and geological expertise to institute and conduct reviews of RMPs. (2) Prior to approving or certifying RMPs, regulators may consider using As Low as Reasonably Practical (ALARP) principles in their review of the plans to establish an acceptable level of risk. ALARP is similar to a cost benefit analysis, but takes other components into consideration. (12) ALARP establishes an area for the storage operator to work within different risk thresholds. The thresholds consist of an upper limit that is intolerable and a lower limit

that is broadly acceptable. At some point, the money spent by the storage operator to mitigate a risk may be grossly disproportionate to the associated reduction in risk or the risk has been reduced below the lower threshold where it is classified as broadly acceptable. (12) Regulators should assess whether further mitigation steps justify the costs which will be passed onto the users, and operators must evaluate the conditions surrounding their storage project to react as necessary to keep risk at an acceptable level. (12)

e. Updating Plans

Risk management is an ongoing and dynamic process. Risk assessment and management should be periodically (and additionally as prudent) reviewed and updated process. (10) Operators of cavern gas storage should use a team with appropriate expertise to write and review/update risk assessments and RMPs to verify they correspond to current conditions. (2) The functional integrity of storage operation is the underlying purpose of risk monitoring and management and should include continual review and improvement cycles in risk management activities. (10) Reviews of RMPs should be performed on a basis that is short enough to account for recent changes but long enough to provide useful data to storage operators. (10)

Chapter 4
State Permitting of Underground Gas Storage

Introduction

The permitting of gas storage facilities at the state level consists of administrative and technical reviews of an application submitted by a gas storage operator. The purpose of these reviews is to assure that the construction and operation of the storage facility will be conducted in a manner that protects the environment and prevents the migration of gas out of the storage zone. The nature of the review depends upon several factors, including the location of the facility, the depth to protected groundwater, the type of storage media (porosity or cavern), the location and condition of existing wells in the storage project area and the operation specifications of the particular storage project.

Major Issues and Concerns

The main technical goals of the UGS permitting process are two-fold. First, the applicant must demonstrate that the proposed storage zone, whether a depleted reservoir, aquifer, or salt cavern has the geological and geomechanical properties that render it suitable for secure gas storage over the life of the facility. Gas storage must be confined to the defined storage reservoir or cavern. Second, the applicant must demonstrate the storage operations will not endanger groundwater resources, public safety, human health, or the environment. Groundwater protection is accomplished by both selecting a suitable storage zone and also via suitable well design, construction, and subsequent facility operation. While the operator of a proposed gas storage project should perform initial site screening on its own and only propose what it views as suitable projects to the regulatory authority, the permitting process is the best opportunity for the regulatory authority to eliminate what it views as any unsuitable storage proposals or components of a proposal. The regulator's application review efforts should ensure that any storage project is properly sited and designed to be protective of public safety, natural resources, human health, and the environment.

The nature of gas storage, in any setting, will place large volumes of gas in underground formations. Ensuring this pressurized gas, stored in formations or caverns, does not have avenues for migration is the focus of effective permit application review.

The construction of new gas storage fields is a major capital investment for any company, and will involve many levels of study and review to determine if the site is appropriate for UGS. It is in an applicant's interest to have as much information as possible about a location for a storage field before ultimately pursuing a permit to operate the storage field. Permitting of federally regulated, interstate natural gas facilities will have a mandated permitting process regulated by FERC before receiving any required FERC certificate. Features of the FERC application process will be useful to the state regulator in considering its permit requirements.

The permitting of intrastate facilities, which are not regulated by FERC, will most likely have more burden of oversight placed on the state regulators. Many elements of a FERC approved facility should also be considered in state permitting. An equivalent of protection should be maintained in intrastate facilities as in federally regulated interstate facilities.

Main Take-Aways

- The regulatory review of a permit application for gas storage should focus on evaluating the geological and geomechanical properties of the proposed location, proposed well construction, previous oil or gas activity in the surrounding vicinity, and the ability of the project to be protective of public safety, natural resources, human health and the environment.
- While the main reservoirs used for UGS are either porous media or caverns, the focus of the regulatory review remains the same.
- On-site inspections by regulators are a vital part of the permitting review process. Inspections allow for the verification of all reported and expected site conditions.
- The three main portions of a technical permitting review are focused on geologic review, engineering controls, and the AOR.

State Permitting of Underground Gas Storage by Reservoir Type

a. Geologic Site Characterization General Comments

Geologic site characterization should be required prior to the development or expansion of an underground storage facility. This assessment should be done in conjunction with and coordinated with engineering studies. For existing facilities, the site assessment should be periodically updated during the life of the project as new data becomes available or if there are operational or geologic risk concerns.

The site characterization provides the basis for a practical understanding of the site-specific geology using maps and cross-sections constructed from available data such as well logs, cores, geophysical surveys, and historical records. The analysis of these data provides the geologic basis for feasibility, design, permitting, construction, optimization, and management of a storage asset. It also provides the basis to delineate and recognize geologic features that could potentially compromise the integrity of or be problematic for storage operations.

Creating space, storing and cycling product underground in geologic formations (salt caverns or porous media) creates a potentially dynamic situation in the rock mass that will be altered (i.e. stress, pressure, fluid contacts, etc.) from pre-storage conditions. The extent and impact of these changes need to be understood for the prudent design and operation of storage facilities as these altered conditions can impact technical feasibility, permitting, operations, and assessment of the geologic risk.

The ability to understand the geology in the subsurface will depend upon the availability, quality, quantity, distribution and type of data available. One aspect of a site characterization is to identify data gaps and make recommendations on where additional information is required. This may require the acquisition of additional data such as core data and testing, additional test wells, and well testing or geophysical surveys, depending upon the type of information required. Uncertainty in the geologic model can equate to some level of geologic risk. There will always be an element of geologic risk associated with subsurface work because of the inability to resolve, characterize, or have sufficient understanding of all of the details of the real world geology and potential risk features associated with a particular site. Therefore, an operator should continue to acquire, study, and maintain subsurface data throughout the life of a storage project. Maintaining and updating the geologic database and level of geologic understanding during the lifetime of a facility will allow for improved geologic risk management and mitigation capability.

Geologic maps are not the end product but are generated to provide the basis to analyze and communicate subsurface geologic information. It should also be noted that the geologic maps are an interpretation,

not necessarily the entire answer. The localized geologic interpretation should be consistent with and fit within the context of the surrounding sub regional geologic setting. It should also be consistent with not only the geologic data but also with observations from engineering data, well tests, and operational performance of the wells within the field. The interpretation should be updated and refined during the life of the storage asset as new information becomes available.

Additional information regarding geologic site characterization for underground storage can be found in API RP 1170 and API RP 1171. While these documents were written specifically for gas storage in salt and porous media respectively, the concepts regarding geologic characterization can be applied to underground storage in general. Additional information can be found in API RP 1114 E2 regarding liquid product storage caverns. (13)

i. Geologic Site Characterization for Porous Media

Gas can be stored in depleted oil and gas fields and aquifers. Although the focus may vary, the geologic methodology is basically the same for gas storage in depleted oil and gas fields and aquifers except that depleted oil and gas fields have demonstrated that they can trap gas of a specific volume over a period of time and they are generally associated with more well data and have a production history. New aquifer storage fields are potentially less well understood and may require more extensive exploration programs and testing prior to the beginning of storage operations to develop sufficient understanding to demonstrate that they are suitable candidates to store gas.

It should be noted that every reservoir site is geologically unique depending upon local stratigraphy, reservoir properties, depositional environment and deformational history. The geologic assessment of an underground storage field in porous media differs from that typically performed for oil and gas development in two fundamental ways. First, the reservoir and its sealing capabilities may have been altered by compaction or damage created by previous fluid extraction (hydrocarbons and formation water) due to grain repacking of partially fluid-supported sediments, altered pressure conditions, or migrating fluid contacts. Second, cycling gas in a porous reservoir creates a dynamic system involving pressure differentials and multi-phase fluid interactions that will often be in flux depending upon how and how often the reservoir is cycled. It is important that reservoir boundaries and potential migration paths are identified and product containment is demonstrated under the proposed operating conditions of the storage facility. The potential impact of such changes should be addressed by geologic, geomechanical and reservoir engineering assessments.

The objective of the site characterization is to evaluate the geologic setting to determine if a specified volume of gas can be safely contained in a predetermined location, sufficiently isolated from the Underground Source of Drinking Water (USDW) or other protected groundwater, and be cycled and recoverable in an economic and prudent fashion.

The geologic site evaluation of a porous reservoir should include but is not limited to an analysis of the following:

ii. Field geometry – areal extent (lateral boundaries), size, structural configuration

1. Reservoir characteristics – lithology, porosity, permeability, capillary pressure, pore throat size, thickness, depositional environment, reservoir /salt anisotropy and heterogeneity, effective vs. non-effective reservoir, faulting, reservoir

compartmentalization, current and historical fluid contacts, geomechanical properties, fluid saturation, discovery pressure for depleted field, and others;

2. Type and strength of reservoir drive (water drive, depletion drive, etc.);
3. Top seal/caprock – thickness, lithology, geomechanical strength properties, permeability, porosity, capillary pressure, and others;
4. Trapping mechanisms – top seal/caprock, structural closure, faulting, stratigraphic pinchout, gas/hydrocarbon/water contacts, spill points;
5. Base of USDW or other protected groundwater - isolation distance and permeability/porosity of intervening rock;
6. Hydrocarbon production or injection wells – maintain sufficient isolation from existing hydrocarbon production, and injection wells, including disposal wells;
7. Potential geologic risk elements (see Chapters 8 and 9 – for more detail) include but are not limited to:
   a) migration pathways to the surface via faults or boreholes;
   b) juxtaposition or potential connection of storage reservoir with other permeable units via scouring, faulting, unconformities and stray sand development, etc.;
   c) fault compartmentalization;
   d) spill points;
   e) delta pressuring;
   f) compromised caprock/top seal; and
   g) interference with injection or hydrocarbon production;
8. Proximity to sensitive areas: Design for the protection of public safety, human health and the environment is of paramount importance during the storage field design process. This includes a review of safeguards to surrounding culture, sur face water and groundwaters. The operator may also perform an environmental impact survey prior to commencing any drilling or facility construction. (10)
9. Setback requirements (10): Operators are encouraged to work with applicable land use authorities and landowners to ensure proper setbacks from the facility are applied;

iii. Siting and spacing considerations:

1. Geologic reservoir features
   a) Porosity of formation;
   b) Permeability of formation;
   c) Depth of formation: A minimum depth is required. It may be hard to de-fine an exact depth, but sufficient depth to ensure the zone is isolated and will not interact with surface features or people;
   d) Confining zone: Formation must have impervious rock;
   e) Lateral confinement: The storage horizon must have laterally containing features. Typically, they can be structural geologic features or other types of geological barriers that provide traps, pinch outs, adjoining salt dome deformation, igneous intrusions or others;
   f) Define a buffer zone that reflects the geologic uncertainty of the particular field and risk;
   g) Existing wells in depleted reservoir: Existing production wells in a potential storage field may be candidates for conversion to storage if their design and completion methods meet the storage standards. All existing production wells to be converted to storage should be thoroughly inspected

for well integrity, including downhole casing inspection logs, and pressure tested to confirm suitability for storage service. Any well that does not meet the storage standards should be either reworked to meet those stan dards or plugged and abandoned; and;

h) Existing boreholes can be used as storage wells providing they meet regulatory requirements; and

iv. Operational requirements near sensitive areas:

1. The storage field design can include plans to monitor conditions as they pertain to well drilling and storage development for protecting the environment and health and safety of workers and the public. This includes the development of site-specific plans for known problems like geological and other potential hazards. (10)
2. Site specific requirements include (10):
   a) Installation of protective equipment for site security and safety;
   b) Development of storage well blowout contingency plans; and
   c) Liaison with all pertinent local emergency personnel; and
   d) Operators may also consider more frequent inspections or using leak detectors, downhole shut-off valves, or other safety devices in areas near populations or gathering spaces, or as determined by the site-specific risk assessment.

v. Geologic Site Characterization for Solution Mined Salt Cavern Storage

Both liquid and gaseous products can be stored in solution mined salt caverns in bedded, deformed or domal salt deposits. Gaseous products are also stored in mined salt caverns in bedded salt formations. Bedded salts are relatively undeformed salt deposits where the internal bedding is still largely preserved undisturbed. Domal salt generally has flowed several thousand feet vertically breaching the overlying strata. The internal bedding is often largely broken down into rafted blocks or stringers that parallel the flow banding. Hence, the geologic concerns for bedded salt differ somewhat from domal salt. Depending upon the amount and type of deformation, deformed salt will have various degrees of salt flow and preserved bedding.

Like porous media reservoirs it is important to evaluate salt cavern storage fields with regard to distance and isolation from USDW or other protected groundwater, existing or planned subsurface activity (wells, mines, other salt caverns, etc.) and reservoir quality (geomechanical properties and impurity content of the salt). For domal and highly deformed salts, a geologic assessment becomes more focused on resolving structural complexity, precisely identifying the edge of salt and resolving potentially problematic internal features such as anomalous zones, shear zones and faulting. It is important to remember that domal and deformed salt are potentially active geologic features whose current configuration and internal material properties are determined by initial stratigraphy, deformational history, dissolution, etc. Therefore, salt movement and dissolution can pose risk factors for drilling, well integrity and cavern integrity.

In most cases, as salt is the sealing media, there is no trapping mechanism other than the salt itself. Therefore, it is critical to demonstrate that there is sufficient good quality salt to develop the storage caverns, no geologic or man-made features that may provide potential weak zones or migrations paths, and that sufficient buffer exists from the edge of salt and the cavern, both laterally and vertically above and below the cavern. When assessing the distance to the edge of the salt, it is important to consider the density and definitiveness of the available data and the potential for salt quality to degrade towards the edge. Sufficient salt as determined by engineering studies should be maintained above the cavern to help support the overburden and caprock (if present) over the cavern roof.

Salt caverns are generally constructed in rock salt primarily composed of halite. The strength and creep properties of rock salt are influenced by its deformational history and impurity content.

Impurities and structurally stressed salt are generally considered to be anomalous and potentially problematic for salt cavern development. The presence of highly creep-prone or soluble salts such as Potassium-Magnesium potash salts can create the potential for irregular cavern geometries and high creep closure rates. High non-salt impurity content can lead to solution mining issues, and increased potential for roof falls. Sheared and faulted salt (often containing brine, gas or liquid hydrocarbons) can indicate differential salt movement, weak salt or porous salt that can impact cavern operations, and well and cavern integrity, or can contaminate the stored product.

In the case of bedded salts, the focus, geologically, is more on internal stratigraphy as the distribution of dirty (impure) salt or non-salt interbeds laterally and vertically will potentially limit the space for cavern development in good (pure) salt. Interbeds and dirty salt may be potentially problematic with regard to roof falls, or casing integrity, and they can create potential for irregular cavern shape and provide zones of potentially weak or permeable rock. The distribution, thickness, strength properties, fluid compatibility, and permeability of non-salt interbeds should be investigated. The contacts between non-salt interbeds and the salt can be planes of weakness and can result in unanticipated roof falls.

Differential salt movement between different salt spines, along faults or at the salt/country rock interface can be particularly problematic for well or cavern integrity.

The geologic site evaluation of salt caverns should include, but not be limited to, an analysis of the following:

1. Salt body geometry – areal extent and edge of salt, thickness, structural configuration;
2. Salt quality – salt quality, thickness, geomechanical properties, impurity content (lithology, amount, distribution), non-salt interbeds, anisotropy and heterogeneity, weak zones, highly soluble zones, creep prone zones, porous salt, and others;
3. Interbeds - mostly bedded salts and non-gulf coast domal or deformed salt structures. May be rafted apart where salt flow has occurred;
4. Caprock thickness and lithology (domal salt);
5. Base of USDW or other protected groundwater, - isolation distance and permeability/porosity of intervening rock;
6. Zones of active water flow or salt dissolution; and
7. Potential geologic risk elements, which may include but are not limited to:
    a) Too close to edge of salt, edge of dome, stratigraphic pinchout, bounding faults, dissolution fronts, non-deposition;
    b) Differential salt movement, shear zones and faults within the salt (boundary shear zones and edge zones);
    c) Migration pathways to edge of salt via faults, boundary shear zones, weak salt, permeable salt;
    d) Proximity to existing salt caverns (thin salt pillar), mines or wells drilled into salt; and
    e) Caprock faulting and lost circulation zones – pose drilling risk and can compromise integrity of well casing and cementation.

vi. Geologic Site Characterization for Mined Cavern Storage

Liquid hydrocarbons and LPG may be stored in conventionally mined caverns in undeformed, impermeable non-porous rock such as hard shales, carbonates and crystalline igneous or metamorphic rock.

While abandoned mines have been used to store liquid product, it is generally accepted that purpose built mined caverns are less problematic and the better option. Natural gas storage is technically feasible in mined caverns; however, the increased mobility of natural gas would require some type of lining of the cavern walls to insure containment.

Like aquifer storage, mined caverns are generally located in areas of sparse well density and subsurface geologic data. Initial exploration can be done with core wells, hydrogeologic well testing and geophysical surveys. Unlike other types of storage projects, detailed information for mined caverns will be obtained during the construction of the cavern. This will include but not be limited to lithologic analysis, geo-mechanical testing, mapping the distribution and characteristics of fractures and faults, locating water seeps, etc. This geologic information should be used during construction to update the geologic model and modify the initial design as required.

The geologic site evaluation of mined caverns should include but not be limited to an analysis of the following:

1. Geometry of geologic formation of the cavern interval and surrounding rock: - thickness, areal extent, structural configuration, etc.
2. Lithology, rock matrix impermeability, petrophysical properties and strength properties of cavern interval and surrounding rock: - needed to demonstrate containment and structural integrity. The rock formation must be sufficiently impermeable to contain stored product while also stable enough to withstand the mining process and pressures associated with input and withdrawal cycles.
3. Distribution and characteristics of fractures and joint systems are critical: - possible product migration pathway and weak areas for cavern stability. These also may be a safety element during construction for possible rock falls during construction.
4. Isolation from USDW or other protected groundwater.
5. Seal (above and below): thickness, areal extent, structural configuration, lithology, impermeability.
6. Hydrogeological characteristics and distribution of hydraulic potential above, around, and below the cavern.

Potential geologic risks can include:

1. Migration of product through shaft, sump, boreholes, faults, voids, or through surrounding formation (i.e., more permeable, fractured, or zones with lower hydraulic potential, etc.).
2. Sinkhole formation
   Long term monitoring of the hydraulic potential with monitoring wells is recommended since hydrogeological containment is a dynamic situation. Also injection wells may be needed to generate pressure curtains so that any fluid migration is in toward the cavern instead of out of the cavern.

b. Engineering Review

In addition to a geologic understanding of the proposed storage reservoir, the impact of installing and operating wells or caverns within the reservoir must also be considered. A detailed discussion of well drilling and operation can be found in Chapters 5 and 8, respectively. General topics to consider when evaluating a storage project from an engineering perspective follow:

i. Engineering Considerations for Porous Media

1. Engineering analyses including: (10)
   a) An examination of well records to determine which current wells and abandoned wells have penetrated the formation (See Section c. of this chapter for more information on AOR);
   b) A review of the wellbore mechanical integrity for suitability for the intended design and operation of the well and protection of the reservoir's integrity. This review applies to both new wells and existing wells that are proposed to be converted to storage service. This should include a review of the following:
      1) Casing materials;
      2) Casing configuration;
      3) Set depths;
      4) Cement;
      5) Placement depths;
      6) Completion records; and
      7) Geologic setting.
2. An analysis of abandoned and plugged wells to verify effectiveness of plugging methods and materials used as well as the placement of any plugs to prevent migration.
3. An analysis of the chemistry of reservoir fluids to determine characteristics and potential impacts on storage well drilling, completion and stimulation, and storage operations.

ii. Engineering Considerations for Solution Mined Caverns

When evaluating a salt formation for development of solution mined caverns, in addition to the issues discussed previously in the Engineering Considerations for Porous Media, the following issues specific to solution mined caverns should be considered:

1. The placement of the cavern from the edge of the salt
2. Faulting within the salt formation
3. Spacing between storage caverns
4. The proposed size and shape of the cavern, particularly as it relates to cavern stability
5. The maximum and minimum storage pressure within the cavern, with special attention to the fracture gradient of the salt and the minimum pressure needed to minimize salt creep

iii. Engineering Considerations for Mined Caverns

Development of a mined cavern will begin with a main shaft or well. The main shaft is large diameter and used for moving equipment and people into the cavern to begin the mining process. (14) This main entry point and some additional wells will be utilized for input and extraction of stored product. Wells proposed for storage operations should be permitted and constructed in accordance with existing oil and gas well construction standards. The number and distribution of wells for a storage project depends on the nature of the storage and deliverability desired. In addition to wells to be used for input and withdrawal,

the storage operator should be required to install and monitor an observation well or wells depending upon the size of the storage project and local conditions. See monitoring section for more detail on wells outside the cavern boundaries.

The mined cavern must undergo integrity testing prior to the commencement of storage operations. (2) To isolate potential avenues of migration, all penetrations into the cavern should be tested for mechanical integrity separately prior to testing the cavern as a whole. These individual well integrity tests can be performed using tubing and packer or during construction following the cementing of production casing. The storage operator and regulator should work together to agree upon criteria for successful integrity demonstration. Storage operations should not begin until a successful integrity test has been completed and approved by the regulator. In addition to cavern and well integrity, all conveyances should be individually tested prior to beginning service. This ensures integrity of pipelines, connections, valves, and any other potential sources migration or leakage.

c. Area of Review (AOR)

i. Size

1. An AOR will differ depending on type of storage facility. Reservoir and aquifer storage areas most likely have a wider buffer boundary that may be determined by the particulars of local geology, historic and current oil and gas and gas storage development and site specific storage area construction details. Solution mined cavern storage must also consider local geology and may have a smaller, better defined lateral extent.
2. The development of an AOR may consider whether it applies to the entire storage area and a buffer zone around the area, or to individual wells and buffer zones around them.
3. The size of the AOR of a new storage facility should be first determined by the geologic setting of the storage and regulatory requirements. Reservoir storage is often located in domed, anticlinal geologic features, stratigraphic or other geologic structural traps, with an impervious confining zone. Cavern storage AOR should also include an area overlying the storage horizon, considering all potential avenues of migration.
4. The lateral extent should include a horizontal zone of influence where the pressure of injected storage gas may:
   a) have an effect on nearby production wells; or
   b) exert pressure sufficient to force the migration of the gas or formation water into zones that present a hazard associated with loss of control of pressure gradient. These hazards could include; effects on USDWs or other protected groundwater,increased pressure in nearby wells, or the migration of gas to the surface, or other geologic horizons.
5. The AOR must also consider the lateral extent of geologic confining structure, to ensure gas does not leak out of the intended geologic structural or stratigraphic feature.

ii. Configuration

1. The configuration of the AOR for reservoir, aquifer, or cavern storage should consider:
   a) Geologic setting of reservoir, aquifer, or cavern;
   b) Prevailing directional dip of the formation(s);
   c) Size, structure, history, evaluation, and depth of salt domes or beds;

d) Potential sensitive surface features;
e) Potential USDWs or other protected groundwater;
f) Potential avenues of gas migration;
g) History of subsurface drilling and underground activities (mining, solution mining, waste disposal); and
h) Structural setting (faulting, folding, fracturing, and others).

iii. Elements of an AOR

1. The focus of an AOR must be to ensure that the storage area does not contain avenues of migration for fluid outside of the planned storage area, or if avenues of migration potentially exist that the development and operating plan have contingencies to investigate these avenues and address the risk if a migration avenue is subsequently found to exist.
2. The AOR elements may share certain features as listed below, and any other local condition, particular to that region that may impact the integrity of the storage area, the integrity of particular wells or any surrounding area. Knowledge of local conditions; history, geologic setting, land use patterns, and demographics is vital to performing an adequate AOR.
3. An AOR evaluation must contain a review of all available records for wells that were drilled in the AOR and buffer zone. This review should determine the location, depth, history, plugging history, cement integrity, and any other information necessary to ascertain the degree of risk to which existing wells pose a threat for fluid migration. Wells that are known to have penetrated, or were completed in the storage horizon, or are vertically proximate to the storage horizon should be of primary interest.
4. A review of all plugged well records and their surface locations must be performed to determine if they were constructed and have been plugged in a manner that prevents a man-made pathway for the movement of gas or associated fluids from the storage zone. Particular interest must be focused on wells that penetrate into or through the proposed gas storage zone.
5. The applicant may consider all the local history, to consider possible activity that was not permitted in the modern era, and for activities that may have not been adequately documented. Historical research and due diligence is of high importance. Historical research could include studies, papers, and reports on the geology of the field and any related engineering review or analysis.
6. The applicant may also perform any practical physical reconnaissance that could reveal historical features of concern, such as aerial photographs, Light Detection and Ranging data, ground evaluation, seismic surveys, magnetic surveys, and resistivity, or conductivity surveys.
7. Geologic factors such as faulting, folding, sinkholes, seeps, formation depth, permeability of surrounding rock, confining zone characteristics, and any other known features must be reviewed for all storage facilities for the potential to have adverse impacts to storage area.
8. The collective evaluation of the AOR data must be a factor in determining the suitability of the area to be used as a storage facility.
9. An AOR must include extensive documentation of the review process, including maps with all known wells, all relevant features, cross-section profiles, geologic characteristics, indices or copies of reviewed documents, historical studies, reconnaissance reports, and all relevant information that was studied.

iv. Corrective Action Strategies

1. Any known safety risks to storage area integrity should be addressed and mitigated prior to beginning storage operations. A remediation plan should be developed to address any issues and the plan submitted as part of the permitting process.
2. Any plugged wells that are identified in the AOR must be reviewed to confirm that they were constructed and plugged adequately. Historical plugging practices may not be adequate to prevent migration of gas, so plugged wells should be frequently monitored during the first few years of a new storage project and periodically monitored throughout the life of the storage project.
3. Unplugged or inadequately plugged wells of concern should be identified for further review.
4. Inadequately constructed or plugged wells that penetrate into or through the storage zone must then be properly reworked or adequately plugged.
5. Laterally offset wells within the buffer zone that penetrate the storage horizon, and that will remain in place, may be used as observation wells to look for com munication with storage zones.
6. Initial testing of storage horizons may evaluate the AOR for any adverse impacts, early signs of which may require mitigation, or reevaluation of suitability of the area as a storage location.

d. Siting and Spacing Considerations

i. Physical Features Advantageous for Storage

1. A geologic structure with suitable capacity and flow potential to be commercially viable given its relative location to intended markets and pipeline infrastructure.
2. Close proximity to markets, which provides for storage near the end users, and offers fast response to demand.
3. Close proximity to existing pipeline infrastructure, which makes storage near major pipelines a source for storage gas, as well as outlets.
4. Close proximity to a source of gas.
5. Rural setting. Storage facilities constructed in areas with lower population density present a lower risk to human health and likely fewer land use conflicts.
6. Pipeline right-of-way access. Maintaining secure pipeline right of ways, free from encroachment, is important for safety.

ii. Physical Features Not Advantageous to Storage

1. High population areas.
2. Opposites to all the above, inadequate geologic properties, distant to source gas, markets, pipeline infrastructure, etc.
3. Existing old oil and gas wells
   a) Areas with a long history of oil and gas production, with many abandoned and undocumented wells. These wells could become potential vertical migration pathways causing serious safety issues at the surface.
   b) Storage fields with a large number of production wells that penetrate the caprock inherently pose a higher integrity issues than a field with fewer caprock penetrations.

iii. Lease History and Neighboring Oil and Gas Production

1. Some areas of the U.S. have a long history of oil and gas production, with many oil and gas lease holders. A potential storage field operator may need to control significant acreage for the field and buffer zones. Nearby oil and gas wells, may interfere with safe storage operations.
2. In certain areas, other subsurface mineral extraction activities, such as coal mining, may also be ongoing or have surface or subsurface lease interests in land being considered for storage. Storage operators should conduct a thorough review of the mineral ownership in their storage projects to identify potential conflicting interests.

iv. Proximity to USDWs or other protected groundwater for Depleted Reservoir Storage

1. There are areas in the U.S. where oil and gas horizons are very close vertically to USDWs or other protected groundwater. There should be adequate vertical separation, and a confining zone between the two.
2. The storage wells should be constructed with adequate casing and cementing to protect the USDW or other protected groundwater.
3. For new facilities a survey of water quality from water wells adjacent to the facility is important to consider when evaluating the siting of the facility.

e. Operational Requirements Near Sensitive Areas

i. The storage design should include plans to monitor conditions as they pertain to well drilling and storage development for protecting the environment and health and safety of workers and the public. This includes the development of site-specific plans for known problems like geological and other hazards. (10)

ii. Site specific requirements should include (10):

1. Installation of protective equipment for site security and safety;
2. Development of storage well blowout contingency plans; and
3. Liaison with all pertinent law enforcement agencies and first responders.

iii. Operators may consider using leak detectors, downhole shut-off valves, or other safety devices in areas near populations or gathering spaces, if risk assessment indicates they are needed. See Chapter 3 for more information on Risk Assessment.

f. Drilling Through Storage Reservoirs by Type

i. Drilling through porosity reservoirs

1. New third party wells within either the vertical or lateral buffer zone should be drilled and completed so the third party wells isolate the storage reservoir as recommended by the storage operator and approved by the regulatory authority. (10)
2. The entity drilling the well should provide sufficient notice to both the storage operator and the regulatory agency. (15)

ii. Drilling through cavern storage

1. Any situations in which an entity would propose to drill through a salt or hard rock cavern to reach a productive or disposal zone beneath is not recommended.
2. In bedded salt, unlike with a depleted reservoir, the stored gas is contained within the storage cavern and does not freely flow over a large lateral area. Therefore, precautions must be taken to ensure any well passing through the bedded salt zone does not penetrate a storage cavern or come too close to the edge of the cavern. In order to preserve the integrity of the storage cavern, wells passing through the salt should be located at least a distance of 2D from any cavern wall, where D is the maximum diameter of the cavern, or 200 feet, whichever is greater. A cavern located closer than 100 feet to any point on the salt's perimeter is not recommended.

SED 01403

Chapter 5
Well Drilling, Construction, and Conversion

Introduction

The drilling, well construction, completion, or conversion of wells associated with underground storage of gas has been accomplished by the gas storage industry for many years. While the vast majority of wells utilized by the gas storage industry in the U.S. are conversions of existing oil and natural gas production wells associated with depleted hydrocarbon reservoirs, new wells are drilled and completed to replace older storage wells, to extend existing gas storage field utilization, and to develop new UGS fields. In addition to formerly depleted hydrocarbon reservoirs, new wells may be drilled into salt or hard-rock mined caverns, or aquifers. Widespread development of new natural gas producing wells with significant liquids production has increased the interest in new LPG storage fields. Well construction and completion will vary extensively between the different types of storage reservoirs (depleted oil and gas horizons, salt caverns, hard-rock caverns, and aquifers) and addressing the various differences must be considered.

Major Issues and Concerns

Perhaps the most important issue to be addressed with the drilling or conversion of any well for storage is to ensure that the construction and completion of a well prevents pathways of gas or liquids migration out of the storage reservoir and zonal isolation of the storage field reservoir from other formations. The biggest concern is that many of the wells converted from oil and gas production in depleted reservoirs are fairly old, may not meet current or contemplated regulatory requirements, and commonly require extensive workover, testing, and remedial action in order to operate with mechanical integrity. Long-term well integrity and functionality depend upon proper consideration of life-of-the-field and life-of-the-well operations and maintenance, including changes in the reservoir, fluids, rates, stimulation, workover and remediation, offset, surface conditions and parameters, and plugging and abandonment. Essential continual monitoring of current conditions with comparison versus design and expected future conditions will indicate the integrity and functionality during each life-of-well.

Main Take-Aways

- Well construction and completion can vary considerably between the different reservoir types.
- The majority of wells are vertically drilled and completed; however, some storage fields may include a well construction option for drilling horizontally in the production or injection zone, since gas can be injected or withdrawn at a higher rate per well. These wells generally do not add any additional risks with regard to well integrity or zonal isolation.
- Well drilling, construction, cementing, and completion practices should be accomplished in the safest manner possible to enhance well integrity and to ensure pathways for leakage are prevented and the gas storage reservoir or cavern is isolated.

Well Drilling, Construction, and Conversion

a. Goals of Drilling, Cementing and Completion

The goal of drilling, cementing, and completion of new wells and conversion of older wells in a gas storage reservoir is to maintain long term well and reservoir integrity. Guidelines for well drilling, construction, cementing, and conversion practices have been established in a number of API RPs and in the Canadian Standards Association should be considered by all gas storage operators and regulatory authorities where applicable to gas storage wells and facilities.

i. The design of a well casing program in UGS operations should: (16) (17) (10) Provide for control of pressures and fluids encountered by the well;

ii. Prevent losses of fluids;

iii. Prevent contamination of aquifers or other uphole and downhole porous or fractured zones; and consider the following:

1. Wellbore conditions during the running and cementing of casing;
2. Range of operating pressures and temperatures for the well;
3. Composition of the hydrocarbons being injected into and withdrawn from the reservoir;
4. Cyclic mode of storage operations;
5. Projected life of the well and facility;
6. Integrity of the geological formations being penetrated and fluid content of each formation; and
7. Depth of the well.

Additional considerations as to the yield strength design, collapse and tensile design, service conditions, casing setting depths, number of casing strings, pressure testing, and others need to be evaluated. A cementing plan should be designed to provide for isolation of the gas storage reservoir from all sources of porosity and permeability. Primary cementing job designs for gas storage should take into consideration the following: (17) (10) (16)

i. Types of formations being cemented, including unconsolidated formations and their effect on cement properties:

1. The use of salt-saturated cement across salt zones;
2. Bottom-hole pressure and its effect on lost circulation and gas cutting of the cement;
3. Bottom-hole temperature and its effect on cement thickening and curing times;
4. Mud displacement; and
5. Casing centralization and rotation.

ii. Additional cementing considerations should include:

1. Compressive strengths;
2. Cement tops;
3. Cement placement;
4. Preflushes;

5. Cement equipment accessories;
6. Pipe movement during cement placement;
7. Wiper plugs;
8. Pressure testing and evaluation;
9. Cement bond evaluation;
10. Cementing records;
11. Specialty cementing considerations; and
12. Remedial cementing.

Operators should determine the maximum and minimum operating pressures that each gas storage well and each gas storage facility component will be subjected to during the well or component lifetime. These pressures should be reviewed, evaluated, and approved by the regulatory agency. The operating pressure range of each well and component, along with other load and condition factors, should be used in each original design, re-design, and operational plan.

Periodically the operational plan should be reviewed and confirmed as applicable to each well and component, so that operators do not exceed the minimum and maximum operating pressure of each. Prior to each workover or remediation, the above factors should be reviewed in light of future use or potential plugging and abandonment.

b. Drilling Process for Porosity Storage (Depleted and Aquifer Storage Reservoirs)

The following processes need to be considered for drilling or conversion of porosity storage wells:

i. Wellhead control and drilling considerations and capabilities (drilling into existing storage fields under pressure and prevention of reservoir formation damage and contamination);

ii. Protection of USDWs or other protected groundwater: (may preclude use of drilling fluids not compatible with protected groundwater);

iii. Addressing the many wellbore issues – corrosion zones, flow zones, lost circulation zones, disposal zones, over pressurized and under pressurized zones, sloughing shales, zones prone to differential sticking, and commercial hydrocarbon-bearing zones;

iv. Directional drilling and deviation surveys;

v. Formation integrity and other pressure testing; and

vi. Open-hole and cased hole geophysical logging considerations

c. Casing Program Development for Porosity Storage

The development and designing of a well construction casing program needs to address the potential protection of USDWs or other protected groundwater and isolation of other zones, while providing for control of wellbore conditions, prevention of migration pathways, and isolation of the storage reservoir.

i. Types of casing considerations – drive pipe, conductor, mine string (if necessary), surface, intermediate(s), liners, and production casing strings; and

ii. Consideration of casing depths, diameters, weights, types, and use of centralizers with utilization of API and CSA standards.

d. Wellhead Construction for Porosity Storage

All wellheads and christmas tree assemblies should be constructed so that the fittings, valves, and flanges are rated for pressure greater than the maximum pressure exposure to the wellhead and christmas tree assembly. (18). All wellhead equipment and associated fittings, flanges, and valves should conform to API RP 6A. (18) Additionally, wellhead design should include evaluation of the following: (10)

i. Treating and stimulation pressures;

ii. Flow rates;

iii. Fluid chemical composition of produced fluids and fluids used in well stimulation;

iv. Possible solids production;

v. Possible increases in maximum operating pressures;

vi. Intended flow path; and

vii. Accommodation for pressure and/or temperature monitoring of tubular and annular spaces.

A review and evaluation of existing state and federal regulatory requirements for wellhead construction should be considered, but gas storage wellhead construction may require additional designs beyond current regulatory standards to ensure well integrity and safety issues.

e. Well Cementing and Evaluation for Porosity Storage

The purpose of cement in the construction of a new or converted gas storage well is to maintain the integrity of the storage reservoir by providing isolation of the reservoir from communication with other permeable and porous geological formations through the drilled wellbore. (10). Cement should meet or exceed quality standards set in API RP 10A. (19) Gas storage wells should have a primary cementing program for each casing string that ensures isolation of zones and elimination of migration pathways. (19)

Such a program needs to provide for on-site necessary changes to cementing programs based upon actual wellbore conditions, which may include changes to the types of cement, changes to cementing equipment, and the use of variety of additives to ensure a successful cement job and provide wellbore and reservoir integrity.

Evaluation of cement placement and quality is accomplished to determine that a competent seal exists to prevent migration of gas and/or fluids from the storage reservoir or other geological formations of interest. (10). Evaluation of the cement is done through assessment of the cementing records and through cement evaluation logging. Cement evaluation logging should consider the cement cure time determined in the cement design and recognize that it may take time for the cement to reach a sufficient compressive strength for accurate interpretation of cement placement and bond quality.

f. Well Completion Methodology for Porosity Storage

The gas storage operator should design and conduct any well completion or stimulation operations in such a manner to verify that pressure, flow rates, and other mechanical conditions have no adverse impacts on the storage reservoir, confining zone(s), or mechanical integrity of the well, or causes communication between the storage zone and other porous geological formations. (10).Completion methodology in porosity storage can include:

i. Open-hole completions/ re-completions;

ii. Cased-hole perforations/ re-completions;

iii. Coiled tubing jet cleaning;

iv. Acid treatments or hydraulic fracturing stimulation; and

v. Liner and screen placement.

For all wells in porosity storage additional completion methodology may include:

i. Cemented pipe with perforations; or

ii. Open hole with a slotted liner and sand screen; or

iii. Liner/ production casing with packers; or

iv. Gravel pack completion.

g. Drilling Wells for Bedded and Domal Salt Cavern Storage

The following processes need to be considered for drilling or conversion of salt cavern storage wells:

i. Wellhead control considerations and capabilities (drilling into existing storage fields under pressure);

ii. Protection of USDWs or other protected groundwater– may preclude use of drilling fluids not compatible with protected groundwater;

iii. Addressing the many wellbore issues such as corrosion zones, flow zones, lost circulation zones, disposal zones, and commercial hydrocarbon-bearing horizons;

iv. Directional drilling and deviation surveys;

v. Preparation for drilling into an existing storage reservoir – pressure issues (including inflow or loss of circulation);

vi. Use of salt-saturated drilling fluid in the drilling operations into the salt to prevent dissolution of the salt and protection of the top of the salt; and

vii. Open-hole and cased hole geophysical logging considerations.

h. Casing Program for Bedded and Domal Salt Cavern Storage

i. Development and design of a well construction casing program that addresses the potential protection of USDWs or other protected groundwater, and isolation of other zones, while providing for control of wellbore conditions, prevention of migration pathways, and isolation of the storage reservoir;

ii. Types of casing considerations – drive pipe, conductor, mine string (if necessary), surface, intermediate(s), and production casing strings;

iii. In domal salt wells, two casing strings should be set into the salt. (17) These casing strings are the last intermediate and production casing strings; and experience has shown that setting the last intermediate casing between 150 to 200 feet into the salt may be necessary for isolation of the confining zone(s).;

iv. Consideration of casing depths, diameters, weights, types, and use of centralizers and utilization of API and CSA standards;

v. Utilization of tubing string in cavern development and salt dissolution well connectivity in bedded salt deposits;

vi. The use of a mule shoe at the bottom of the hanging string adds additional protection to an overfill event. As the interface of the product in the cavern starts to uncover the top of the mule shoe only a portion of the product starts to come up the hanging brine string (instead of a full diameter return of product to the surface in an overfilling event) which minimizes the impact of the overfill and is helpful if the weep hole has salted over for some reason; and

vii. Additionally a weep hole should be a placed at a calculated distance from the top of the mule shoe. The location of the weep hole is dependent on the diameter of the cavern (barrels per foot) and the typical filling rate. This allows the desired or required margin of safety to be calculated.

i. Wellhead Construction for Bedded and Domal Salt Cavern Storage

All wellheads and christmas tree assemblies should be constructed so that the fittings, valves, and flanges are rated for pressure greater that the maximum pressure exposure.. All wellhead equipment and associated fittings, flanges, and valves should conform to API RP 6A. (18) Additionally, wellhead design should include evaluation of the following: (17)

i. Treating and stimulation pressures;

ii. Flow rates;

iii. Fluid chemical composition of produced fluids and fluids used in well stimulation;

iv. Possible solids production;

v. Possible increases in maximum operating pressures;

vi. Intended flow path; and

vii. Accommodation for pressure and/or temperature monitoring of tubular and annular spaces.

A review and evaluation of existing state and federal regulatory requirements for wellhead construction should be considered, but gas storage wellhead construction may require additional designs beyond current regulatory standards to ensure well integrity and safety issues. Typically, two separate wellhead designs are used during the service life of a cavern system: One for solution mining development of the caverns and one for gas storage service. (18) The wellhead design for gas storage service typically includes a snubbing or shut-off valve to allow for well workovers under pressure. (18)

j. Well Cementing and Evaluation for Bedded and Domal Salt Cavern Storage

The purpose of cement in the construction of a new or converted gas storage well is to maintain the integrity of the storage reservoir by providing isolation of the reservoir from communication with other permeable and porous geological formations through the drilled wellbore.. Cement should meet quality standards set in API RP 10A (19) or exceeds the requirements set in these standards. Each gas storage well should develop a primary cementing program for each casing string that ensures isolation of zones and elimination of migration pathways. Salt-saturated cements should be utilized in the cementing of any casing strings completed within the salt deposits.

Such a program needs to provide for on-site necessary changes to cementing programs based upon actual wellbore conditions, which may include changes to the types of cement, changes to cementing equipment, and the use of variety of additives to ensure a successful cement job and provide wellbore and reservoir integrity.

Evaluation of cement placement and quality is accomplished to determine that a competent seal exists to prevent migration of gas and/or fluids from the storage reservoir or other geological formations of interest. (15) Evaluation of the cement is done through assessment of the cementing records and through cement evaluation logging. Cement evaluation logging should not take place until the cement cure time determined in the cement design has allowed the cement to reach a sufficient compressive strength for accurate interpretation of cement placement and bond quality.

k. Well Completion Methodology for Bedded and Domal Salt Cavern Storage

After initial drilling and well completion, dissolution of the salt is undertaken to create the cavern. Cavern development is initiated by salt dissolution utilizing either the direct circulation or reverse circulation method. Direct circulation involves the injection of water or under saturated brine down the longest hanging string, which starts dissolution of the salt at the bottom of this string. The saturated brine is then pumped out of the shortest hanging string back to the surface. The reverse circulation method involves the injection of water or under saturated brine down the shortest hanging string and then the saturated brine is returned to the surface through the longest hanging casing string. During the cavern creation process, care must be taken to ensure the cavern grows in size and shape as it was engineered and designed. In bedded salt deposits, multiple salt cavern well completions are utilized and single hanging strings are typically used once the wells have been connected within the salt.

A cavern can typically be developed in phases. There may be as many as three distinct phases needed for gas storage in salt caverns and these phases can include: (17)

i. Initial development of the sump only (using direct circulation);

ii. Sump and chimney creation (utilizing the direct circulation method); and

iii. Development of the upper cavern and roof (using reverse circulation method).

Completion methodology can be different if storage of LPG versus natural gas is utilized.

I. Drilling Process for Wells in Hard Rock Cavern Storage

Typically, hard rock caverns are created by mechanically mining out hard rock using the "room and pillar" method at relatively shallow depths ranging from approximately 230 to 650 feet below the surface. (10) (2) The rock must be hard enough for cavern stability and the rock types typically utilized are non-porous, such as chalk, shale, limestone, dolomite, and granite. The construction and well drilling processes need to consider:

i. Wellhead control considerations and capabilities (drilling into existing storage fields under pressure);

ii. Protection of USDWs or other protected groundwater (may preclude use of drilling fluids not compatible with protected groundwater);

iii. Addressing the many wellbore issues such as corrosion zones, flow zones, lost circulation zones, disposal zones, and commercial hydrocarbon-bearing horizons;

iv. Preparation for drilling into an existing storage reservoir – pressure issues and prevention of reservoir formation damage and contamination;

v. Formation integrity and other pressure testing; and

vi. Open-hole geophysical logging considerations

Figure 5-1 is a photograph of a hard rock cavern under construction in shale in Middletown, Ohio in 1959. Source: http://caplaconference.com/wp-content/uploads/2015/04/Piplines.

m. Casing Program for Mined-out Cavern Storage

A casing program may seem less complex due to the shallow depths of most of these caverns but can become complicated by the large diameter casing strings involved, which are not normally found in other types of storage programs. Development and design of a well construction casing program that addresses the potential protection of USDWs or other protected groundwater and isolation of other zones, while providing for prevention of migration pathways and isolation of the storage reservoir is critical. Depths of casing, diameters, weights, types, use of centralizers, and utilization of API standards must be considered. Many off-the-shelf tools are not available for large diameter boreholes and casing string.

n. Wellhead Construction

Wellhead configuration of hard rock caverns is entirely different from other gas storage reservoirs due to the larger casing diameters and completion methodology. Figure 5-2 illustrates a typical wellhead design for a hard rock cavern and is often called the "dome."

Figure 5-2: Example of wellhead configuration of hard rock cavern storage.
Source: http://caplaconference.com/wp-content/uploads/2015/04/Piplines.pdf

o. Well Cementing and Evaluation for Hard Rock Cavern Storage

Development of a cementing program for each casing string to ensure isolation of zones and elimination of migration pathways is very important. Operators need to adjust cementing programs based upon actual wellbore conditions. An operator should maintain cementing records and conduct cement evaluation logging as needed. One of the most critical components of the hard rock cavern well is cementing of the last casing string, especially around the casing shoe. (2)

p. Well Completion Methodology for Hard Rock Cavern Storage

Completion methodology is different than other types of storage due to density differences with LPG versus natural gas. Figure 5-3 illustrates the typical completion methodology developed for hard rock caverns.

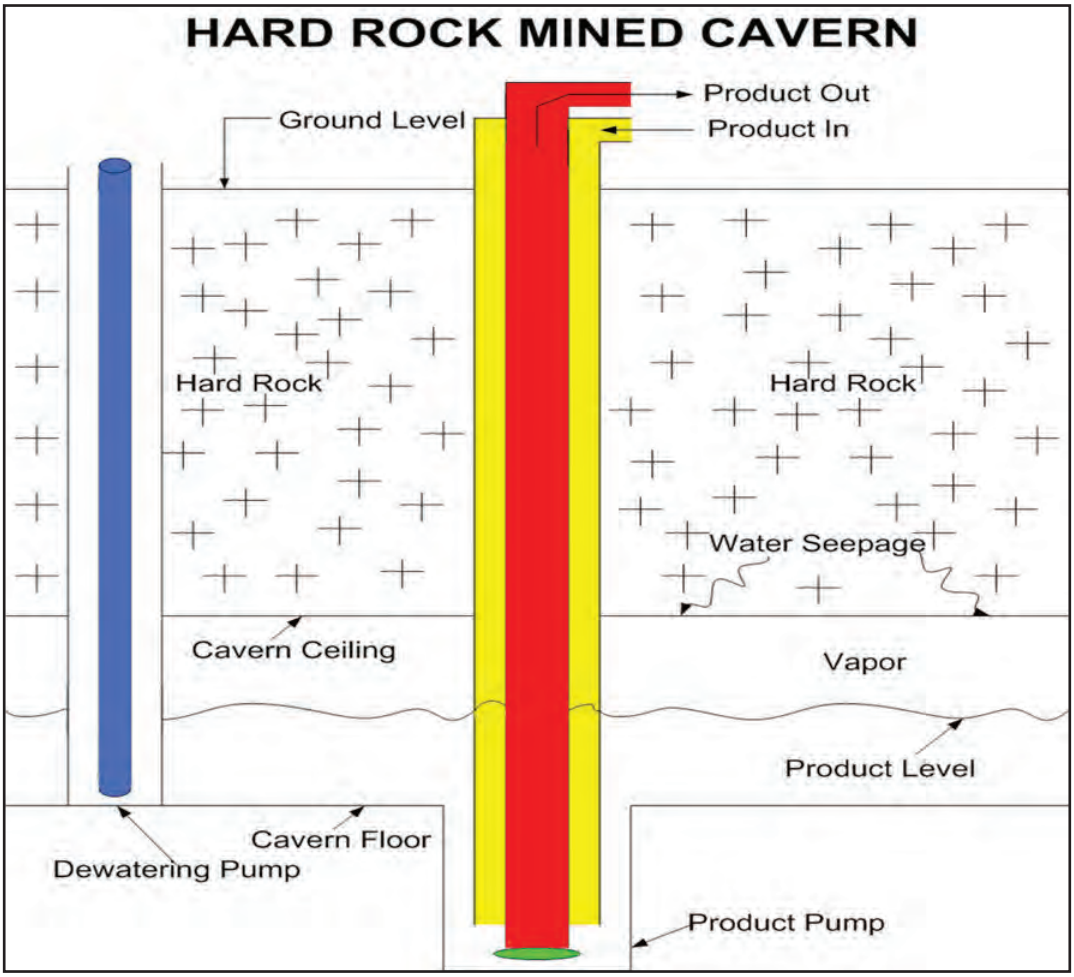

Figure 5-3: Example of a well construction diagram of a hard rock cavern. Source: http://ca-placonference.com/wp-content/uploads/2015/04/Piplines.pdf

q. Plugging and Abandonment of Shafts

Mine shafts used for creating the cavern mined out in the rock and for operation needs to be properly plugged and sealed to prevent migration and to isolate the storage reservoir. The concrete plug to seal the shaft should be designed to be sufficiently long enough and to have adequate capacity against shearing. (20)

Chapter 6
Well Integrity Testing

Introduction

Mechanical integrity testing of underground gas and hydrocarbon storage wells is a critical aspect of long-term success for any gas storage project. Gas storage wells vary broadly in age and construction around the country and can include wells that are over 50 years in age, converted from oil and gas production wells, or completed into bedded or domal salt deposits or mined-out caverns, and new wells specifically designed for injection and production of stored gas or other hydrocarbons. As such, testing and evaluation methods for assessing mechanical integrity can vary considerably. Furthermore, regulatory scrutiny of well integrity and its assessment has increased due to recent incidents and the risk of new incidents. This section will review objectives and details pertaining to approaches and methods of assessing the integrity of gas and/or hydrocarbon storage wells using a holistic approach to the evaluation of well integrity.

Major Issues and Concerns

One of the greatest threats to gas or hydrocarbon storage is the loss of well integrity. Approximately 79 percent of existing gas storage fields in the U.S. was converted from depleted oil and gas reservoirs, with a large percentage of the wells in these fields being rather old so that wells were often not drilled and completed to today's standards. Consequently, well integrity is an ongoing issue in many storage reservoir fields that must be addressed using the proper (i.e., modern) well integrity testing methodologies and remediating any well integrity deficiencies. In addition, injection/withdrawal wells represent a significant potential vulnerability in cavern storage facilities and their integrity is of critical importance.

Main Take-Aways

- Lack or loss of well integrity is one of the greatest threats and risks to any gas storage project.
- There are a variety of well integrity testing methods, but no single testing method alone should be used to determine well integrity.
- Assessment of well integrity requires a holistic, risk based approach.

Objectives, types and methods of mechanical integrity testing

a. Objectives of Integrity Testing

Mechanical integrity is the design, installation, operation and maintenance of all well equipment to a standard that ensures the safe containment of well fluids and injectate for the life of the well. (21) Simply put, mechanical integrity is a lack of significant leakage within the well and wellbore. Ongoing routine mechanical integrity testing is a critical aspect of the long-term success of any gas storage project and can help ensure the following objectives are met:

i. Protection of USDWs or other protected groundwater,;

ii. Proper well configuration for the demands of underground gas and hydrocarbon storage;

iii. Safety and risk prevention; and

iv. Meeting regulatory goals and operational demands.

A holistic, risk based approach to mechanical integrity testing should be used to facilitate the determination of well integrity. This type of an approach does not rely on any single tool, but evaluates overall well integrity using a variety of industry standard tests and logs that have been refined to achieve specific testing objectives. While any one test may indicate a potential concern, a compilation of tests in a holistic approach will help to refine and/or clarify whether a well has mechanical integrity. The holistic well integrity assessment process should include a series of analytical reviews and tests which includes but is not limited to the following:

i. Well casing and cementing review;

ii. Well integrity testing;

iii. Well logging; and

iv. Routine monitoring.

Test objectives and methodology should be tailored for gas storage wells. Often, industry standard practices that were developed for production and water injection wells may not be appropriate for the assessment of gas storage wells. In order to be effective, specific testing methods that are appropriate for gas storage wells, together with detailed implementation expectations (e.g., fluid-filled annulus, logging speeds, etc.) and explicit requirements for test results (e.g., pressure testing to maximum allowable internal pressure, etc.) must be established.

It should be noted that some types of tests, particularly tests that require the removal of tubing, change of downhole conditions (e.g., filling the well with liquid), or an insertion of new tools downhole introduce some risk to well operation during those times. Thus, the risks associated with performing tests should be considered when determining testing schedules, and the application or development of tests that require less invasive changes in the well operations should be encouraged. This fits very well into a holistic, risk-based approach, where some types of tests should be performed more frequently than others based on the information that they give, the well-specific risks that have been determined, and the risks associated with the testing, among others.

b. Types of Well Integrity

When evaluating well mechanical integrity, both internal and external integrity must be considered and evaluated for a complete assessment. Internal and external well integrity considerations are illustrated in Figure 6-1 and discussed in further detail below. Certain integrity considerations are not always applicable to salt cavern and hard rock mined storage.

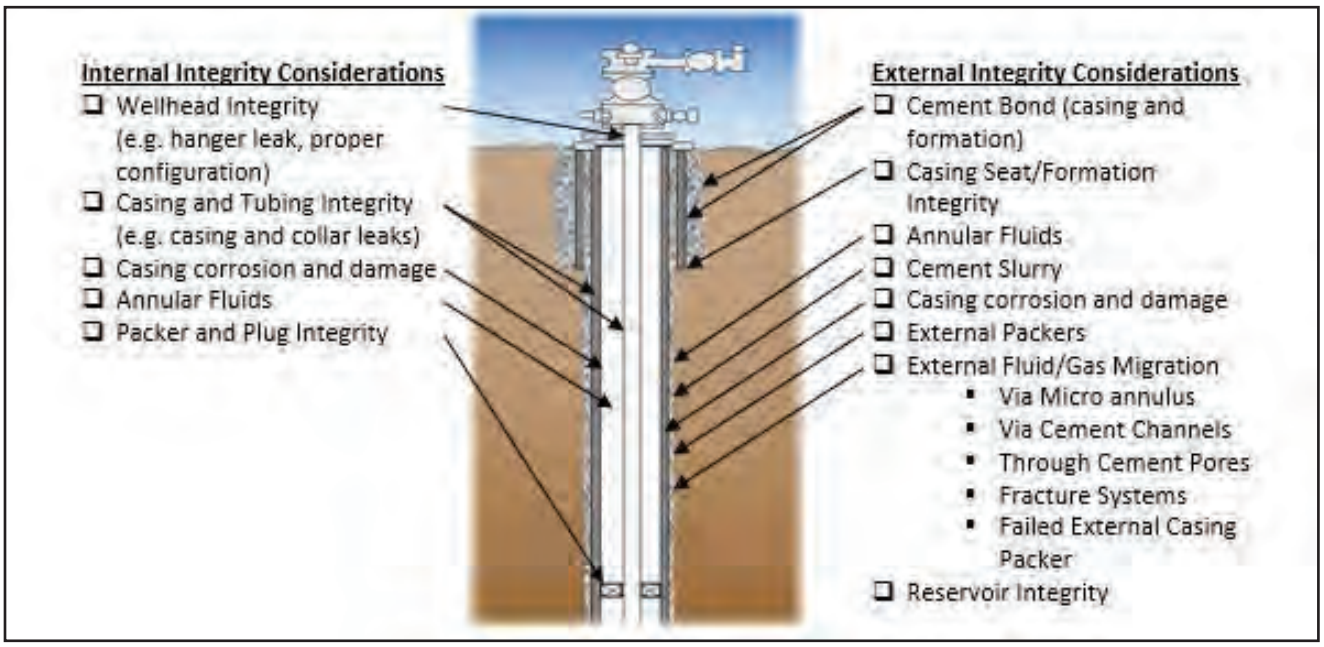

Figure 6-1: Diagram Illustrating Internal and External Mechanical Integrity Considerations
Source: ALL Consulting, Inc., 2017

i. Internal Integrity: Internal well integrity generally refers to the portion of a well extending from the production casing inward and including all components in that space from the wellhead to the bottom of the casing. This includes but is not limited to casing, tubing, packers, plugs, and well head components. Thus, when testing the internal integrity of a well, the testing is aimed at the current condition of well components, changes in the condition of the components between tests, and the ability of those components to contain and control the movement of fluids and or gases between the target formation or cavern and the surface.

ii. External Integrity: External well integrity generally refers to the portion of a well extending from the production casing outward to the wellbore contact with the formations surrounding the well and including all the components in that space (e.g., cement). When testing a well's external integrity, the testing will reflect the adequacy and condition of the well components and their effectiveness in protecting USDWs or other protected groundwater, prohibiting communication of fluids and gases between geologic zones, and limiting the flow of fluids and gases to/from the target zone to the production casing.

iii. Other Integrity Considerations: Although not specifically addressed within this document, other items that should be considered with a holistic evaluation may include well pad, pits, impoundments, tanks, trucks, pumping equipment, other surface equipment, and pipelines.

c. Well Integrity Testing Methods and Technologies

The following paragraphs discuss a variety of internal well integrity testing methods and technologies. Table 6-1 indicates which of these technologies are most appropriate for testing internal vs. external integrity and also notes which can be used for either. The list of testing methods comprised here is not entirely comprehensive and does not account for future testing developments.

Mechanical Integrity Testing Methods	Internal or External Integrity	Test/Log Objective	Well Preparation	Comments/Considerations
Mechanical Integrity Test				
Standard Annular Pressure Test	Internal	– Demonstrate no leaks in the casing-tubing annulus – Casing/packer leak detection	–Wellbore and well must be full of fluid –Must stabilize temperature in well and annulus –Must pull tubing and set bridge plug for wells without a packer	– Pass/Fail Criteria can be established – Can be used on any well – No unapproved fluid additives – Testing pressure should be equal to at least the maximum allowable injection pressure
Annular Pressure Build-up Test	External (including wellhead) & Internal	– Identify gas flow outside of casing (annular pressure)	–Annuli and casing must be bled to 0 psig prior to initiating test –Shut-in annuli should be allowed to vent for a period of time prior to testing.	– Pass/Fail Criteria can be established – Interpretation is relatively straightforward (type curves are available for comparison) – Test can be influenced by outside factors such as barometric pressure, mud clogging or freezing of lines, etc. – Gauges must be properly sized for the anticipated pressures – Continuous data recording are important to confirm quality of results
Annular Venting Flow Rate Test	External & Internal	– Identify flow of gas to surface as an indication of a leak	–Shut-in annuli should be allowed to vent for a period of time prior to testing.	– Pass/Fail Criteria can be established – Simple interpretation – Two test types: – Manometer Tests: Quantitative assessment of flow – Balloon Test/Bubble Test: Qualitative assessment of flow (used when flow is below quantifiable rates)
Wellhead Methane Monitoring	External & Internal	– Identify flow of gas to surface as an indication of a leak	–None	– Pass/Fail Criteria can be established – Simple interpretation – Various direct-reading instruments are available that can detect methane either directly or as a component of combustible gas – Field procedures must be standardized to ensure consistent results
Nitrogen - Brine Interface Test	External (Cavern) & Internal (Well)	– For domal and bedded salt caverns and mined-out caverns – Identify internal or external leaks as well as integrity of the storage cavern itself	–Not necessary to remove tubing –Must allow stabilization of pressure/temperature –Use of fully saturated brine helps reduce stabilization time	– Pass/Fail Criteria can be established – The test is not practical for caverns with large, flat roofs and no cavern neck –
Cavern Wells – Freshwater-Brine Interface Test	Internal	– For domal, bedded and mined salt reservoirs	–Useful when packer or plug sealing is difficult –May avoid depressurizing cavern	– Pass/Fail Criteria can be established – Does not account for changes in cavern pressure; a reference well or tubing must be used for comparison – May not be an approved test method in some states.
Geophysical Logging				
Temperature Log	External & Internal	– Casing Leak Detection – Identify Behind Casing Flow – Entry/Exit Point Delineation	–Remove Tubing –Wellbore must be full of fluid –Stabilization Period (at least 12-24 hours)	– Misinterpretation of results is possible – Run logs in sets: production casing closed and surface casing open, production casing open and surface casing closed – Sensitive to the differing thermal conductivities of different sedimentary rock types

Mechanical Integrity Testing Methods	Internal or External Integrity	Test/Log Objective	Well Preparation	Comments/Considerations
Audio Log	External & Internal	– Casing Leak Detection – Identify Behind Casing Flow – Entry/Exit Point Delineation – Distinguish Flow Type	– Remove Tubing – Wellbore must be full of fluid – Stabilization Period (at least 12-24 hours)	– Misinterpretation of results is possible – Run logs in sets: production casing closed and surface casing open, production casing open and surface casing closed
Ultrasonic Noise Log	Internal	– Casing Leak Detection – Can detect leaks through tubing and casing	– Remove Tubing – Operate in dry hole – May be run inside tubing – Logging rate ~30fpm	– Run logs in sets: production casing closed and surface casing open, production casing open and surface casing closed
Cement Evaluation Logs – 1st Generation				
Cement Bond Log (CBL)	External	– TOC Determination – Casing/Formation Bond Evaluation	– Remove Tubing – Wellbore must be full of fluid	– Tool widely available – Historical use results in consistent interpretation – Sensitive to wellbore conditions
Radial Cement Bond Log (RCBL)	External	– TOC Determination – Casing/Formation Bond Evaluation – Casing Bond Radial Display	– Remove Tubing – Wellbore must be full of fluid	– Tool widely available – Historical use results in consistent interpretation – Sensitive to wellbore conditions
Cement Evaluation Logs – 2nd Generation				
Cement Evaluation Tool (CET)	External & Internal	– Casing Cement Bond Evaluation – Identify Cement Channeling – Cement Compressive Strength – Casing wear/corrosion Indication	– Remove Tubing – Wellbore must be full of fluid	– Simpler interpretation – Less sensitive to borehole conditions – No cement to formation bond information
Segmented Bond Tool (SBT)	External	– Determining Cement Seal – Identify Cement Channeling – Cement Compressive Strength	– Remove Tubing – Can be run in fluid or gas	– Insensitive to wellbore conditions
Ultrasonic Imager Tool (USIT)	External & Internal	– Casing Cement Bond Evaluation – Identify Cement Channeling – Cement Compressive Strength – Casing Corrosion Detection – Casing Internal/External Damage – Casing Thickness Measurement	– Remove Tubing – Scrap casing – Wellbore must be full of fluid	– Simpler interpretation – Less sensitive to wellbore conditions – No formation to cement bond information – Newer tools such as slim memory CBL and radial CBL can be run thru tubing
Corrosion Logs				
Multi-Finger Caliper Log	Internal	– Radial measurement of tubing/casing inside diameter	– Remove Tubing – Scrap casing	– Used to identify zones of thinned casing wall thickness assuming a uniform (constant) external diameter
Electromagnetic Casing Inspection Log	Internal	– Casing Internal and External Corrosion Indication – Casing Thickness Measurement	– Some can be run though tubing	– Operates in liquid or gas environments – Low Frequency pass can scan multiple casing strings
Magnetic Flux Leakage Tool	Internal	– Casing Corrosion Indication – Casing Thickness Measurement	– Remove Tubing – Scrap casing	– The tool can measure metal loss both internally and externally. – May not be effective if corrosion is continuous or has limited variation over an entire segment of casing.

Mechanical Integrity Testing Methods	Internal or External Integrity	Test/Log Objective	Well Preparation	Comments/Considerations
Magnetic Flux Leakage Tool	Internal	– Casing Corrosion Indication – Casing Thickness Measurement	–Remove Tubing –Scrap casing	– The tool can measure metal loss both internally and externally. – May not be effective if corrosion is continuous or has limited variation over an entire segment of casing.
Ultrasonic Imager Tool (USIT)	– See Entry Above			
Imaging Equipment				
Infrared Camera	External (including wellhead and supporting surface equipment) & Internal	– Identify flow of gas to surface as an indication of a leak	–Not necessary to remove Tubing	– IR camera equipment does not identify chemical species and does not estimate flow rate – Baseline monitoring should be conducted prior to operations in order to establish background conditions – Periodic monitoring is required to demonstrate ongoing containment/compliance
Downhole Video Log	Internal	– Identify compromised casing (corrosion, mechanical wear, collapse or breach)	–Remove Tubing	– Downhole video equipment not always available through traditional logging service companies

Abbreviations and Acronyms
CBL – Cement Bond Log
CET – Cement Evaluation Tool
CPET – Corrosion Protection Evaluation Tool
fpm – feet per minute
GR – Gamma Ray Log
IR – infrared
RCBL – Radial Cement Bond Log
RTS – Radioactive Tracer Survey
SBT – Segmented Bond Tool
TOC – top of casing
USIT – Ultrasonic Imager Tool
URS – Ultrasonic Radial Scanner

Table 6-1: Mechanical Integrity Testing Matrix

d. Internal Well Integrity

i. Standard Annular Pressure Test (SAPT)
The Standard Annular Pressure Test (SAPT) is a common method used to demonstrate internal well integrity. The SAPT assesses the ability of the annulus of a well to maintain an applied test pressure, thereby indicating the presence or absence of leaks in the system (i.e., packer, tubing, casing, and wellhead).

ii. Downhole Video Log
This tool consists of a light source and video camera that can record a continuous video image of the internal surfaces of a well. Some tools are configured to allow a view looking either straight down the well or laterally out to the side to provide greater detail of the internal casing surfaces. These videos are useful for well integrity evaluations where they can provide a visual image of scale, corrosion; mechanical wear, etc. See Figure 6-2 for an example.

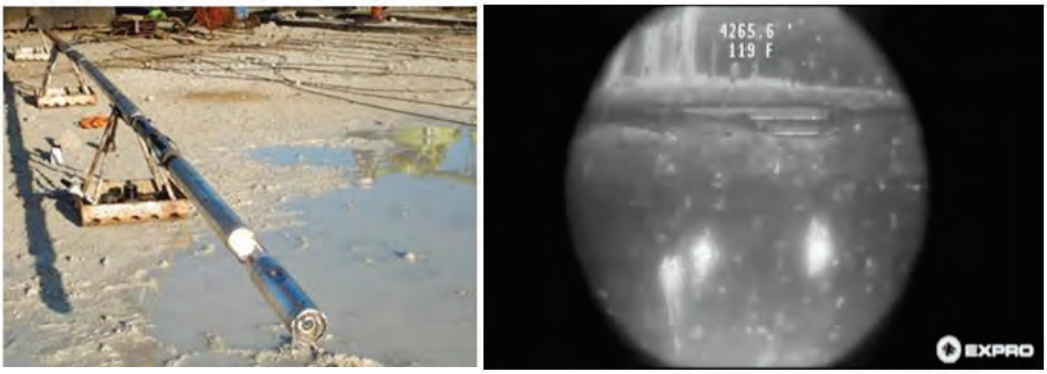

Figure 6-2: Downhole Video Tool and Snapshot from Video Log Showing Exposed Casing Threads at a Pipe Joint
Source: EXPRO, 2016

iii. Nitrogen-Brine Interface Test (Cavern Wells)
The Nitrogen-Brine (or product) Interface Test can be used to assess the internal integrity of a storage well and/or the integrity of a cavern. Nitrogen is injected into the well, displacing brine or product until the nitrogen-brine interface is either just above the base of the casing (casing test) or below the bottom of the casing (cavern test). Geophysical tools are used to monitor the nitrogen-brine interface if there is a leak above the interface. A calculated leak rate can be derived from interface movement measurements. It is recommended that all stored product be removed from the reservoir to the extent possible when performing this test.

iv. Freshwater-Brine Interface Test (Cavern wells)
The Freshwater-Brine Interface Test is used as an alternative test method where use of the SAPT is impractical. (22) The test requires that the reservoir be filled with brine and then freshwater is injected into the wellbore, displacing brine to about 50 feet from the bottom of the well. Wellhead pressure is monitored, which will indicate an upward movement of the freshwater-brine interface. To distinguish this pressure change from variations caused by changes in cavern pressure, it is compared to pressure measured either at a nearby reference well or the pressure in a column of fluid in the injection tubing may be used.

v. Infrared Imaging
The infrared (IR) camera provides a reliable, qualitative screening tool with which to identify fugtive hydrocarbon emissions from surface equipment (see Figures 6-3 and 6-4). The sensor in the IR camera detects specific wavelengths that correspond to the absorption wavelengths of chemicals present in the atmosphere. IR cameras are particularly useful for the evaluation of wellhead and equipment integrity. They provide real time identification of leaks which in turn allows for informed decision making and for repair/remediation tasks, some of which can be conducted very quickly and at limited expense.

Figure 6-3: Surveying Wellheads for Potential Fugitive Emissions
Source: ALL Consulting, 2015

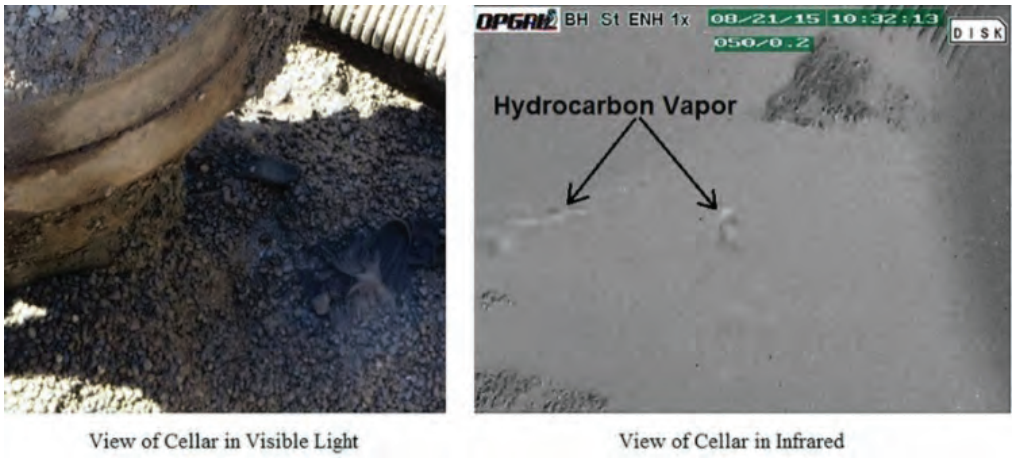

Figure 6-4: Photographs of a Cellar in Visible Light (Left) and in Infrared (Right)
Source: ALL Consulting, 2015

e. External Well Integrity

i. Pressure Build-up Testing

Pressure build-up testing should be a main component of any routine monitoring and assessment of external mechanical integrity. A pressure build-up test consists of closing the vent for the well annulus being tested and allowing pressure to build-up on the annulus for a specified duration of time. The results can then be interpreted to assess the pres sure within an annulus and the nature of the pressure build-up rate. Considerations of this testing includes:

1. The continuous collection of pressure data using transducers with data loggers is preferred over periodic observation of gauges.
2. Transducer pressure ranges and error bands should be based on anticipated pressures to ensure accuracy of test results.
3. Proper planning and preparation are vital to prevent testing errors and anomalous conditions (mud in annular risers, freezing of test assemblies during winter months, and leaks in connections points of test assemblies).
4. Static shut-in annular pressure should be bled-off and the annulus allowed to vent for a period of time to allow the wellbore to stabilize prior to initiating the pressure build-up test.

ii. Annular Venting Flow Rate Test

Annular venting flow rate tests are performed to quantify the volume of gas that may be present in the casing or annulus of a well. In conjunction with shut-in pressure build-up tests, they help to identify and characterize wellbore gas intrusion and are a key component in the routine assessment of well integrity. Elements of annular venting flow rate testing are:

1. Two quantitative devices are appropriate to measure annular flow rates in gas wells: the orifice well tester and the critical flow prover. They are appropriate for testing wells with different pressure ranges: (23)
   a. Orifice Well Tester: For use when upstream pressure is less than 15 psig.
   b. Critical Flow Prover: For use with higher flows and where pressure on the upstream side of the plate or choke is at least twice as large as the down stream pressure.

2. Testing is conducted using a manometer. The pressure differential on the manometer is cross referenced to established flow rate tables which are based on laboratory results. (23)
3. Two qualitative methods may be used when flow rates are too low to be measured using the manometer: (24)
    a. Balloon Test: The balloon test consists of allowing a small balloon (4 to 6 inches) to inflate for 10 minutes. Photographic documentation of the balloon is taken at the completion of the 10-minute interval.
    b. Bubble Test: A bubble test is performed by running a 3/8-inch or 1/2-inch diameter tube from the casing riser into a 5-gallon bucket that is half-filled with water. Bubbles floating to the top of the water in the bucket are counted and recorded over a 10-minute period.

iii. Geophysical Logs

1. Temperature Log
   Temperature logging is an industry- and regulatory-accepted tool for evaluating both internal and external mechanical integrity. It is based on the fact that temperature typically increases uniformly with depth in natural settings unaffected by human influence. A deviation from that normal gradient can result from the presence of a fluid derived from a different depth (and hence a fluid at a different temperature) or gas entering the wellbore. (25) Considerations in temperature logging include:
    a. Standardized logging practices should be used and the well must be properly prepared in order to ensure quality of logging results.
    b. The tubing must be removed, the wellbore must be 100 percent filled with fluid, and the well should be allowed to stabilize for a minimum of 12 to 24 hours prior to initiating logging activities.
    c. The temperature log should be completed on the down-pass with a consistent speed of no more than 30 feet per minute.
    d. Temperature logs are predominantly conducted and interpreted in con junction with audio logs.
2. Audio Log
   Audio logging equipment and techniques have been refined to become indus try- and regulatory-accepted tools for evaluating external mechanical integrity. Simply, an audio log is a series of audible sound measurements recorded by a hydrophone at prescribed intervals throughout a wellbore. By analyzing the frequency structure, amplitude and depth of recorded noise, the type of flow, magnitude of flow, and origin of flow can be identified. (26) Audio logging consid-erations include:
    a. As with temperature logs, the tubing must be removed and the wellbore must be 100 percent filled with fluid.
    b. The audio log should be completed by stopping at stationary intervals of no more than 250 feet, allowing the noise to stabilize for a minute or more as needed, and recording the ambient noise.
    c. Additional stationary intervals should be completed above, adjacent, and below casing shoes, perforations, and any anomalies identified on a temperature log.

3. Ultrasonic Noise Log

Ultrasonic Noise Logging is a relatively new sound log that focuses on monitoring sound characteristics of gas leaks through casing. Unlike normal audio logs, which record acoustic energy between 200 Hz to 6 KHz, ultrasonic logging measure energy in the 40 KHz range where energy from a small casing breach is likely to occur. Detection of leak rates as small as 0.0024 gallons per minute is reportedly possible.

4. Cement Evaluation Logs

Cement evaluation is a critical component of the assessment of external mechanical integrity. In combination with casing and cementing records review, the completion and analysis of cement evaluation logs provide insight into the presence of cement behind casing along with the level of cement bond to both the casing and formation. (27) Additionally, cement evaluation logs can also identify cement conditions such as micro-annulus, channeling, and compromised cement. (28)

A wide variety of cement evaluation logs are available to assist with the assessment of casing and cement integrity. These can be generally grouped into acoustic and ultrasonic logs. Cement evaluation logs are often run in combination to provide a more robust evaluation of cement and cement bond. Examples of each are provided below along with a brief description of the tool.

a. Cement Bond Log (CBL): The acoustic CBL is the most commonly used cement evaluation log. (29) The CBL is an acoustic logging tool that measures the changes in the acoustic signal as an indication of the integrity of the cement bond. However, CBL's are a qualitative tool because they do not measure the bond through the entire 360 degree circumference of the well.

b. Radial Cement Bond Log (RCBL): Similar to a CBL, an RCBL is an acoustic logging tool that measures the changes in the acoustic signal as an indication of the integrity of the cement bond. It incorporates eight radial receivers that provide 360 degree coverage of the surveyed casing section.

c. Cement Evaluation Tool (CET): A CET log is an ultrasonic tool utilizing 8 transducers located at 45 degree increments for full wellbore coverage. The CET is capable of identifying cement channels and contaminated cement. It also provides a determination of cement compressive strength and casing corrosion.

d. Segmented Bond Tool (SBT): An SBT is an ultrasonic tool that uses 6 padded receptors to measures cement bond integrity for full 360 degree coverage of the casing. SBT has advantages over conventional tools (i.e., acoustic tools) because is less sensitive to borehole conditions (e.g., bore hole fluids, fast formations, tool centering, etc.).

e. Ultrasonic Imager Tool (USIT): A USIT log is an ultrasonic tool that uses a rotating receiver to measure 360 degree coverage of cement bond integrity as well as casing wall thickness and corrosion detection. As with other ultra sonic tools, interpretation of USIT log is not as dependent on wellbore conditions.

f. Isolation Scanner: The Isolation Scanner combines pulse-echo technology with an ultrasonic technique of flexural wave imaging to evaluate cement job and casing condition for a wide range of cements – heavy, traditional to light weight cements. The older CBL/USIT logs may make it difficult to evaluate cements with low acoustic impedance or cements contaminated with mud while the isolation scanner differentiates between high-performance light weight cements from liquids and maps annulus material as solid, liquid, or gas.

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5. Radioactive Tracer Survey
   A radioactive tracer survey is commonly used to test the mechanical integrity of an injection well by detecting the movement of fluids tagged with a tracer. If mechanical integrity is compromised, the tracer fluid will be observed to split and travel in different directions. This survey is based on the presence of liquid in the wellbore; as such, it has minimal applicability to gas storage wells.
6. Spinner Survey
   Spinner surveys make use of bladed spinners to measure the velocity of fluid flow in a well and are typically used in fluid injection wells or oil/gas production wells. This survey is based on the presence of liquid in the wellbore; as such, it has minimal applicability to gas storage wells.

iv. Corrosion Logging

Corrosion is a natural chemical process that is almost impossible to prevent. Consequently, controlling and monitoring of corrosion rate is often the preferred approach to managing corrosion. It is of concern throughout the life of the well and therefore must be monitored throughout the life of the well. There are several general categories of corrosion:

1. Electromechanical: includes crevice/pitting and stray current corrosion.
2. Chemical: hydrogen sulfide, polysulfide, sulfur, carbon dioxide, strong acid, concentrated brine, and biologically-influenced corrosion.
3. Mechanical and mechanical/corrosive effects: cavitation, erosion, corrosion fatigue, sulfide stress corrosion, chloride stress cracking, embrittlement and stress corrosion cracking.

The tools/techniques used for corrosion monitoring include:

1. Multi-Finger Caliper Log: Caliper feelers on the logging tool deflect as the tool is run through the casing. This deflection of each feeler is used to identify where corrosion is occurring and the percentage of casing wall thickness that has been lost to corrosion.
2. The CPET, or Corrosion Rate log, measures potential differences and casing resistance between electrode pairs to calculate radial current density from which the casing corrosion rate is computed.
3. Electromagnetic Casing Inspection Log: The Electromagnetic Pipe Scanner Tool measures the average thickness of the casing pipe and also discriminates between damage on the inside of the casing from damage on the outside. The Electromagnetic Pipe Scanner can be run inside tubing.
4. Magnetic Flux Leakage Tool: This tool induces a magnetic field and then measures perturbations in that field resulting from variations in the thickness of the casing.
5. USIT and Ultrasonic Casing Imager: Both tools use pulse-echo ultrasonic energy to reflect off of and resonate within the casing wall. Frequency analysis of the resonant signal allows computation to determine the thickness of the casing. In turn, the internal radius and computed thickness allows an assessment of both internal and external loss of original casing thickness.

v. Additional Information

1. An assessment of mechanical integrity should also include a thorough geologic review and evaluation of potential migration pathways. All available open-hole

geophysical logs and mud logs as well as drilling records should be evaluated with particular attention paid to the occurrence of gas shows above the gas storage reservoir as well as zones with potential for high transmissivity. Potential gas sources and pathways include but are not limited to the following:

a. Shallow gas-bearing zones: Natural gas can occur naturally in shallow near-surface zones. Therefore, the presence of shallow gas would not necessarily indicate a breach in the integrity of a gas storage reservoir at greater depths.
b. Coal seams and underground coal mines: Methane gas naturally occurs in coal seams and underground coal mines. Therefore, the presence of natural gas in and near coal seams would not necessarily indicate a breach in the integrity of a gas storage reservoir at greater depths.
c. Legacy oil and gas wells: Active and abandoned oil and gas wells proximal to gas storage reservoirs may act as conduits for natural gas to migrate into other strata including shallow aquifers. Legacy oil and gas wells, particularly historic wells that were drilled, completed, and plugged and/or abandoned prior to implementation of modern drilling techniques, well construction, cementing, and plugging practices, can present avenues for gas migration from gas storage reservoirs.

f. Evaluating Mechanical Integrity Testing

A complete assessment of mechanical integrity requires a holistic, risk based approach. This holistic approach should use a combination of investigative procedures to assess mechanical integrity and draw results based on an overall well evaluation analysis, as opposed to focusing on one single test or well log, and should consider risks of testing and of testing histories. No single test or log can provide a proper determination of mechanical integrity. Routine monitoring, testing, and record keeping for the life a well can ensure mechanical integrity objectives are met.

Chapter 7
Reservoir Integrity

Introduction

Reservoir integrity is defined by the geologic conditions for safe operation of UGS facilities beyond the wellbore. It specifies the volume, operating pressure, and integrity of the gas storage reservoir or cavern. Likely risk points for gas leakage are breaches of vertical and lateral confinement caused by man-made penetrations (wells), and naturally occurring faults, fractures, confining zone/caprock sequence, and stratigraphy. This chapter includes an overview of factors affecting reservoir or cavern integrity. Regulatory and risk management elements, including API and International Organization for Standardization (ISO) recommendations, are discussed. The important issue of reservoir monitoring is considered in Chapter 9.

Major Issues and Concerns

Although wells constitute a fundamental risk element for product loss, the geological and geomechanical integrity of the reservoir itself is also of primary concern (30). Hydrocarbons (gas and liquids) can escape confinement from their intended subsurface zone by means of multiple mechanisms including accessing faults and fracture sets (31) (32), failure of confining zone (caprock) sequences, and structural spill points. Failures of reservoir integrity and migration of gas and liquids are well documented for all main types of gas storage facilities (depleted oil and gas fields, aquifers, and caverns), along with storage in abandoned mines or purpose-built mined-rock caverns (33) (34) (35) .

Storage operators should be aware that, while a reservoir being operated as a production field may have sufficient isolation from adjacent production fields, when operated as a storage field there may be communication with those adjacent fields due to the significant pressure differentials, particularly with boundaries with spill point(s) or boundaries consisting of stratigraphic trapping mechanisms, i.e. porosity and permeability pinch outs. Similarly, a dry hole or observation well drilled on the perimeter of a field during the field's production era may not be "dry" during the field's storage era. The operator should also take into consideration during the field's design that operating above the discovery pressure may, depending on the field's specific characteristics, increase the risk of communication and gas movement.

Risk registers can be assessed and mitigative practices developed in the oil and gas (36), geothermal (37), and carbon dioxide sequestration (38) (39) (40) (41) industries. Standard practices for risk management include multiple-barrier models such as bowties (diagrams used to analyze risks and responses) (42) (43) and workflows that include well integrity, reservoir integrity, and operational/organizational elements. Design of monitoring programs to ensure reservoir integrity can be informed by analytical and computational reservoir and cavern models and regular assessments of the results.

Main Take-Aways

- Gas or liquids can leak or move from an underground storage facility of any type, if reservoir or cavern integrity is compromised, even when well integrity is maintained.
- Geologic and geomechanical characterization of storage reservoirs and cavern scan identify applicable risk elements for potential gas or liquid migration including faults, fracture sets, confining zone/caprock sequence failure, and structural spill points.

- Based on reviews of publically available literature and data, the frequency of gas migration or leakage from UGS facilities is generally very small. The lowest frequency is for solution-mined caverns in salt and the largest for depleted hydrocarbon formations.
- This is likely because such depleted formations may have older wellbores that were converted from production to storage.
- Risk mitigation should include management of reservoir and cavern pressures to minimize the risk of confining zone/caprock sequence failure.
- Risk management programs that include reservoir and cavern integrity issues should address the goals of available standards (such as API and ISO) and Federal legislation (PIPES Act of 2016).

Reservoir Integrity

a. Relevance of Reservoir Integrity to Underground Gas Storage

According to data from the U.S. Energy Information Administration (EIA), and shown in Figure 7-1, the majority (329, or 79 percent) of the 415 natural gas storage facilities in the U.S. (data as of 2015) utilize depleted oil and gas fields; 47 (11 percent) occupy depleted aquifers, and 39 (9 percent) are in mined salt caverns. Porosity storage then represents 91 percent of UGS fields, with solution-mined salt caverns comprising the remainder. The values compiled by EIA and noted here do not include approximately 70 additional facilities developed in mined hard-rock caverns such as coal mines that store LPGs such as propane.

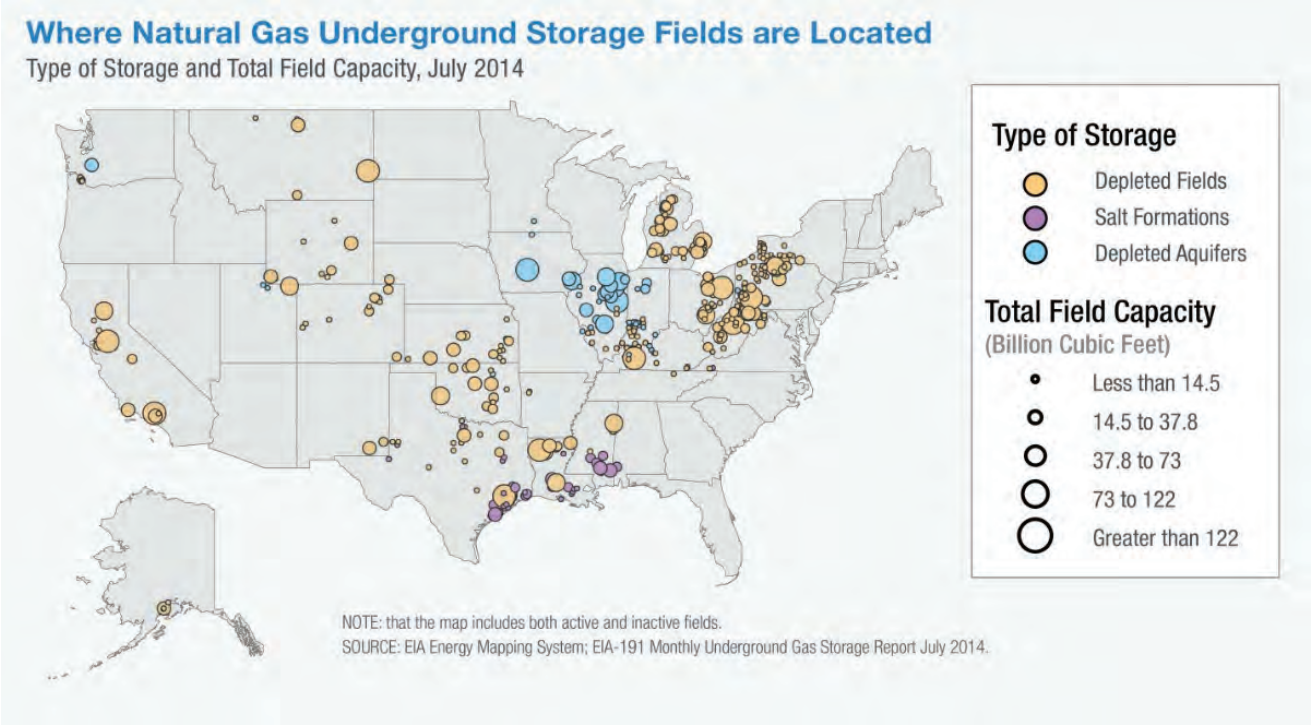

Figure 7-1 Geographic locations of Underground Storage facilities in the U.S. Source: U.S. EIA www.eia.gov

Many examples are available in the literature that document migration of gas and liquids from their intended subsurface zone, even when wellbore integrity is maintained. These have been compiled and discussed by Evans and Folga et al. with additional events noted in this chapter. Although loss of well integrity is the primary cause of gas or liquid leakage events in the U.S. and worldwide for depleted oil and gas fields, loss of subsurface integrity is the dominant cause for depleted aquifer fields, salt cavern fields, and mined cavern fields.

The first use of abandoned mines for hydrocarbon storage (44) was in Sweden in 1947-1950 (20). A worldwide survey of underground mines repurposed for oil and gas storage by Peila and Pelizza (45) lists eight such mines globally, including six mines in the U.S., that were used for petroleum storage as of 1995 (their table 4). Of those eight mines, only three (one in the US (the Leyden mine and two in Belgium) were used to store gas according to Lu. At least five LPG storage facilities located in mined caverns were reported separately from Ohio alone, with leakage reported from one of these in 2013 (46). A report to the USDOE in 1998 (47) cited from an unpublished earlier study that a total of 1,122 UGS caverns were in operation in the U.S. for LPG as of 1991; of these, 70 were in hard rock caverns and 1,052 were in salt caverns. The Leyden storage facility northwest of Denver, Colorado utilized an abandoned coal mine that was in operation until 1950 (48).

Mined rock caverns are often at shallow depths below the ground surface, unlined, have depths exceeding about 150 feet, and typically utilize hydrodynamic containment (water curtains) (49) approaches when used to store oil and gas. (20) General guidance for natural gas and especially LPG storage in mined rock caverns is given by IOGCC (2) which emphasizes the role of mitigating limitations in the geology (such as fracturing or pillar strength) to promote safe operation of these facilities. Subsidence of the ground above mined caverns may promote an increased risk of product leakage and needs to be monitored and managed for this type of storage facility.

Of the 415 natural gas storage facilities in the U.S. (3), 74, or 15 percent, have experienced some type of product leak (liquid or gas) at some point in their operational life-cycle through 2005. (33) Following studies by Papanikolau et al. (54) and Folga et al. (50) the approximate average incident frequency estimates for underground natural gas storage are listed and compared in Table 7-1. (After Schultz) (61) The values from the latter two studies combine different degrees of severity and therefore overestimate the rates of significant leakage events, such as those with fatalities and/ or property damage.

The values listed in Table 7-1 suggest that the frequency of leakage (in the subsurface) from all types of underground natural gas storage facilities in the U.S. ranges between approximately:

- 8.4×10^{-4} /facility/year, or once in about 1,192 facility years (54);
- 6.2×10^{-3} /facility/year, or once in about 161 facility years (50), which incorporates incidents through 2016 but uses facility years and well-year values from dating from approximately 2005); and
- 5.1×10^{-3} /facility/year, or once in about 197 facility years (50) with facility years and well-years estimated for 2016, the date of their study).

Correspondingly, the frequency of an incident involving a loss of well integrity at all types of underground natural gas storage facilities in the US ranges between approximately:

- 1.0×10^{-5} /well/year, or once in about 98,943 well-years of well operation (which incorporates incidents through 2016 but uses facility years and well-year values from dating from approximately 2005); (50) and

Facility Type	Cause	Leakage frequency, /facility/year		Leakage frequency from well-integrity loss,/well/year	
		Papanikolau et al.[1]	Folga et al.[2]	Papanikolau et al.[1]	Folga et al.[2]
Depleted oil and gas field	Well integrity	5.1×10^{-3}	6.9×10^{-4} to 5.6×10^{-4}	2.1×10^{-5}	1.8×10^{-5} to 9.8×10^{-6}
	Subsurface integrity		1.6×10^{-3} to 1.3×10^{-3}		
	Operations		1.1×10^{-3} to 8.9×10^{-4}		
Aquifer	Well integrity		9.9×10^{-5} to 8.1×10^{-5}		2.5×10^{-6} to 1.4×10^{-6}
	Subsurface integrity		1.6×10^{-3} to 1.3×10^{-3}		
	Operations		1.5×10^{-4} to 1.2×10^{-4}		
Salt cavern	Well integrity		3.9×10^{-4} to 3.2×10^{-4}		1.0×10^{-5} to 5.6×10^{-6}
	Subsurface integrity		2.5×10^{-4} to 2.0×10^{-4}		
	Operations		3.5×10^{-4} to 2.8×10^{-4}		

Table 7-1: Migration frequency from underground natural gas storage facilities

(1) Incidents were not broken out into separate causes or degrees of severity
(2) First value listed uses facility year and well-year frequencies from 2005 (54); second value listed uses estimated frequencies through 2016.

- 5.6×10^{-6} /well/year, or once in about 178,041 well-years of well operation (with facility years and well-years estimated for 2016). (50)

The data in Table 7-1 and summarized above confirm that solution-mined salt cavern storage is the least likely to leak (e.g., (51)), with aquifer storage having a greater average leakage frequency. Many UGS facilities in the U.S. have been operated for about a century and their average leakage rate is orders of magnitude smaller leakage rates of above-ground facilities such as tanks and pipelines. (33) In general, loss of well integrity is the primary factor in UGS leakage events with failures of subsurface integrity and operations being important secondary contributors.

Leakage events from UGS facilities have occurred from a number of causes (Table 7.1). Many can be related to a loss of well integrity, whereas others can be attributed to a loss of subsurface integrity (such as confining zone/caprock sequence failure, salt movement, or roof collapse) or operations (for example, procedures not followed). Many events are related to multiple causes and not all leakage events can be attributed solely to a loss of well integrity. In many cases the facilities were operated according to established guidelines, while at others operators failed to follow procedures. In all cases the risk of leakage events could potentially be reduced by improved guidelines for wells, geologic characterization, and operations.

Bruno et al. (52) showed that 22 leakage events from a total of approximately 485 porosity-storage facilities worldwide could be attributed to gas migration through the confining zone/caprock sequence, corresponding to about 10 percent of all reported migration events investigated in their study. Of these, half were due solely to failure of the confining zone/caprock sequence itself, a quarter were due solely to undetected or incorrectly characterized faults or fractures in the sequence, and the remaining quarter were due to a combination of confining zone/caprock sequence failure and seal bypass mechanisms. Aquifer storage accounted for about 10 percent of the worldwide total (but more than 31 percent of U.S. facilities; Table 7.1) but 65 percent of those 22 confining zone/caprock sequence-failure events.

The values noted in this chapter were computed as simple averages, following prior work in the literature on incident frequency (e.g., [(54) (55) (50)]). More robust methods such as those described by Hubbard (56) may lead to different probabilities or frequencies of facility and well leakage rates, and a corresponding difference in risk, for UGS facilities. For example, depending on the actual distribution of events and their magnitudes, the average frequency may overestimate the median, leading to an underestimate of the frequency of occurrence of large-magnitude events and a corresponding increase in risk (and decrease in time interval between them) for those larger events.

The underground storage of LPG in hard rock caverns is based on a principle of natural hydraulic containment, which involves keeping the hydrostatic pressure of the groundwater in the host rock higher than the vapor pressure of the stored product. (2) Reservoir integrity must be evaluated throughout the operations by: (2)

- Checking the stability of the cavern by continuous surveillance of acoustic emissions (seismic monitoring);
- Periodic subsidence monitoring;
- Permanent monitoring of the hydrogeological system through observations wells equipped with piezometers; and
- Ensuring that hydrogeological conditions necessary for the hydrodynamic containment of the stored product are maintained at all times.

b. Guidance from Existing Standards

Risk mechanisms and mitigation strategies for reservoir and cavern integrity are discussed in several applicable standards, including API RP 1170, 1171, and ISO 55000. (57) Risk mechanisms and mitigation strategies are listed in Table 2 of API RP 1171. Previous guidance for regulators produced by IOGCC is also incorporated into this chapter. (11)

ISO 55000 is an international standard for asset management. (57) It replaced Publicly Available Standard (PAS) 55, a 28-point checklist of requirements developed in 2004 for effective physical asset management in 2015. The PAS and ISO standards are currently being used by at least one U.S. public utility company that operates UGS facilities. (58)

API RP 1170 was developed in 2015 to provide recommendations for salt cavern facilities (cavern storage) used for natural gas storage service and covers facility geomechanical assessments, cavern well drilling and completion design, and solution mining techniques and operations, including monitoring and maintenance practices. API RP 1170 essentially updated and consolidated similar documents for UGS in solution-mined salt caverns published by the API, including API RP 1114 *Recommended Practice for the Design of Solution-mined Underground Storage Facilities* (13) (59) and API RP 1115 on *Operation of Solution- Mined Underground Storage Facilities*. (60) API RP 1171 is a new RP for natural gas storage in porous formations. (10)

Tables 1 and 2 in API RP 1171 list a set of risks and mitigation strategies for porosity storage of natural gas. Taken together, these tables resemble a bowtie diagram correlating risks (their Table 1) and mitigations (their Table 2). There is no corresponding set of risks or mitigations for natural gas storage in salt rock in API RP 1170.

There are three main groups of risk areas identified for porosity storage in API RP 1171, with several subcategories, as listed here:

i. Surface

   1. Third-party damage
      a. Surface encroachment
      b. Intentional/unintentional damage
   2. Outside force: natural causes such as weather-related or ground movement

ii. Reservoir

   1. Third-party damage
      a. Drilling, completion, and workover activities
      b. Production, injection, or disposal operations
   2. Geologic uncertainty
      a. Extent of reservoir boundary
      b. Expansion, contraction, and migration of storage gas
      c. Failure of caprock
   3. Contamination of storage reservoir by foreign fluids; wellbore damage or corrosion

iii. Wells

   1. Well integrity (corrosion, material defects, erosion, equipment failure, annular flow)
   2. Design
   3. Operations and maintenance
   4. Intervention
   5. Third-party damage
   6. Outside force: natural causes such as weather-related or ground movement

c. Risks and Mitigation Strategies in Underground Facilities

Reservoir integrity issues may be categorized by considering wellbore integrity and subsurface integrity as separate but interacting categories. (61) Gas or liquids may migrate out of their intended zones even if wellbore integrity is maintained due to unforeseen pathways in the subsurface, such as confining zone/ caprock sequence failure or seal-bypass events above a producing reservoir. Based on experience with producing oil and gas and carbon dioxide sequestration fields (62), some of the risk factors that might be considered in subsurface integrity assessments for underground gas and liquids storage include:

i. Over-pressuring relative to formation or confining zone/ caprock sequence strength;

ii. Frictional stability of major faults in a compartmentalized reservoir;

iii. Availability of conduits such as faults, fractures, and stratigraphy that might connect to freshwater aquifers, storage horizons, or the ground surface; and

iv. Exceedance of specified limits on injected volumes, or pressure in the storage facility, dependent upon settings and maintenance of surface control equipment, such as safety valves.

As far as geologic or geomechanical risks are concerned; only confining zone/caprock sequence integrity was noted in API RP 1171. Additional risk elements related to the geology include stress state determination, faults, and potential seal-bypass mechanisms.

Mitigation of risks of fluid migration or leakage (through the confining zone/caprock sequence) falls into several categories.

i. Mitigation strategies for geologic uncertainty of the reservoir, following API RP 1171, include:

1. Collect and review regional data;
2. Collect new data from nearby wells;
3. Acquire new data (seismic, new wells, gas tracer);
4. Establish a buffer zone (vertically and horizontally) for evaluation the regulating or governing agency;
5. Conduct semiannual tests for inventory verification;
6. Acquire property and mineral rights;
7. Establish observation wells;
8. Inspect older wells that were used in production of hydrocarbons, injection wells previously used for pressure maintenance or stimulation, or converted to storage; and
9. Inspect plugged and abandoned wells, review records for all wells.

ii. Mitigation strategies for confining zone/caprock sequence failure, following Bruno et al. (52), involve three areas of risk: (a) the mechanical state, including stress state, reservoir pressure, and the presence of faults that cut into the confining zone/caprock sequence from the reservoir; (b) the confining zone/caprock sequence-reservoir system, including extent, thickness, and depth of reservoir and confining zone/caprock sequence, plus confining zone/caprock sequence characterization; and (c) operations, including well density and number of cased vs. uncased wells. These strategies apply to porosity storage and to salt storage. The basic mitigation strategies developed by Bruno et al (2014) to reduce the likelihood of confining zone/caprock sequence failure, and thus fluid movement, include:

1. Reservoir pressure: must be less than the fracture pressure (for normal and strike-slip faulting regimes) and critical pressure of the fault reactiviation of the confining zone/caprock sequence;
2. Caprock characterization: confining zone/caprock sequences that are thicker than about 30 meters, strong, low permeability values, homogeneous, and composed of multiple intercalated sealing lithologies provide the safest barrier zones against fluid movement from the reservoir;
3. Faults and natural seismicity (63): confining zone/caprock sequences that are cut by faults, especially those which are close to wellbores, pose greater risk for fluid movement than those with few to no faults. UGS in seismically quieter areas have

a lower likelihood for faults to be reactivated under fluid injection/withdrawal conditions, permitting larger values of reservoir pressure; and

4. Reservoir thickness and depth: thicker and deeper reservoirs are safer than shallower ones for confining zone/caprock sequence integrity since these impose smaller stress and displacement changes onto confining zone/caprock sequence and overburden.

Pre-existing or abandoned wellbores including previously pressurized or depleted areas, and previously generated hydraulic fractures should also be considered as risk elements.

In the industry, fluid leakage through the confining zone/caprock sequence is usually mitigated by reducing reservoir pressures and, in extreme cases, closing the storage facility, as damaged confining zone/caprock sequence in general cannot be repaired. Geologic, geophysical, and geomechanical characterization of a UGS site that can inform the mitigation strategies provide the basis for assessing and potentially reducing the degree of subsurface integrity risk.

d. Rock Mechanics Aspects of Geologic Storage

As described above, there are in general four types of geologic structures used for UGS: depleted oil and gas formations, aquifers, solution-mined caverns in salt formations, and mechanically mined rock formations. The rock-mechanical properties of each are somewhat different, and these different properties require consideration for gas storage operation, as well as for the development of regulations to ensure reliable operation and safety. Depleted oil and gas formations and water aquifers are of similar rock type and will addressed together as porosity storage. Salt formations used for solution-mined salt caverns have properties quite different from porosity storage rocks in that the porosity and permeability of salt are negligible in comparison. Finally, mechanically constructed mines, such as in coal or salt, are considered as a distinct fourth type of UGS facility.

Two of the principal properties of rock that are of vital importance to underground storage of natural gas are porosity and permeability. These concepts are defined as follows and illustrated in Figure 7-2:

Porosity – Rock is composed of solid materials, grains, and pore space, as illustrated in Figure 7-2. In the subsurface, the pore space is filled with gas (e.g., air or natural gas) or liquids (e.g., oil or water). For example, the pore space in typical oil and gas formations is filled with pressurized oil, natural gas, and brackish/ saline water. The pore space fluids are pressurized due to depositional and geochemical processes. Porosity is the ratio of the pore space to the total volume of rock, usually expressed as a percentage. For the purposes of UGS, higher porosity means greater volume of gas that can be stored. Table 7.2 summarizes the porosity of some rock types.

Permeability – Permeability is the measure of the ability of a fluid to flow through rock. For a rock to be permeable, it must have not only pores, but the pores must be connected to provide a path for flow. This property is also indicated in Figure 7-2.

With regard to Table 7-2 and UGS, there are two important points to be considered with regard to porosity and permeability. First, porosity governs the volume of gas or liquid that can be stored in a porous rock formation. The total volume of a porous rock formation that can be used for storage is dependent on the thickness of the formation, its lateral extent, and the deformability (i.e., compressibility) of the formation. Sandstone has an obvious advantage over salt for porous rock storage, based on porosity. On the other hand, salt is soluble in water, and sand is not. So, to create volume in salt for storage, a well is drilled into

Rock type	Porosity - %	Permeability - Darcy
Sandstone	10 – 30	0.1 – 5.0
Salt	0.01 – 1.0	10^{-22}

Table 7-2: Typical ranges of porosity and permeability of UGS rocks (64)

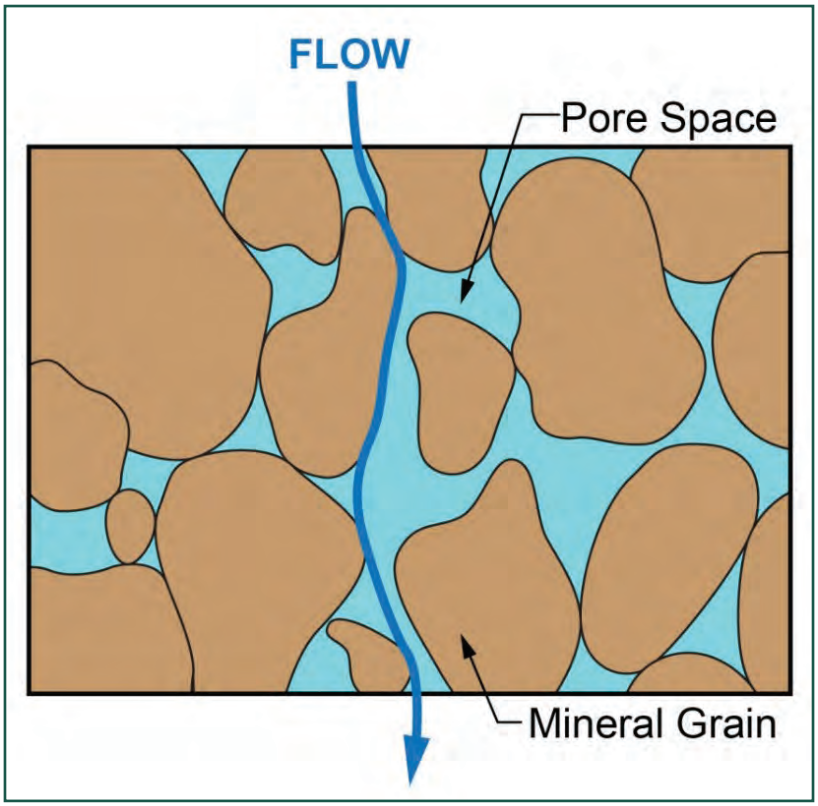

Figure 7-2: Cross section of porous and permeable rock

a salt formation, concentric tubing strings are installed in the wellbore, freshwater is pumped into the inner tubing, and brine is produced from the annular space between the concentric tubing strings. This process is called solution mining. Large caverns can be created to store gas or hydrocarbon fluids using solution mining methods, as much as 2,000 feet tall and 350 feet in diameter.

Second, permeability governs how easily gas and liquid can flow through a rock formation. Sandstone has a much greater permeability than salt (assuming a small to modest degreee of diagenesis and cementation between the grains), so gas can flow or migrate very quickly and for large distances in sandstone. On the other hand, since salt has such a small permeability (i.e., it is almost impermeable), gas cannot flow through it and thus salt can be used to trap gas in a cavern.

Though salt may be considered to be nearly impermeable, and thus ideal for hydrocarbon storage, it is known that salt domes or beds may not be perfectly homogeneous. Salt bodies may include discrete thin zones of higher permeability than the bulk of the salt body, such as splines, clay layers, and faults. Thus, in preparation for hydrocarbon storage design, careful geological investigations should be conducted.

To give some physical meaning to the storage space comparing solution-mined caverns in salt and sandstone depleted oil and gas reservoirs, consider the results of some realistic examples. An ideally shaped cylindrical solution-mind cavern could be 2,000 feet tall and 300 feet in diameter, which results in a storage volume of 141,371,669 cubic feet. Now, considering the pore volume of the same cylinder 2,000 feet tall and 300 feet, but in sandstone with 20 percent porosity, the storage volume would be only 28,274,334 cubic feet. But, a hypothetical depleted sandstone formation 300 feet thick, but with a diameter of 2,000 feet would have a pore volume for storage of 188,495, 559 cubic feet. In fact, the idealized diameter of a typical depleted formation may be many times larger than 2,000 feet, and in fact may sometimes be as large as 20,000 to 40,000 acres in size; so depleted formations can have a much greater volume than a single cavern.

Two important operational volumes in UGS of gas are the working and cushion volumes. Cushion gas, or pad gas, is the volume of gas that must remain in a cavern or in the pore space at all times. The reservoir pressure support provided by the cushion gas serves two purposes. First, the pressure support permits the storage field to have deliverability high enough to meet its design day market requirements fairly late into the withdrawal season. Second, cushion gas also provides enough pressure support for average day deliverability to be high enough to permit the working gas volume to be withdrawn in a relatively short period of time, i.e. typically the 5-month winter season for most reservoir and aquifer storage and shorter periods of time for salt cavern storage. The volume of cushion gas makes it easier to withdraw gas during withdrawal periods. Cushion gas is also required to maintain the structural stability of a solution-mined cavern, as will be explained below. The working gas volume is the volume that is storage, which is injected and withdrawn over time.

e. Pore Storage Considerations in Depleted Formations

The advantages and disadvantages of porous rock formations, such as depleted oil and gas reservoirs and aquifers, are summarized in this section.

i. Reservoir characteristics
A schematic cross section of a depleted oil and gas formation is shown in Figure 7-3. Depleted reservoirs originally contained and produced oil, natural gas or both. The reservoir rock itself must have sufficient porosity and permeability to allow the gas to be easily pumped into the rock and migrate through the reservoir in the first place, and the easily allow withdrawal of the stored gas when needed. Injection and withdrawal cycles can take place as many as five times per year. Higher quality depleted reservoirs, those with high porosity and permeability, also have lower cushion gas requirements. Depleted oil and gas formations are generally the least expensive to develop, operate and maintain.

The factors that determine whether or not a depleted reservoir will make a suitable storage facility are both geographic and geologic. Geographically, depleted reservoirs must be in a location with access to a customer market, either residential, commercial, industrial, or a combination. The facility should also be close to pipeline and transmission infrastructure.

ii. Vertical and lateral confinement
To ensure containment within a depleted reservoir (a requirement for any gas storage facility) there must be an impermeable cap rock/ confining zone above and either structural or stratigraphic containment on the flanks of the formation. A competent overlying cap rock (the confining zone/caprock sequence) is required to seal the storage formation

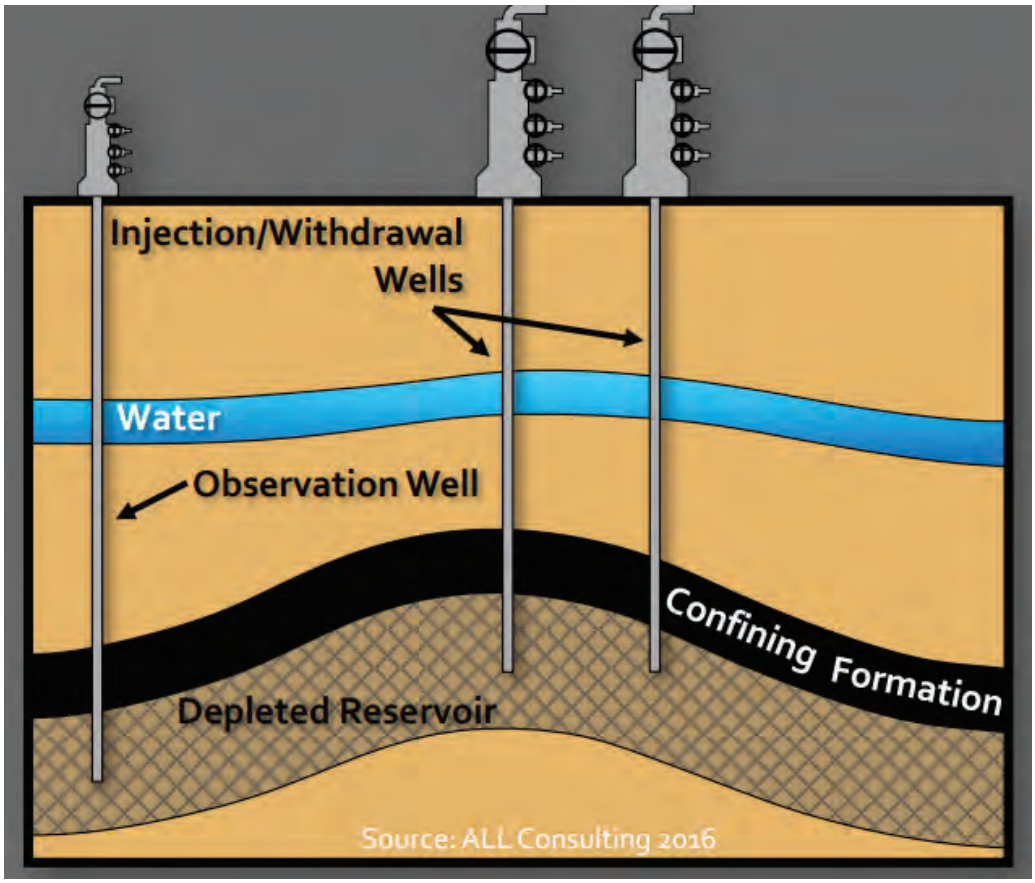

Figure 7-3: Depleted hydrocarbon formation storage
Source: http://www.gwpc.org/sites/default/files/event-sessions/Alleman_Nathan.pdf

and prevent vertical fluid movement. Preventing or minimizing horizontal fluid movement can be a more difficult challenge, particularly for stratigraphic trap type fields. Monitor wells are placed strategically at the perimeter of the field, with the pressure monitored and the composition of the gas checked from samples. In some cases, faults might be considered geological horizontal barriers, but faults are often not always impermeable, (65) and may be activated as leakage pathways under sufficiently elevated stresses or reservoir pressures. In other cases, geological pinch-outs can serve as a boundary.

iii. Operating pressure design

In order to maintain pressure in depleted reservoirs, up to about 50 percent of the natural gas in the formation must be kept as cushion gas. Depleted natural gas reservoirs require less injected cushion gas because some native gas still remains. Operating pressures are customarily dictated by the fracture strength of the formation rock and the pressure integrity of the casing shoe. Gas migration may also be a consideration in establishing the maximum storage pressure, since the rate of gas flow in a porous and permeable formation increases with increasing storage pressure.

The MAOP should be determined after a thorough analysis of a variety of factors including the rock fracture strength (or the fracture gradient) and critical frictional strength of any nearby faults at the bottomhole location, the water gradient, initial formation pressure, caprock seal integrity, geomechanical testing, and other considerations. The pressure

required to inject intended gas volumes, particularly at total inventory, should be limited by reservoir rock strength, well integrity, wellheads, piping, or associated surface facilities.

The minimum reservoir pressure should not be less than historic minimum operating pressure, unless reservoir geomechanical competency can be demonstrated. The impacts of intended minimum reservoir pressure should be accounted for in a regional review of the geologic formation as it relates to geomechanical stress, subsidence, reservoir liquid vertical influx as gas is withdrawn, surface facility gas cleaning and liquid handling, and liquid disposal, all of which affect the maximum cycling capacity of the storage field and can impact mechanical integrity of the facilities. (10)

f. Pore Storage Considerations in Aquifers

As summarized in API RP 1171, (10) if depleted hydrocarbon reservoirs are not present in a geographic area where storage is desired, aquifers exhibiting the qualities of a hydrocarbon reservoir may be utilized. Aquifer reservoir storage dates back to 1946. (10) As of 2015, there were 51 operating aquifer storage reservoirs in the U.S. and Canada representing over 2,300 reservoir-years of operation, with a maximum inventory capacity of 1.3 trillion cubic feet, accessed and monitored by more than 2,600 wells.

Aquifer reservoirs are similar to depleted hydrocarbon reservoirs in terms of the nature of the porous rock media used to contain the gas and the methodology for assessing the reservoir. The storage suitability of an aquifer reservoir requires careful investigation on an individual basis, using a number of means to evaluate reservoir integrity, well integrity, and existing fluid chemistry.

i. Reservoir characteristics

As shown schematically in Figure7-4, aquifer storage is similar in many ways to depleted hydrocarbon storage. Aquifers are underground porous and permeable rock formations that act as natural water reservoirs. Some quifers can be used as natural gas storage facilities. As they are more expensive to develop than depleted reservoirs, these types of storage facilities are usually used only in areas where there are no nearby depleted reservoirs. Traditionally, because of the requirement to fill slowly while pushing water back, these facilities are operated with a single winter withdrawal period.

Aquifers can be the most challenging and most expensive type of natural gas storage facility for a number of reasons. First, the geological characteristics of aquifer formations are not as thoroughly understood when compared with depleted reservoirs because of lack of history that includes site characterization (e.g. drilling and production logs). A significant amount of time and money goes into discovering the geological characteristics of an aquifer, and determining its suitability as a natural gas storage facility. Geophysical testing must be performed, similar to what is done for the exploration of potential natural gas formations. The area of the formation, the composition and porosity of the formation itself, and the existing formation pressure must all be characterized prior to development of the formation. In addition, the capacity of the reservoir is unknown, and may only be determined once the formation is further developed. Lastly, confining zone/caprock sequences that would promote gas containment may be of unacceptably poor quality (e.g., thin, fractured, or even absent; Bruno et al.). (52)

In aquifer formations, cushion gas requirements average about 70 percent of the total capacity and can be as high as 90 percent. While it is possible to extract cushion gas from depleted reservoirs, doing so from aquifer formations could have negative effects, including loss of effective permeability. As such, most of the cushion gas that is injected into any one aquifer formation may remain unrecoverable, even

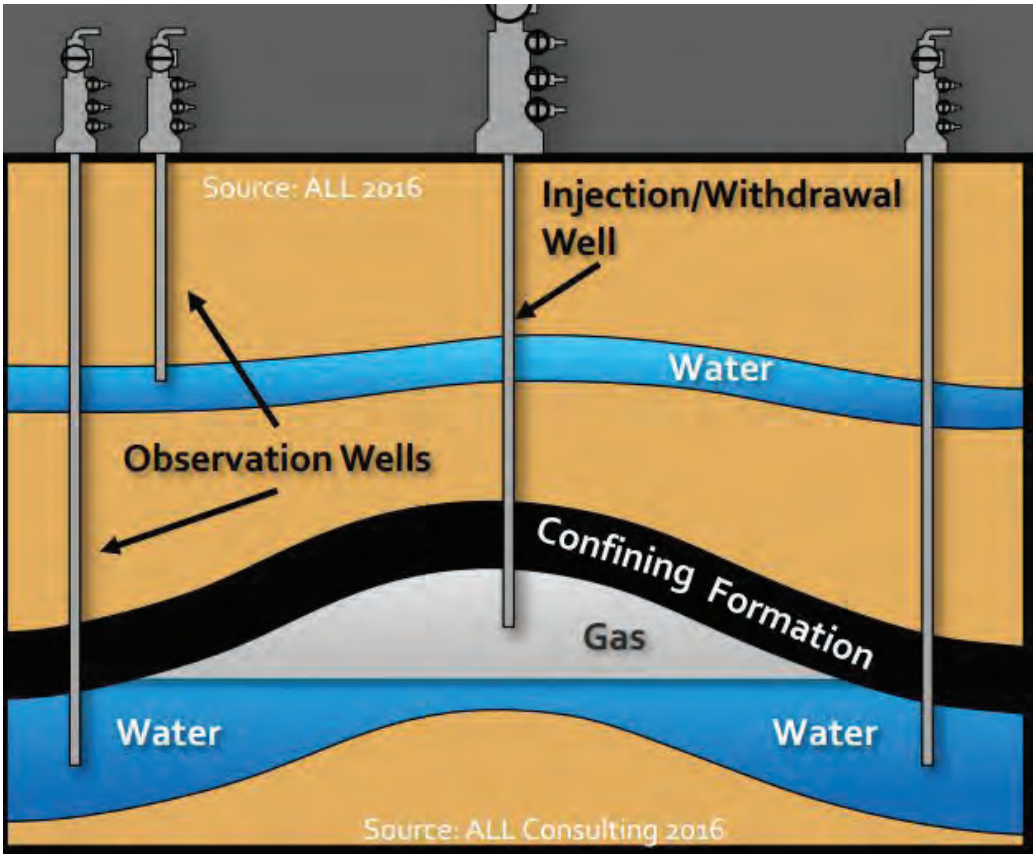

Figure 7-4: Aquifer storage
Source: http://www.gwpc.org/sites/default/files/event-sessions/Alleman_Nathan.pdf

after the storage facility is shut down. Most aquifer storage facilities were developed when the price of natural gas was low, meaning this cushion gas was not very expensive. When gas prices are higher, aquifer formations are increasingly expensive to develop.

ii. Vertical and Lateral Confinement
The lateral and vertical confinement is essentially the same as depleted oil and gas formations. Vertical confinement may be more challenging in part because aquifers are generally shall lower.

iii. Operating Pressures
The basis for operating pressures for aquifer storage is essentially the same as for depleted hydrocarbon formation, since the rock type is usually similar (i.e. sandstone). Aquifers are generally shallower than depleted hydrocarbon formation, thus requiring some additional considerations. Aquifer storage reservoirs operate at pressures above and below the pressure of the water in the aquifer, resulting in potential water efflux and influx, and changing gas reservoir size. Therefore, semiannual surveys, which are essentially the summer and winter time frames, may not be effective in inventory assessment (some states, such as Louisiana, require quarterly assessments of solution-mined caverns). In addition, extended shut-in periods, whether at high or low inventory levels, result in changes in the reservoir volume that could be detrimental to the reservoir's operation. (10)

g. Salt Cavern Storage Considerations

Construction of the first solution-mined salt caverns in the U.S. created specifically for the storage of natural gas began in the Eminence Salt Dome in Mississippi in the late 1960s by Transcontinental Gas Pipe Line. (66)

i. Geological characteristics

As shown schematically in Figure 7-5, salt caverns are located in underground salt formations either in salt domes or in salt beds. The caverns are typically solution mined by injecting fresh water through a well drilled into the salt, dissolving the salt into brine with the fresh water and withdrawing the resulting brine for disposal in underground rock formations near the salt cavern. The produced brine is frequently used commercially as feedstock in chemicals manufacturing.

Essentially, salt caverns are formed out of existing salt deposits. These underground salt deposits may exist in two possible forms: salt domes and salt beds. Costs for salt dome-based caverns are typically lower than the development costs for bedded salt-based caverns; usually due to the size of the caverns (caverns in salt domes are typically larger than caverns in bedded salt).

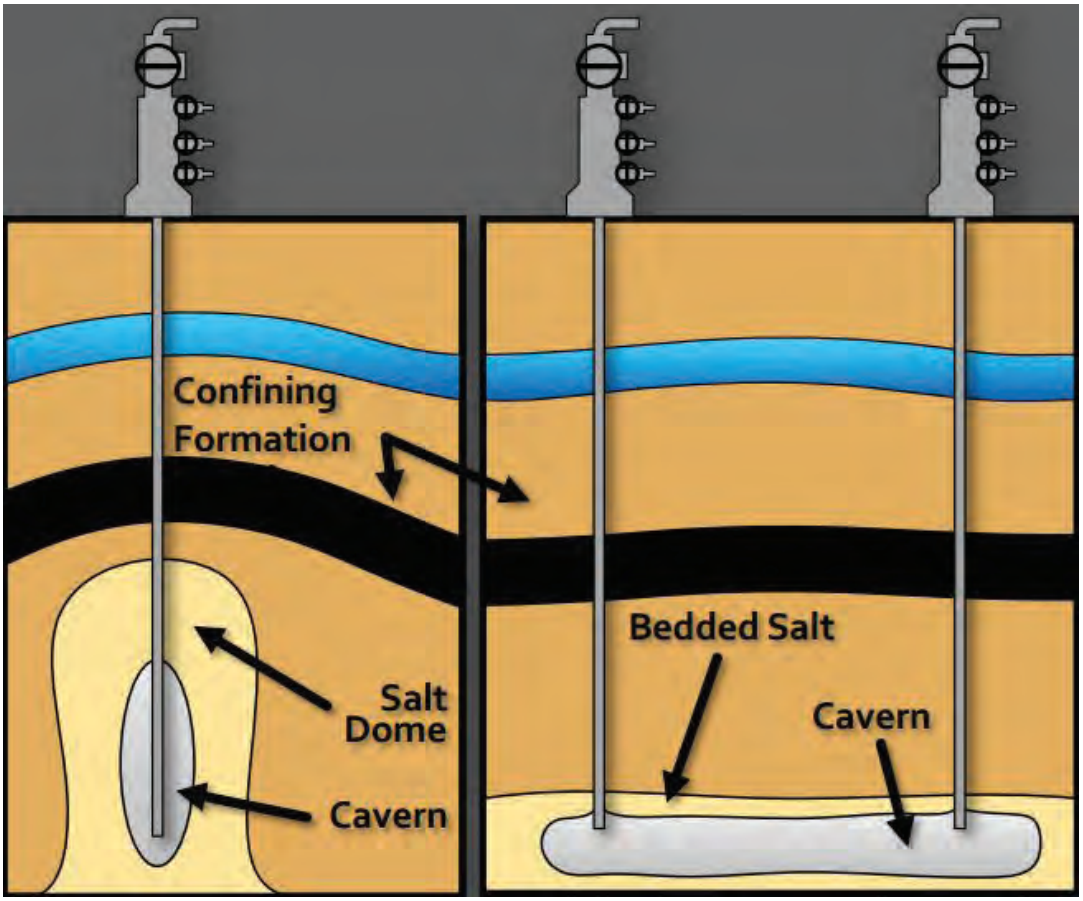

Figure 7-5: Solution mined caverns in salt dome (left) ; bedded salt formation (right)
Source: http://www.gwpc.org/sites/default/files/event-sessions/Alleman_Nathan.pdf

Salt cavern storage facilities are primarily located along the U.S. Gulf Coast, as well as in the northern states. Salt cavern storage is well suited for peak load storage since the gas can be quickly withdrawn compared to depleted porous formations. Salt caverns can readily begin flowing gas on as little as one hour's notice, which is useful in emergency situations or during unexpected short term demand surges. There are significant cost and schedule advantages to using suitable existing caverns for gas storage rather than solution minig new caverns specifically designed for gas storage . As discussed earlier in this chapter, salt caverns are typically much smaller than depleted gas reservoirs and aquifers. Thus, salt caverns generally cannot hold the volume of gas necessary to meet base load storage requirements. However, deliverability from salt caverns is typically much higher than for either aquifers or depleted reservoirs, so caverns can accommodate more frequent withdrawal and injection cycles.

Salt domes: Salt domes are thick formations created from natural salt deposits that, over time, flow up through overlying sedimentary layers to form large dome-type structures. They can be as large as a mile in diameter, and 30,000 feet in height. Typically, salt domes used for natural gas storage are between 1,000 and 2,500 feet beneath the surface, al though in certain circumstances they can exist much closer to the surface.

Salt beds: Bedded salts are shallower, thinner formations. These formations are usually no more than 1,000 feet in height and are commonly composed of multiple thin layers. Because salt bed are wide, thin formations, once a salt cavern is introduced they are more prone to deterioration, due to potential flexure of the roof of the mined cavern. (52)

ii. Vertical and lateral confinement

Lateral confinement of gas within a solution-mined cavern is governed by the low permeability of salt. Careful geological investigations are required, however, to determine the presence of anomalous high-permeability layers or stringers. Vertical migration is governed by the overlying cap rock, which may be composed of anhydrite, gypsum, and calcite cap above many salt domes that is formed by consolidation, cementation, and alteration of insoluble residue left by salt dissolution. In domal salts, which are created by the upward deformation of salt formations, the cap rock may be fractured, thus cap rock must be adequately characterized in detail, and a wellbore penetrating the cap rock may be difficult to cement efficiently. (52)

iii. Operating pressure design

As compared to reservoirs or aquifers, salt caverns offer high rates of injection and withdrawal relative to the amount of working gas capacity. The result is that the working gas capacity in salt caverns can be cycled many more times than either reservoirs or aquifers, typically in the range of 12 annual cycles of working gas capacity. Salt caverns also require less cushion gas; usually 20 percent to 30 percent of the facility's working gas volume, as compared to depleted formations.

The MAOP is based on the fracture pressure of the salt at the casing shoe. But geomechanical analysis should also be used as a basis for determining possible microfracturing of the salt under high cavern pressure.

The minimum pressure in a storage operation is dictated by the creep closure of the cavern. The minimum pressure is specified to minimize surface subsidence and creep closure. Creep closure and cavern roof deformation (sagging) can result in high stress and strain on wellbore casing strings, which should be considered in cavern operations, including long term shut in, operating cycles, and abandonment. (67)

iv. Geomechanical Modeling

Geomechanical modeling is the analytical or, numerical or computational modeling of geologic materials to predict and understand deformations and loads due to changes in stress or fluid pressure on rocks or soils. A rich literature exists on this topic. In the context of UGS, geomechanical modeling is used to assess the stability of caverns in solution-mined salt caverns, and the deformation of depleted formations and their caprock/confining zone sequences. Cyclic deformation and stresses during injection and withdrawal cycles can cause undesirable loads on wellbores, which can affect overall integrity of the storage system. Currently, there are no specific state regulations or requirements for geomechanical modeling of UGS facilities. PHMSA, however, has recently promulgated regulations on UGS which incorporate by reference API RP 1170 and API RP 1171, which may make geomechanical modeling of UGS facilities mandatory, at least regarding solution mined caverns in salt. Some considerations of geomechanical modeling of UGS include:

1. **Salt Cavern Storage Considerations:** Sections 5.4 and 5.5 of API RP 1170 address geomechanical site characterization and numerical modeling for gas storage in caverns solution mined in salt. Section 5.4 covers the types of core tests and their results that are recommended for characterizing the behavior of the salt, and the quantitative results recommended as input into numerical geomechanical models. Section 5.4 provides recommendations for numerical geomechanical modeling: *"The structural stability and geomechanical performance of natural gas storage caverns in salt should be assessed using numerical models that represent the geometries of the caverns, their development history and operating conditions during gas storage, the geologic structure around the caverns, the mechanical properties of the salt and nonsalt units, and the preexisting in-situ conditions. In particular, the numerical models should simulate the time-dependent creep deformation that is distinctive of rock salt and other evaporites."* RP 1170 states that the geomechanical model should be of sufficient detail to produce results to judge the structural stability and mechanical integrity of a cavern during gas storage operations, such as cavern shape and size; cavern proximity to other caverns and the edge of the salt deposit; depths of casing seat, roof, and floor; wellbore and cavern roof design; minimum and maximum storage pressures and cycling; and estimation of surface subsidence.

   API RP 1170 does not provide recommendations for the type of geomechanical method to be used, but in general the published literature includes the numerical approaches as explicit or implicit finite element methods, and the finite difference method. Whichever method is used, it is important that the method include a verified constitutive model for creep behavior of the salt (e.g. with values determined by the laboratory tests on salt from the cavern). An example of such geomechanical modeling for UGS in solution mined salt caverns, which includes references to other similar geomechanical methods, is given in Hilbert and Saraf. (67) Analysis for a bedded salt deposit is presented in Bruno. (52)

2. **Depleted hydrocarbon formations and aquifers:** API RP 1171 for gas storage in depleted hydrocarbon formations and aquifers does not include any recommendations for geomechanical modeling. Geomechanical modeling for storage in depleted formations may be considered to determine stresses on wellbores, potential shearing of wells due to slip on faults or at geologic unconformities, and surface subsidence or heave during injection and withdrawal cycles. For UGS in nonsalt porous rocks the methods and techniques are similar to the techniques used for reservoir modeling in the upstream oil and gas industry. An example of a geomechanical computational model for UGS can be found in Teatini et al. (68)

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Chapter 8
Injection and Withdrawal Well Operations and Maintenance

Introduction

Gas storage wells and fields require proper operations, practices, and regular maintenance and assessments to ensure integrity and intended use throughout all stages of life – from start of initial testing, injection and withdrawal from storage, up to final plugging and abandonment. Since each gas storage field and its wells are different, general processes are covered here that apply across all fields and wells. Recently formulated and earlier documents covered proper operations practices and regular maintenance, and they are referenced here with additional suggestions.

Major Issues and Concerns

In porosity storage, gas storage wells often are converted former oil and gas producing wells, and whether converted or newly drilled and completed, these dedicated storage wells will have extended lives. Long-term well integrity and functionality depend upon proper field and well operations and maintenance, including changes in the reservoir, fluids, rates, stimulation, remedial work, offset drilling, and surface conditions and parameters. Essential continual monitoring of current conditions, and comparison versus designed and expected future conditions, will indicate the integrity and functionality issues during facility and well life. Accordingly, monitoring, access and control need to be implemented at all times and under all conditions.

LPG salt cavern storage wells have significant differences in operation compared to natural gas storage in porous reservoirs. LPG salt cavern storage well systems have a brine side and a product side to the operation. These systems are kept separate for safety and environmental considerations. Brine is injected into a tubing string to displace product out the annulus and when product is emplaced into the cavern, the displace brine is then retained and stored in surface impoundments or injected into another formation. The brine storage impoundments can be designed to prevent leakage which can result in contamination of the environment. Safety equipment such as gas separators directed to flares should be used to handle any LPG that enters the brine system. Gas detectors may also be deployed around the perimeter of the impoundment as an added safety feature. One should be concerned with the containment not only of the LPG, but also the brine.

Hard rock cavern storage relies on geomechanical stability which can be addressed by the appropriate geomechanical analysis techniques. (2) The main issues and concerns with hard rock cavern storage are:

- Roof collapse;
- Pillar collapse; and
- Surface subsidence.

Main Take-Aways

- Gas or liquids can leak or migrate from an underground storage facility of any type, if wellbore integrity is compromised, even when reservoir or cavern integrity is maintained.
- Well maintenance, operations, and well integrity can vary considerably between the different types of reservoirs.

- Well workovers and operations can be conducted to evaluate or restore functional mechanical integrity of a wellbore and should be accomplished to ensure well integrity.
- Periodic well integrity testing is an important tool for operators to assess the changing functional integrity of downhole and wellhead assets. Testing methods discussed are: annular pressure monitoring and casing inspection. Frequency of integrity re-assessment should be driven by the operator's risk assessment procedure as discussed in Chapter 3.
- Operators should establish standard operating procedures for well reporting, and compliance with State and Federal agencies.

Well Operation and Maintenance

a. Long Term Well Integrity

i. API RP 1170 and API RP 1171 – Guidelines established in API RP 1170 and API RP 1171 may be used by gas storage operators wherever these API RP are applicable to natural gas storage wells and facilities.

ii. Minimum and maximum operating pressure –

1. Operators determine the maximum and minimum operating pressures each gas storage well and each gas storage facility component will be subjected to during the well or component lifetime. A starting point for maximum operating pressure analysis is a field's discovery pressure. If an operator chooses to operate the facility above the discovery pressure then additional reservoir and cap rock analyses are required to be able to justify safe operations at that pressure level. The minimum pressure should be established to meet minimum customer deliverability requirements, but in no case should the minimum pressure allow for detrimental subsidence or other integrity complications.
2. The operating pressure range of each well and component, along with the gas pipeline system demands, should be used in each original design, re-design, and operational plan.
3. Periodically, the operational plan should be reviewed and confirmed to be applicable to each well and component. During the operational plan review storage operators should ensure that operating pressures do not exceed the minimum and maximum operating pressure at storage well or wellhead.
4. For salt or hard rock caverns, it is extremely important that the maximum operating pressure gradient remain below the fracture gradient to maintain reservoir or cavern integrity.
5. When assessing field-wide risks, a probabilistic model is recommended where the risk can be quantified and maintained within acceptable limits as determined by physical limitations, regulations and industry standard practices.

iii. Construction (See Chapter 5)

iv. Workovers

1. Major workovers typically include drilling rigs and/or service-type pulling units that operate in situations where the wellhead christmas tree is removed and wellbore is accessible for work. If the current wellhead assembly does not allow for workovers under pressure, the operator should consider installation of a

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master shut-off valve or snubbing valve on the production casing for additional well control. Major workovers include:

a) Running or pulling existing casing;
b) Drilling;
c) Running or pulling tubing; and
d) Casing repairs, including:
    1) Casing patches;
    2) Casing liners; and
    3) Remedial cementing;
e) Milling;
f) Fishing jobs;
g) Hydraulic fracturing; and
h) Re-completions.

2. Minor workovers typically are methods conducted through existing completions (whether the completion has tubing or not), that provide remedial and/or enhanced well operation. Minor workovers often are performed via workover rigs, coiled tubing and/or wireline methods, for a variety of purposes, including but not limited to:
    a) Downhole sensor work;
    b) Wellbore stimulations (e.g., acid jobs, coil tubing cleanouts, etc.);
    c) Casing integrity logs;
    d) Perforating;
    e) Subsurface safety valve work; and
    f) Well cleanouts.
3. Operators should develop standard operating procedures addressing records retention and key records retained for the life of the storage field.
4. Operator staff and contractors should be appropriately trained for their assigned tasks and their competency should be periodically reviewed to ensure job proficiency
5. Protection of the public health, safety, property, and the environment must be taken into consideration when planning a workover. A blowout preventer and/ or other well control methods are used.
6. Where appropriate the operator should evaluate and implement additional site security measures while well work is ongoing and equipment is on site.

b. Periodic Well Integrity Testing

i. Annular monitoring

1. The operator should monitor each well annulus that is not cemented to the surface by placing a valve on the wellhead, and the measurement device should have an isolating valve between it and the wellhead annulus, so the measurement device can be removed and/or changed safely and efficiently without disturbing the well operation. Some contributors to this report advocate for monitoring all annuli, regardless of whether they are cemented to surface, to identify potential cementing problems.
2. Annulus monitoring may be by simple visual analog dial measurements and/or digital remote sensing methods.
3. The operator may also consider the continuous monitoring of all annulus pressures, establishing SCADA limits and alarms.

ii. Casing inspection

1. Operators may use a variety of casing inspection methods and tools to ascertain an original baseline, and subsequent changes, in casing integrity and condition. A detailed list of these methods and tools are discussed in Table 6-1.

iii. Inspection and integrity testing frequencies

1. Frequency of casing inspection is based upon the operator's risk analysis for each field, area in the field, and well and should be included in the operator's field and well operating plan. Regulatory guidelines must also be taken under consideration.
2. The operator will integrate the latest casing inspection results with the design data for the well in addition to any prior inspection results as part of the current analysis. Significant changes in a well's condition or the remaining life of casing will be further investigated.

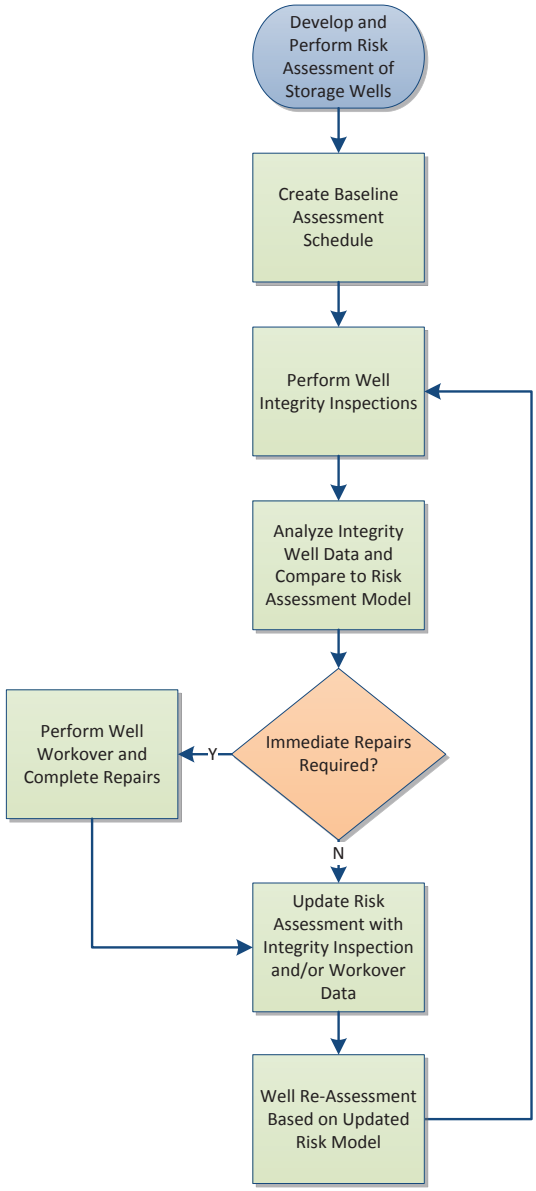

Figure 8-1: Flowchart of casing inspection frequencies based on risk assessment

3. Frequency of casing inspection is included in the operator's field and well operating plan, based upon the risk analysis in item 1 above. Regulatory guidelines must also be taken under consideration. The flowchart shown as Figure 8-1 can be utilized by regulatory agencies to determine if an operator's re-assessment schedules follow risk management principles and are reasonable:

    1. Based on operator's threat and risk assessments wells can be inspected at different frequencies. Wells that have more redundant safety features should lower the overall well risk and therefore can have longer re-assessment intervals. Some redundant safety features are listed below:
        a) Annular pressure monitoring via SCADA;
        b) Production casing cement to surface;
        c) Casing, packer, tubing design;
        d) Established corrosion rate estimate;
        e) Surface or sub-surface emergency shut-off valves;
        f) Well's isolation from populated areas; and
        g) Other factors that may be identified
    2. As general guidance casing inspection re-assessment frequencies are determined based on the operator's risk assessment procedure and the information derived from baseline evaluations.
        a) For re-assessments greater than 15 years substantial safety features and remaining life on the casing should be calculated using the established well corrosion rate from previous inspections.

iv. Volume, rate, pressure monitoring

1. Each well should have a method of estimating or measuring the injection pressure and withdrawal/production rates from the well.
2. Monitoring of each well's injection and withdrawal/production rates and pressures may be done by methods which do not disturb normal operations.
3. Measurement sensors are calibrated with accuracy, resolution and repeatability metrics that are appropriate for the expected measurement ranges within well and environmental conditions and during extended testing and/or operating periods.
4. The operator may also consider continuous monitoring of injection/withdrawal pressures.

v. Subsurface leak detection

1. Subsurface leak detection may include various singular or combined methods based upon the operator's risk analysis and operational plan.
2. Changes in a well's surface and/or downhole measurements may indicate a wide range of conditions, and measured changes may or may not be attributable to subsurface gas migration.
3. The operator should use a variety of measurements from each well suspected of a downhole leak, and combine information from adjacent and similar wells within the field area and zones of interest to decide which further investigative methods well be applicable to diagnose whether and where a downhole leak is occurring. As needed integrity assessment tools as described in Table 6-1 can be deployed to identify the wellbore leak.

vi. Subsidence and cavern storage

1. Surface subsidence occurs when the surface of a well or group of wells, or established monuments, subside below a baseline surveyed elevation. Subsurface caving or formation collapse may or may not manifest itself by surface subsidence or by sink-hole formation.
2. Wellbore and reservoir integrity may be affected by subsidence.
3. Operators should monitor wellheads, well locations, and established monuments for any indication of subsidence, and if subsidence is indicated, measure the rate at which subsidence is occurring over field operating cycles and external conditions, and compare any measurements against the risk analysis and operational plan which should include established standards.
4. Various analytical methods developed to analyze subsidence data may be utilized to evaluate subsidence. These methods can include graphs of elevations versus time and field subsidence rate maps.
5. Consideration should be given for all cavern storage facilities to establish surface survey loops and conduct a monument grid survey on an annual basis to detect ground surface movement. All wells should be included in the monument grid network. The frequency of the subsidence surveys should be based on the operator's experience and as required by regulations.

vii. Inventory tracking

1. Operators can calculate base/pad gas storage volumes and monitor injections and withdrawals/production continually. That information can be evaluated using periodic inventory reconciliations, and analyses can becompared to measured data.
2. Cavern operators should monitor injections continuously with periodic inventory reconciliations, such as resetting the inventory in the cavern based on emptying or by wireline measurement referencing the most recent sonar survey.
3. For depleted reservoirs semi-annual shut-in tests should be performed to verify storage inventories as recommended in API RP 1171.
4. Operators can further analyze apparent anomalies when mass balance and other calculations vary from expected data.

c. Periodic Wellhead Inspections

i. Refer to Section 12.b.vi-vii for information on wellhead inspections.

d. Periodic Wellsite Inspections

i. Operators should create periodic wellsite inspection procedures following API RP 1171 Section 10.5 (10) to verify the functional mechanical integrity of natural gas storage wellsites.

1. Such procedures may include:
   (a) Reason for the inspection;
   (b) Identification of operation personnel and training requirements;
   (c) Directions to conduct the inspection;
   (d) Frequency of the inspection;

(e) Reassessment of hazards and potential threats; and,
(f) Documentation, reporting, and recordkeeping requirements.

The operator may choose to combine wellhead and wellsite inspections into a single procedure.

e. Maintenance Requirements and Schedules

i. Operators should include a maintenance schedule in the field operational plan.

ii. Maintenance requirements are based upon the operator's risk analysis for the field, each field area, and each well based upon the risk factors, well and wellhead design, and historical experience operating the facility, wells, and equipment.

iii. Maintenance schedules are based upon the frequency with which wells and wellhead components require work, and all maintenance should be regularly recorded and tracked for risk analysis reviews.

iv. Records are typically maintained for the life of the facility.

f. Water Wells

i. Gas storage fields may also have water wells drilled and completed for various purposes, including water source and monitoring.

ii. Operators may include water well operation and maintenance in their field operating plan with the same or similar considerations as included herein for gas storage wells.

iii. For aquifer storage facilities all water wells that see some gas pressure throughout the year should be designed according to Chapter 5 guidelines.

g. Well Reporting and Compliance

i. Reporting requirements

1. Operators can centrally record all measurements and analyses performed across field operations, including injections, withdrawals/production rates and volumes, pressures, maintenance, conditions, and other.
2. Operators may periodically analyze the reported data for trends, issues, risk analyses, and reporting to outside agencies and organizations as appropriate.

ii. Compliance schedule

1. Operators should be familiar with all regulatory requirements, agencies, and other outside organizations' required information and dates for proper reporting compliance.
2. Operators should have a written procedure for proper and timely reporting to government and outside organizations.

iii. Agency notification and approval of changes to wells/operations

1. Operators should have a written procedure for proper and timely reporting to regulatory agencies of any required notices and requests for approval when required for changes to wells/operations.
2. Operators are advised to keep a written record of all notifications and approval requests and responses from agencies.

h. Procedures, Training, and Record Retention

i. Operators should create a storage operation and maintenance procedure manual and an operator qualification program for UGS injection and withdrawal well activities. For cavern storage operators refer to API RP 1170 Section 9.7 for details. For porosity storage operators refer to API RP 1171 Section 11.

Chapter 9
Monitoring and Observation Wells

Introduction

Monitoring and observation wells associated with the underground storage of gas have been utilized by the gas storage industry for a many years. One purpose for the construction of these wells is to monitor for the potential horizontal and vertical migration of storage gas. These wells can be the first evidence of potential issues with gas storage reservoir integrity. The placement of these wells is of high importance to ensure adequate monitoring of the gas storage reservoir is accomplished. The use of and type of observation wells vary greatly with each storage project, and some storage projects may not require them.

Major Issues and Concerns

Addressing physical surface location placement, proposed depths, and geological considerations are major issues and concerns regarding monitoring and observation wells associated with gas storage facilities. A geologic formation selected for monitoring must have sufficient porosity and permeability to ensure monitoring is feasible. Locations and spacing of monitoring wells should be based on the geology and hydrogeology, including but not limited to flow paths, flow directions, and formation pressure gradients. Depth considerations of these wells can be critical and placement of some monitoring wells needs to be within the first porous and permeable zone directly above the gas storage reservoir. Monitoring or observation wells being considered for placement directly into the geologic formation(s) utilized for gas storage can be limited to the buffer zone (which is established outside of the delineated gas storage field) to potentially detect additional pathways of gas migration out of the gas storage reservoir within the storage field. The use of and need for observation wells may be determined as part of the risk assessment for each new gas storage project.

Main Take-Aways

- Observation and monitoring wells serve as the early detection and warning system for gas storage reservoir integrity; and for LPG storage, they can also serve to monitor the integrity of the brine system, including brine storage ponds.
- Placement of these wells both on the surface and in the correct subsurface geologic zone is critical to the success of an observation/monitoring well program.
- Proper well construction, integrity, and monitoring are important aspects of these wells.

Monitoring and Observation Wells

a. Reasons and Justification

i. Monitoring and observation wells serve as an early detection and monitoring system for identifying potential gas migration and reservoir integrity issues. These wells can be utilized to establish baseline conditions and allow for monitoring of gas, and liquid conditions and changes. Groundwater monitoring wells can also be used to detect changes in groundwater quality that could be indicative of contamination.

ii. Strategically placed observation or monitoring wells in the vicinity of reservoir spill points, within an aquifer, and above the confining zones in porous and permeable formations should be installed and monitored to detect the presence or movement of gas or LPG. Observation wells can be placed above, below, or laterally within the gas storage reservoir depending upon the geology of each gas storage project. (10) These wells need to be placed within porous and permeable geologic formations capable of being monitored. The location and design of observation and monitoring wells should take into consideration (16) the following:

1. Location relative to the storage zone. Monitoring wells located within the storage zone that are suitable for monitoring reservoir pressure, can be considered but should be placed within the buffer zones in order to limit artificial penetrations within the gas storage field reservoir;

2. Potential migratory paths from the reservoir to another formation;

3. Fluid interface monitoring at the location of the reservoir spill point;

4. Permeable zones and stratigraphic traps above the storage zones; and

5. Low-permeability zones, formations or fields adjacent to and in communicatio with the storage zones.

iii. Gas analysis from observation wells may provide proof of the arrival of storage gas when the hydrocarbon, inert gases, and/or isotopic composition of the storage gas is noticeably different than that of the native gas.

iv. Monitoring wells completed in aquifers to determine groundwater quality should also be considered where appropriate. Groundwater monitoring at LPG storage operations should include placement and monitoring around the brine storage impoundments. These wells should be sampled initially for baseline fluid chemistry and then sampled periodically using a set of chemical parameters (including chloride), to determine if changes in groundwater quality have occurred.

b. Well Construction

Perhaps the most critical aspect of any well drilled within a gas storage field is an appropriate well construction plan. Observation and monitoring wells should consider:

i. A well construction plan designed to ensure proper placement of well casing, cementing, and completion practices. It should provide for adequate safety, monitoring and sampling. It should also provide for the zonal protection and isolation of other reservoirs and aquifers intersected by each monitor and observation wellbore per regulatory requirements;

ii. Appropriate testing protocols that can demonstrate the well integrity;

iii. In salt cavern construction, use of salt saturated cement through salt zones when cementing a casing string set into the salt. A mule shoe and weep hole should be located a minimum of one foot above the bottom of the brine tubing to assist in the early detection of overfilling the cavern with product; and

iv. Well construction of shallow monitoring wells in gas storage fields utilized for groundwater monitoring and baseline sampling needs to be as stringent as the deeper, observation wells. Construction, must meet minimum jurisdictional requirements and approvals.

c. Monitoring Type and Frequency

After initial observation or monitoring well completion and baseline recording and/or sampling have been accomplished, development of a monitoring, recording, and sampling plan needs to be undertaken. This plan should consider:

i. Analysis for hydrocarbon, nonhydrocarbon gases, and/or isotopes.

ii. Monitoring of pressure changes and fluid-levels. Sampling should be considered on a case-by-case basis by the regulatory agency as necessary.

iii. Criteria for measurement sensors. Sensors may be located at the surface and/or downhole, with calibrated accuracy, resolution, and repeatability per manufacturer's specifications that is sufficient for the expected measurement ranges within well and environmental conditions during extended operating periods;

iv. Monitoring and sampling frequency. The frequency of monitoring should take into account seasonal variations, and may change over time as the storage field transitions from activation to the mature stage.

d. Reporting Requirements and Alarms

Significant changes in pressure or the migration of gas into the monitoring or observation well borehole indicating a potential loss of gas storage well or reservoir integrity should require an immediate notification to the appropriate company representatives and to the appropriate regulatory agency or agencies. Additional observation or monitoring well reporting requirements for the presence of gas, pressure and fluid-level monitoring, and groundwater sampling should be developed cooperatively between the regulatory agency or agencies and the gas storage operator prior to installation. Additionally, real-time electronic monitoring on observation or monitoring wells at the surface should be considered and should utilize alarms set for significant changes in pressure or presence of gas at the lower explosive limit (LEL) beyond the original baseline readings.

e. Observation Well Operations and Maintenance

i. Operations should refer to the relevant recommendations from Chapter 8: Injection and Withdrawal Well Operations and Maintenance, to ensure functional mechanical integrity of observation wells located in gas storage zones. Relevant areas are:

1. 8.a.ii.1: Minimum and maximum operating pressure;
2. 8.a.4: Workovers;
3. 8.b.i: Annular monitoring;
4. 8.b.ii: Casing inspection;
5. 8.b.iii: Inspection and integrity frequencies;
6. 8.b.v: Subsurface leak detection;
7. 8.b.vi: Subsidence and cavern storage;
8. 8.c: Periodic wellhead inspections;

9. 8.d: Periodic wellsite inspections;
10. 8.e: Maintenance requirements and schedules;
11. 8.g: Well Reporting and Compliance; and,
12. 8.h: Procedures, Training, and Records Retention.

Chapter 10
Wellhead and Surface Facilities

Introduction

The surface equipment at gas storage wells is the interface between the wells themselves and the compressor and pipeline systems used to transport the gas offsite. The handoff point between gas storage agency jurisdiction and pipeline agency jurisdiction may vary from state to state and even within facilities. Operators should work with oil and gas agencies to clearly delineate this point at each facility, and agencies may consider establishing MOUs with sister agencies to manage regulatory overlap and gaps. This report's scope focuses on the wellhead itself, the various valves and monitors found on the wellhead, the physical interface between jurisdictions (often a pipeline isolation valve), and surface leak detection related to the wellhead.

Major Issues and Concerns

Properly designed and functioning wellheads efficiently direct gas flow while providing operators with information about subsurface well integrity and preventing unintentional gas leaks at the surface. Designs consider issues like appropriate pressure ratings, valving, ability to perform workover and maintenance operations under pressure, pressure monitoring devices, emergency safety systems, and leak detection. Considerations include which systems to require, what kind of maintenance is appropriate, and what information should be reported to the regulator.

Main Take-Aways

- Wellhead configurations depend on a variety of factors, but there are manufacturing and testing standards for each component.
- The use of safety devices depends on well architecture, risks intrinsic to each well's history and location, and regulator risk tolerance with respect to safety and environmental considerations.
- Special attention should be paid to the point of regulatory handoff between the agency regulating the well and the agency regulating the pipeline network to ensure seamless regulatory coverage and cooperation
- Pressure monitoring is a common method for determining overall well integrity; regulators should consider appropriate measurement frequency and reporting requirements based on well history and other risk factors.
- Surface leak detection technology is rapidly evolving, and can play a role in a comprehensive leak detection program.

Surface Facilities

a. Overview

This section provides detailed guidance to help regulators develop rules and analyze operator plans related to wellheads, surface equipment between the wellhead and the point of hand-off to CFR 49 Part 192's pipeline regulations, pressure management and monitoring, and surface leak detection. The subsections below go into extensive detail on these topics, with cross-references elsewhere in the document as appropriate. (69)

b. Wellhead

i. General principles

1. The design criteria for wellheads at gas storage facilities should include, but is not necessarily limited to:
   a) MAOP and maximum flow rate;
   b) Number and size of casing and tubing strings;
   c) Number and type of valves on the tree assembly;
   d) Injection/withdrawal fluids composition;
   e) Potential for solids production;
   f) Pressure and/or temperature monitoring of annular spaces; and
   g) Full bore access for well workovers.

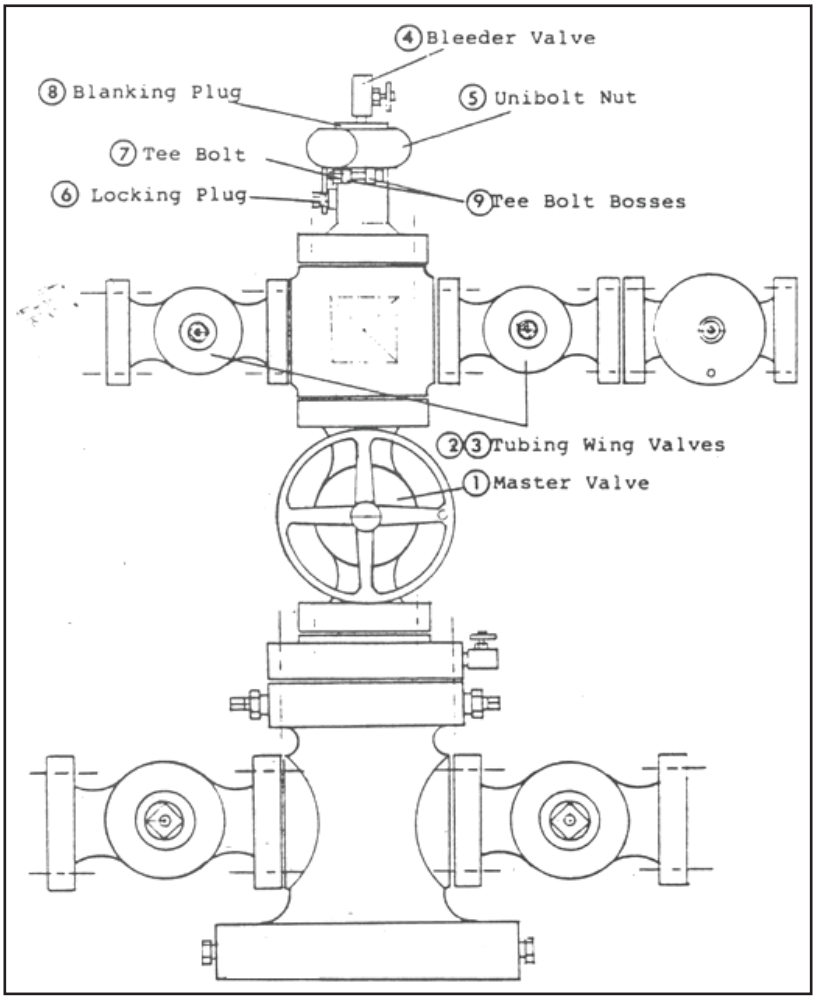

Figure 10-1: Example of a Depleted Reservoir or Aquifer Gas Storage Tubing and Casing Wellhead Configuration
Source: SoCalGas

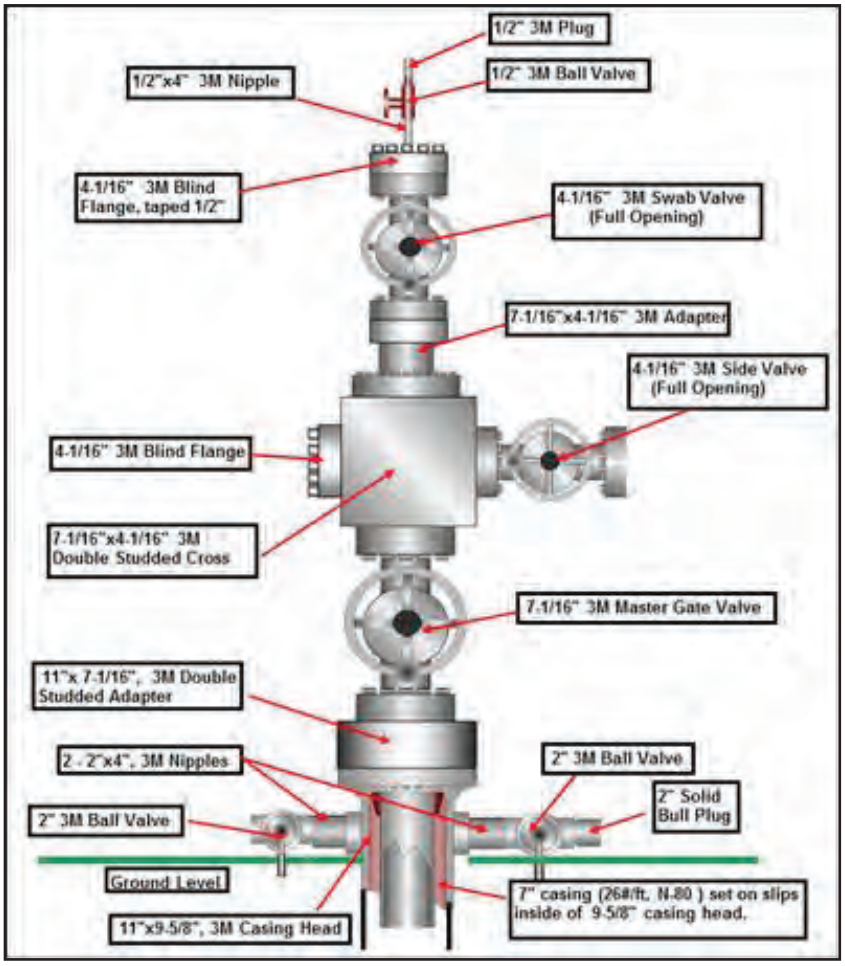

Figure 10-2: Example of a Depleted Reservoir or Aquifer Gas Storage Casing Injection/Withdrawal Wellhead Configuration
Source: Anonymous

2. Wellhead equipment, fittings, valves, and flanges should conform to API Specification 6A, (18) and should be rated to a MAOP which exceeds that of the storage field. The potential for future expansion of the facility to a higher MAOP may also be considered, if feasible, so that the wellhead remains fit for purpose in the event of an expansion. Varioustypes of valves may be used as part of the tree assembly, though typically gate valves or ball valves are the valve of choice because of their superior sealing capability and resistance to seal failure. The chemical composition of the injection and withdrawal fluid streams should also be considered. Trace amounts of CO_2 or H_2S in the withdrawal stream may result in detrimental effects to the wellhead internals and seals if the proper service trim level is not specified. Likewise, the potential for solids production and erosion should be evaluated and factored into the wellhead selection and design/specification. Full bore opening valves should also be considered in the design to enable passage of workover equipment and tools.
3. Other design criteria must also be considered. For example, the potential for hydraulic fracturing of the well, the use of surface and/or subsurface safety valves, whether downhole chemical injection may be necessary, and for cavern wells, the use of different wellheads for solution mining versus gas storage. Representative wellhead configurations for porosity storage reservoirs are shown in Figures 10-1 and 10-2. Figure 10-1 illustrates an example wellhead configuration

of a depleted reservoir or aquifer gas storage well where injection and withdrawal would be possible through both the production tubing and production casing. Figure 10-2 illustrates a wellhead configuration where injection and withdrawal would be done through the production casing.

4. API Guidance Document HF1, which provides guidelines for well construction and integrity, may be referred to if the gas storage well may undergo hydraulic fracturing during its life cycle (regulators may also be interested in API RP 100-1, which is an update of HF1). (69) If subsurface safety valves are determined to be necessary, the wellhead selection must accommodate passage of the safety valve and provide porting for safety valve control lines, or other small diameter lines for chemical injection.
5. For cavern wells, the hanging string may undergo potentially damaging oscillation during periods of de-brining/re-watering the cavern. Accelerometers should be installed on the wellhead to detect and respond to this condition. Also, a wellhead designed specifically for solution mining which allows for the injection of raw water, return of brine, and the injection of a blanket material to protect the cavern roof are required for proper control of the cavern design. The design of the wellhead should be based on site-specific conditions, which includes consideration of corrosion resistant internal coatings. Once solution mining is completed and prior to the commissioning Mechanical Integrity Test (MIT) and de-brining, a wellhead designed specifically for gas storage purposes must be installed. Wellhead components exposed to raw water and brine during solution mining should not be reused for gas storage service. API RP 1170, Sections 6 and 9 provide specific guidance related to the design of wellheads for cavern storage facilities. Figure 10-3 illustrates a typical wellhead configuration of a salt cavern well during the

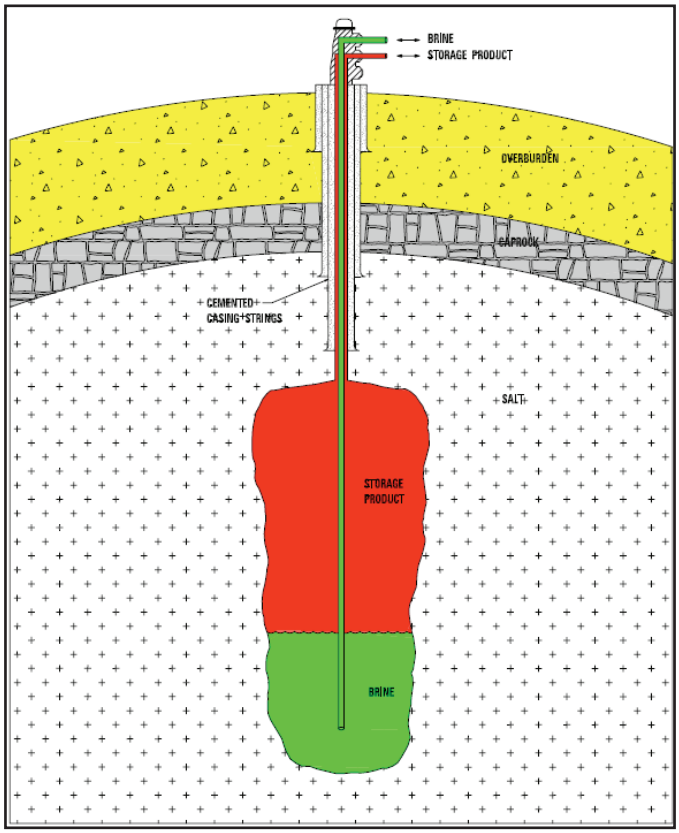

Figure 10-3 Example Salt Cavern Well Wellhead Configuration During Solution Mining
Source: http://caplaconference.com/wp-content/uploads/2015/04/Piplines.pdf

Figure 10-4: Example Salt Cavern Well Wellhead Configuration During Gas Storage Operations
Source: http://caplaconference.com/wp-content/uploads/2015/04/Piplines.pdf

solution mining phase when fresh water is being pumped into and brine is being circulated out of the cavern during its development. Figure 10-4 illustrates a typical salt cavern wellhead configuration once development is completed and the cavern is being used for gas storage purposes.

6. Finally, if the wellhead is located in close proximity to roads, railways, airports, active farming operations, flood plains, or areas where landslides may occur, consideration should be given to the use of "Jersey" barriers, bollards, fencing, or other barrier methods that afford physical protection and limit unauthorized access to the wellhead.
7. Wellheads should be routinely monitored for operability, leaks, and mechanical faults, and annually inspected and tested to ensure functionality. Monitoring should include wellhead injection pressure and flow rate for unexpected, rapid changes in pressure or flow which may be indicative of a mechanical problem or abnormal operating condition. Annuli pressures should also be monitored for changes which may indicate an abnormal operating condition.
8. Emergency shutdown valves which are integral or adjacent to the wellhead tree assembly may be appropriate based on an analysis of site-specific risks. These types of valves may be activated by conditions such as over-pressuring, excess flow, gas leakage, and/or heat detection.

ii. Master valve

1. UGS wellheads should consist of at least one master valve. This applies to casing only or casing-tubing-packer completions. Master valves give operators additional well control and isolation options and allow them to perform certain maintenance activities under pressure such as snubbing or wireline operations.
   a) Valves should be inspected and function tested for operability and sealing capability at least once per year, (or as required by regulations) and inspection and test results documented. More frequent inspections may be appropriate based on site-specific risk factors or conditions which include produced fluids which are corrosive, solids production, prior to and immediately after workovers, and following hydraulic fracturing or other well stimulation activities.
   b) Valves should be lubricated and serviced as indicated by the manufacturer and in accordance with the operator's routine maintenance programs.

iii. Isolation valves

1. Valves which isolate the wellhead from the gathering system or pipeline should be inspected and function tested for operability and sealing capability at least once per year, and inspection and test results documented. More frequent inspection may be appropriate based on regulations and on site-specific risk factors or conditions similar to those mentioned above for master valves. This is particularly true for wellhead wing valves which serve as isolation valves between the wellhead and gathering system/pipeline.

iv. Other valves (snubbing unit, wing, etc.)

1. Other valves may also be incorporated into the wellhead including swab valves (snubbing unit) which may be located above the master valve or at the very top of the wellhead tree, and wing valves on the side of the tree, as previously mentioned. Swab valves are used for isolation during other well work activity such as wireline work or coiled tubing work, and wing valves (also known as side gate valves) may provide another means of injecting into the well during kill operations. Inspection, testing, and maintenance activity on the other valves listed here should be performed at least once a year and inspection and test results documented.

v. Emergency shut-down devices

1. Surface Safety Valves: A surface safety valve can be installed on a wellhead (typically a type of master valve) or located as a wing valve and small diameter low pressure check valves on the annular spaces in certain instances to prevent oxygen access to the annular space. Surface safety valves are typically designed to automatically close (fail safe) based on conditions that may include excess flow or pressure, gas detection above LEL, erosion, or fire. Small diameter check valves are typically spring-loaded and normally closed; they open only in an "overpressure" condition. Circumstances where use of surface safety systems may be appropriate should be addressed as part of an overall site-specific evaluation of threats and potential consequences (risk analysis). All components of safety valve systems should be tested on a regular schedule, based on operating conditions and historical performance or as required by regulations
2. Subsurface safety valve: A subsurface safety valve is typically installed on or in a tubing string below the wellhead. The purpose of a subsurface safety valve is to allow an operator to shut-in the well below the surface in the case of a surface

emergency or if the wellhead is damaged. Subsurface safety valve are typically designed to automatically close (fail safe) based on conditions which may include loss of the wellhead, loss of functionality of the wellhead, and surface conditions such as fires that may endanger the wellhead from functioning as designed. Circumstances where the use of a subsurface safety valve may be appropriate should be addressed as part of the overall site-specific evaluation of threats and potential consequences (risk analysis) and performed on a per well basis.

3. API RP 1171 Section 6.2.5 provides guidance concerning emergency shut-down valves in general, and when and where such systems may be appropriate. This includes both surface and sub-surface safety valves. Considerations include but are not necessarily limited to:
   a) Distance from dwellings, occupied structures, playgrounds, etc.;
   b) Distance between adjacent wellheads or other production equipment;
   c) Gas or fluid composition and maximum flow potential;
   d) Proximity to roads, railways, airports or other rights of way;
   e) Current and future development potential;
   f) Alternative measures that could afford physical protection to the wellhead; and
   g) Added risk created by installing and servicing safety valves.
   h) Other considerations, which may include:
      1) proximity to environmentally or culturally sensitive areas;
      2) proximity to seismically active areas, faults, floodplains, or land slide potential; and
      3) risk of sabotage.

   Where installed, these systems should be function tested at least annually and in accordance with API RP 14B. (70)

vi. Wellhead Seals such as gaskets, packing and welds

1. Seals, gaskets, and welds should be inspected as part of routine wellhead inspections. Gaskets, including, ring and conventional flat-faced, should be replaced and not reused any time the seals are broken during maintenance activity or when evidence of leakage is detected. Packing materials, such as injectable plastic, may be used for remedial purposes in sealing minor wellhead leaks on wellheads equipped with injection/test ports.

vii. Corrosion/Erosion inspection

1. Routine inspection of surface equipment and development of a corrosion management program are integral to effective wellhead integrity demonstration, verification, and monitoring.
2. Corrosion coupons may be useful in concert with other monitoring methods, such as produced fluids sampling and analysis, for monitoring internal corrosion rates and/or the effectiveness of corrosion inhibitor treatment programs.
3. Acoustic sensing devices (ultrasonic probes) may be useful in detecting both internal corrosion and erosion. A program of periodic surveys at pre-defined locations on valve bodies, elbows, and/or other fittings where flow impingement occurs can be effective in assessing internal integrity where other methods are not possible or practical.
4. Corrosion probes, also known as electrical resistance probes, provide another option for monitoring internal corrosion rates. The action of corrosion on an exposed metal element reduces the cross-sectional area of the element, thereby increasing its electrical resistance. The value of the resistance increases in a predictable manner with the depth of corrosion, which permits an accurate determination of the corrosion rate.

5. Sand probes work on a similar concept as corrosion probes. Sand and abrasives erode a sacrificial sensing element that is inserted through a sealed high pressure assembly. Abrasives eventually erode through the probe, exposing the sealed assembly to working pressure, which is detectable via pressure gauge or alarm.
6. Other inspection methods and procedures may be employed if microbially-influenced corrosion is suspected or likely. This would likely include obtaining fluid samples and culturing the samples for the presence of viable bacteria, such as sulfate reducing bacteria. If active cultures are detected, treatments with the appropriate biocides should be considered.

viii. Cathodic protection (CP)

1. Considerations and justification of whether wellhead and well casing should be protected is a site-specific issue. Buried gathering lines and pipelines at storage facilities typically have impressed current applied to them for corrosion protection. Some storage facilities apply CP to well casing strings and wellheads while others install insulating flange gaskets, washers and bushings to isolate the wellhead and casing strings from electrochemical corrosion. Factors such as the corrosivity of soil and strata above the gas storage zone, the presence or absence of fully cemented casing strings, and the risk of damaging stray current should be evaluated when considering whether or not to apply CP to the storage wells.

ix. Atmospheric coatings

1. All wellheads and exposed connected piping shall be coated to prevent atmospheric corrosion.

c. Pipeline Isolation Valve / Equipment Between Wellhead and Hand-off to USDOT Jurisdiction

The pipeline isolation valve is the location at each storage facility where regulatory oversight transitions from the regulatory agency that has responsibility for gas storage wells, to the regulatory agency that has responsibility for pipelines. The location of this valve might be different for each storage facility depending on whether the facility is an intrastate or an interstate facility; it may also vary from state to state.

In many states the hand-off point between well and pipeline regulatory responsibility occurs at the point of interconnect between the downstream flange of the wing valve on the wellhead to the flange of the gathering line/pipeline which connects it to the wing valve. However, this convention is not universally applied. In some instances, the hand-off point may be further downstream (closer to the storage field compressor station or transmission line), and there may be additional equipment between the wellhead and the hand-off point between regulatory agencies. This equipment may include, but is not limited to, wellhead measurement facilities, separators, sand/solids traps, chemical injection facilities, or other production related equipment such as pig launchers/receivers.

Regulators from these two different agencies (wells and pipelines) should consult with each other and with the storage operator and agree on the specific location where the transition occurs, and operational considerations related to the hand-off point. This will ensure clarity for all affected parties, minimize uncertainty concerning regulatory compliance requirements, and best serve the interests of public safety. It may also help avoid potentially conflicting or confusing directives.

d. Pressure Management/Monitoring

i. Equipment

1. Equipment associated with pressure management and monitoring at gas storage facilities includes, but may not be limited to:
   a) Pressure control valves;
   b) Pressure relief valves and emergency shut-down systems (ESD);
   c) Calibrated dead-weight pressure gauges;
   d) Calibrated digital and analog pressure gauges;
   e) Temperature-compensated pressure transducers; and,
   f) check valves.
2. Pressure control valves are typically used to reduce storage field gathering system pressure down to the pipeline transmission system pressure. These types of valves are oftentimes located between a storage well and a pipeline isolation valve, though some facilities exist where the pressure control valve is on the well head. They may at times be used to control station inlet pressure to a storage field compressor station. These types of valves are typically automated valves that are controlled via station automation systems, electronic data monitoring system, or SCADA systems. Pressure control valves may also be used at individual wells, though that is a less common application. Routine inspection and maintenance on these types of valves should be per manufacturer's specifications and in accordance with the operators routine operations and maintenance procedures.
3. Pressure relief valves and ESD systems are designed to protect the storage facility by preventing exceedance of the facility MAOP including compressor station piping, brine lines and fresh water lines for caverns, and storage field gathering system piping, against a situation where MAOP is exceeded. Relief valves are typically installed on the discharge piping at a storage field compressor station and other locations within the storage field piping immediately downstream of where there is a reduction in the maximum allowable operating pressure (specification break) in the piping. They may also be installed on pressure vessels such as separators and other process equipment where an overpressure condition could occur. Relief valves are subject to federal USDOT testing/verification requirements under 49 CFR Part 192 for natural gas storage facilities and under Part 195 for liquid hydrocarbon storage facilities. The flow capacity of relief valves must be verified and documented annually by the operator to ensure they meet federal safety standards.
4. All ESD systems should be tested annually, or more often, depending on operating conditions and performance history, to ensure they perform as intended in the event of an emergency. For cavern wells, ESD valves are typically located on or near the wellhead and are automatically activated in the event of excessive pressure or flow. They should allow for local and remote activation, electrically and mechanically. All components of the system should be tested including, valves, transmitters, switches, and other end devices. Results of all inspections, maintenance, repairs, and testing of this equipment should be documented by the operator. Inspectors for the regulatory agency with jurisdiction should be afforded the opportunity to witness testing of these and all other safety systems.
5. Other types of pressure monitoring equipment commonly used at storage facilities include dead-weight pressure gauges, analog gauges, digital electronic gauges, and electronic temperature compensated pressure transducers. These instruments should all be subject to periodic calibration and function testing (at least annually) against a known calibrated standard gauge to ensure accuracy. Malfunctioning

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equipment is repaired or replaced, and equipment that can't be calibrated within manufacturer's specifications is replaced.

6. Pressure check valves may also be used in some instances where fluid flow is acceptable in one direction, but not in the other. These may include flow lines which are used for storage withdrawals only, and on the annular spaces of wells to prevent oxygen from entering the annular space. Inspection and maintenance of these types of valves should be in accordance with manufacturer's specifications.

ii. Protocols

1. Storage operators monitor operating pressure of their storage facilities on a real-time basis for the purposes of evaluating facility performance and monitoring system integrity. This should include developing and implementing procedures for routine monitoring, recording, and analysis of the tubing and annulus pressure conditions at individual wells to aid in identifying abnormal operating conditions and potential wellbore integrity issues. Pressure readings may be obtained and recorded either manually or via automated readings from an electronic data monitoring system or a SCADA system. The frequency and type of monitoring that is required should be based on site-specific conditions and a risk assessment to identify potential threats and hazards to the storage operation. But in any case, pressures should be monitored at least daily, and operators should keep adequate logs of these results.
2. Operators should develop and implement procedures for investigation and re mediation of abnormal tubing and/or annulus pressure conditions. This includes but is not necessarily limited to:
   a) Safely validating anomalous pressure readings to confirm whether a loss of integrity has occurred;
   b) Internal and external notifications to company officials, regulators, and local first responders, if a leak is confirmed;
   c) Determining whether a leaking well can/should be isolated from the gathering system;
   d) Conducting follow-up testing including gas sampling and analysis to determine the source of the leak;
   e) Performing further evaluations by temperature/noise surveys, and other surface and downhole assessments to identify the source of the leak;
   f) Performing remedial repairs if possible or plugging and abandonment of the well;
   g) Documenting all steps taken to address the issue; and
   h) Implementing contingency procedures where necessary.

iii. Automation

1. An electronic data monitoring system or SCADA system may be used to monitor and control storage facility process flow conditions in real time. These systems may be associated only with compressor station operations at some facilities, or may be more complex (due to the requirements for wired or wireless communications equipment) and include real time monitoring and control of each of the storage wells or storage caverns, as the case may be. They may be configured for monitoring only, for on-site control only, or remote (off-site) control, including routine start/ stop capability of process equipment and flow; and they may include system alarms (audible and/or visual) and automatic shut-down in the event of process upsets or abnormal operating conditions.

2. At cavern facilities during solution mining operations, SCADA systems may be used to monitor and control the solution mining process. These systems generally incorporate instrument control and shut-down capability to safely isolate the cavern/ well in the event of abnormal operating conditions and emergency situations. They alert operators to system upsets that may require further investigation and/ or operator response. This includes, but is not necessarily limited to, rapid increases in brine outflow rates, oscillation of the hanging string during debrining, and complete or partial failure of the leaching or debrining string.
3. Electronic data monitoring systems may be used to monitor and control gas injections and withdrawals on a real time basis. This may include the capability to monitor and control system pressure, flow rate, and shut-in capability. It may also include the capability to control pressure and flow from individual wells at some facilities. ESD systems should be integrated into the overall electronic data monitoring system or SCADA system at any storage facility. Both audible and visual alarms should be incorporated into SCADA control to alert operators to process upsets and abnormal operating conditions. The electronic data monitoring system or SCADA system functionality and system safety components should be tested periodically to ensure all instruments are properly calibrated and functioning per design capability, all alarms function properly, and the system performs as intended in the event of an emergency. All components of the system should be tested and results recorded and documented according to regulatory requirements and/or operator procedures. Often a Control Room Management Plan is required per 49 CFR 192 and 195; this plan will give details on required procedures and SCADA design and management.

e. Surface Leak Detection

Surface leak detection appropriate for surface equipment at storage well sites leverages heavily on methods utilized at other oil and gas infrastructure, including production wells, compressor facilities and distribution networks. Active leak detection programs are often structured in Leak Detection and Repair, where leaks are detected utilizing a variety of techniques, scheduled for repair or monitoring, and then repaired. Surface leak detection has evolved rapidly in recent years. Currently deployed processes often utilize staff to perform leak detection and assessment. In addition, new technologies are in development, allowing for reliable and low-cost continuous leak detection over short distances. The different surface leak detection technologies can be used in concert, with some specializing in detection and others in location (to facilitate repair). When considering new technologies for regulatory requirements, or in approving an approach as part of a RMP, regulators should consider pilot projects to test the efficacy and cost effectiveness of different setups in different circumstances, and should endeavor to audit the results of leak detection systems to ensure functionality meets expectations.

i. Typical leak survey processes in current use:

1. States may consider requiring leak surveys at regular intervals with appropriate levels of reporting for tracking and control.
2. Optical Gas Imaging - Leak surveys of well sites can be performed using an Optical Gas Imaging (OGI) camera, a type of IR camera which filters light to highlight methane in escaping gas. During a leak survey a trained camera operator walks through the site (e.g. a well pad), and observes every potential leak point, including unions, gauges, valves, separator equipment, etc. A leak is typically defined as an observed plume in the OGI camera viewing screen. (Example: 40 CFR 98.234 - Monitoring and QA/QC requirements) The operator then records and, optionally, tags the leak for future tracking. Large leaks are reported to repair teams immediately.

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Approach	Example Technologies	Type	Frequency	Status	Pros	Cons	Brand Examples
Ground-based Optical Gas Imaging (OGI)	Forward Looking infrared camera; hyperspectral camera	Handheld	Daily to Weekly	IR camera widely used; hyperspec-tral cameras emerging	Able to visually identify leaks; Highly efficient survey time	High capital cost; high labor cost; detection only during surveys; detection limit dependent on operator skill and weather conditions	FLIR; OPGAL; Rebellion Photonics
Aerial surveys	Forward Looking infrared camera (low elevation); Infrared imaging spectrometer	Aerial	Periodic	Emerging	Able quickly survey large number of sites	Only can identify the largest leaks	Leak Surveys, Inc; Kairos Aerospace
Point measurements (Handheld)	Flame ionization detector; tunable diode laser	Handheld	Periodic	Method 21 widely used;	Measurements identify individual leaks	Handheld measurements only detect during surveys;	Los Gatos; Bascom
Point measurements (Stationary)	non-dispersive infrared sensor	Stationary	Continuous	Emerging; Pilot programs in California and other states	Provide continuous measurements	Requires data analysis for leak detection; Can be costly in wide spaced fields.	
Open Path Infrared	tunable diode laser	Stationary	Periodic/ Continuous	Emerging / In use in some states	Stationary monitors provide continuous measurements	Handheld measurements only detect during surveys; continuous monitors require data analysis for leak detection	Boreal; Heath RMLD

Table 10-1: Leak Detection Approaches

a. The efficacy of OGI surveys is well respected, though the technology and practice continue to evolve. Several cautions should be noted. First, OGI effectiveness is highly dependent on wind conditions – smaller leaks are difficult to pinpoint during higher wind conditions. For example, one vendor provides detection limits ranging from 0.8-11 g/hr, based upon degree of mixing and wind speeds from 0-5 MPH.(Benson et al.). States should consider maximum wind limits for which an OGI survey is considered valid. Wind limits are available from some of the camera vendors. Second, the IR image in an OGI camera is the combination of both light absorption by methane and temperature gradient against the background or reflected light source. Leaks may be difficult to detect in low-contrast conditions,

and teams should observer key locations on a site from different angles to maximize the opportunity to highlight the leak against the background.

b. Some operators have already begun to implement OGI as part of regular facility inspections, with both in-house and third-party contracting firms performing this work. In addition, several local and state agencies are using OGI equipment within surveys and audits as part of normal inspection and enforcement efforts to determine the presence of leaking components As more inspections and research are performed, the additional data on OGI use should be collected and analyzed. At the same time, operators should be exploring the use of OGI as an additional tool for surface facility integrity verification.

c. Increasing frequency of OGI inspections, in theory, will detect leaks sooner and provide multiple opportunities to identify any one leak. However, operator fatigue that builds with many repetitious surveys may reduce survey efficacy, and states should be cautious about unduly increasing the frequency of OGI surveys.

3. Remote leak detection – typically using laser absorption instruments (e.g.Heath RMLD™) – may be an effective compliment to OGI. Laser instruments can quickly scan components, identifying leaks to a small area, which can then be inspected with OGI to localize to a specific leak source. As with OGI, laser detectors are sensitive to wind conditions and should only be utilized in below a maximum threshold wind speed.

4. Leak detection with quantification - If emission rates measurements are desirable, most leaks at well pads may be measured using high-flow instruments, (e.g. Bacharach Hi Flow® sampler). Due attention should be paid to calibration of these devices, at least daily or after any contact with wet gas, in alignment with manufacturer's specifications. ("Bacharach Hi-Flow Sampler, Instruction 0055-9017, Operation and Maintenance" 2015; Howard, Ferrara, and Townsend-Small; Howard; Allen, Sullivan, and Harrison). In addition to high flow samplers, some monitoring companies (e.g. Rebellion Photonics) have developed OGI based systems that are paired with sophisticated computation algorithms to quantify emissions rates and volumes from leaking components.

5. Non OGI point-source leak detection – Methane leak detection has been occurring atc sites across the country for decades, either using hand held equipment or stationary equipment. States may consider requiring point-source leak detection at some or all gas storage wells, depending on facility architecture, weather patterns, topography, and safety and environmental risk tolerances – such systems are being piloted at facilities in California and elsewhere. Mobile leak detection technology (leak detection affixed to mobile detection equipment), while also rapidly evolving, is generally more expensive to operate, but can help in initial surveys to determine baseline leak information, in finding leaks once detected by a point-source device, in quantifying leak flux rates when desirable, and in verifying the success of repairs and remediation programs. Equipment types available for this purpose include:

   a. Stationary Point Source Gas Detectors – Various types of equipment are available for leak detection at storage fields, and the appropriate technology may vary depending on a variety of factors such as the source of a potential leak being monitored (surface emissions from subsurface leakage or well pad emissions), the proximity of wells to one another, and the overlying

topography of the field (water flooded, topographic fluctuations, etc.) These factors may greatly affect both the quality and consistency of detection and the cost effectiveness of this solution. Point detectors typically use Non-Dispersive Infrared (NDIR) sensors calibrated for Methane. Point Detectors need to be strategically deployed in sufficient numbers at proper locations to compensate for day-to-day changes in wind speed and direction. Analytical models such as Gaussian Plume analysis can be employed to aid in determining detector placement. Networks of point detectors can be made much more robust if combined with on line data analytics that overlays data from all detectors in the system and adds other data such as local wind speed, local wind direction, pressures at key points in the system, and position of control valves. The density of sensors required to adequately cover a gas storage field varies widely with facility architecture, weather patterns, and topography, and will change both the effectiveness and cost efficiency over time with the advent of newer sensor technologies.

b. Other Types of stationary gas monitors may also be utilized for detecting and quantifying surface emissions from localized areas, or for establishing a perimeter monitoring system to evaluate a larger area. Whatever the area, stationary monitoring technologies exist that can detect methane concentrations at very low levels and automatically alert operators of the elevated presence of methane. These technologies include open path infrared gas detector technologies and extractive analyzers that also use NDIR detectors.

c. Mobile monitors – several types of monitors and monitoring techniques exist for use in handheld, vehicular, airplane based, drone based and satellite based applications. These systems generally employ sophisticated infrared imaging technology. The selection of deployment method (e.g. airplane, hand-held, vehicular, or satellite based systems depends largely on the reason for the monitoring activity.) These systems have been demonstrated as effective at locating leaks. These technologies generally required a highly trained operator to correctly interpret the data gathered by the devices. These technologies are generally expensive in terms of initial cost of the devices, cost of operating the mobile equipment and cost of labor for trained operators. Generally, these technologies are cost prohibitive for routine daily monitoring but are important for periodic surveying of sites, locating the specific source of hard to find leaks identified by fixed systems, and confirmation of remediation of discovered leaks.

d. Strengths and weaknesses of existing inventory methods: Traditional inventory methods for natural gas storage fields, like other oil and gas segments, have tended to undercount actual emissions as determined by more advanced techniques. Due to the presence of super emitters, and potentially inaccurate emissions factors, higher than expected component numbers, and equipment fatigue/ corrosion processes have led to higher emissions than expected. Due to advancements in aerial survey techniques and peer reviewed research developed in the field, inventories that utilize aerial surveys may increasingly be seen as a leading practice

e. New technologies for continuous monitoring are becoming more widely available and are offered at reduced costs. These technologies allow advanced monitoring using stationary gas detectors, both in arrays of

point detectors, and area monitors (open path and extractive.) Applications are being developed and deployed at several oil and gas sites. Al though some of these sites have used expensive infrared imaging systems that require continuous onsite personnel, new continuous monitors that use both infrared (NDIR) point detection and infrared laser-based detection (open path detection) do not require significant facility personnel to operate, and can communicate remotely with existing computer (Distributed Control System or Programmable Logic Controller) and/or facility SCADA systems. Such technology may be used to develop sensor networks at lower cost than infrared imaging systems. Available wireless technologies may significantly reduce the cost of installing point detectors. Traditionally point detectors required connection to line power and a direct signal wire connection to the host controlsystem and/or data analytic system. Wiring costs will exceed the equipment costs by factors of x 10 or greater. New developments in wireless self powered instrument technologies now allows point detectors to operate off grid on long life lithium batteries and transmit their data using self-organizing wireless mesh networks. Wireless systems can also be used for monitoring other parameters such as pressure, temperature, and valve positions using available self-powered, wireless mesh network instruments. Open source protocol based wireless mesh network are becoming increasingly common in the oil and gas industries. Pilot programs are recommended to validate the effectiveness of this technology under field conditions. Field conditions, such as weather or topography, may affect the reliability of results and cost effectiveness of continuous monitoring as a solution.

f. On line data analytical software is available and used by many large oil and gas companies, and can be provided by third-party contracting firms. This type of software overlays data from point detectors, open path area monitors, and other data such as local wind speed and direction, pressures and temperatures at key points in the system, and valve positions. On line continuous analysis of the data using algorithms in the software allow differentiation from normal releases such as bleeding of pneumatically actuated valves, normal operation of pressure relief valves, or depressurization of systems for maintenance from unintended leakage from the systems. The data analysis helps to quickly identify the source and approximant magnitude of a leak and allows maintenance to be quickly deployed to assess and repair.

ii. Frequencies

1. Daily audio-visual observations are required at some storage sites, with operators visiting well platforms to observe equipment for odors, noises, and visual cues of leaks.
2. Continuous monitoring equipment is increasingly accurate and sensitive while costs are falling, and may be considered at natural gas storage field well sites, within a relatively short distance from well sites (approx. 100 feet), (71) (72) (73) and along facility fence lines. Several states currently require continuous leak detection at certain gas storage wells that pose immediate safety risks, while others are considering continuous leak detection at all gas storage wells. Resources include the Department of Energy's ARPA-E MONITOR technology program.

(https://arpa-e.energy.gov/?q=arpa-e-programs/monitor) and the Environmental Defense Fund's Methane Detectors Challenge (https://www.edf.org/energy/natural-gas-policy/methane-detectors-challenge).

3. For mobile leak detection:
   a. In the absence of continuous leak detection, approximately weekly surveys using OGI or OGI plus laser detector may be appropriate.
   b. Leaks should be identified (tagged and recorded) and persistent leak locations tracked over time. States should consider requiring measurement of persistent leaks, and requiring repair for leaks above a set threshold with in a specified time period.
4. States should design regulations so that companies may shift from existing processes (e.g. OGI surveys) to automated systems as technology advances and costs drop.

iii. Thresholds

1. Technology exists today that allows for rapid detection of elevated levels in parts per billion of methane above background. States should consider the upfront and maintenance costs and lifespan of such systems versus parts per million systems. States may develop standards on appropriate threshold requirements to investigate elevated methane readings based on proximity to populated areas, the potential for a large-scale release, and general risk tolerance.

iv. Overview of measurement methods. Notes on quality control by adhering to appropriate measurement protocols.

v. Considerations for cavern leak detection include both heat and gas detectors.

Chapter 11
Emergency Response Planning

Introduction

Emergencies create safety and environmental risk and disrupt routine business activities. It is therefore important for operators to develop an effective Emergency Response Plan (ERP) that will enhance protection, mitigation, and response to the full range of possible emergencies. Thorough preparation and practice will result in reduced impacts to life, property, and the environment and promote a swifter return to routine business. ERPs are unique to each site and project. ERP is a dynamic and ongoing process. All ERPs must be reviewed, modified, and updated frequently to ensure appropriate responses to foreseeable emergencies. The consequences of outdated or inadequate ERPs can include greater damage to life, property, and environment, as well as fines and criminal or civil suits.

The purpose of this chapter is to introduce regulators to key elements of an ERP. There is no single template for an ERP, but they should have at a minimum the topics in this chapter. This chapter is not intended to be exhaustive in coverage. Regulatory bodies and organizations must also consult a number of applicable international, federal, state, and local standards for guidance in evaluating and developing comprehensive operation-specific ERPs such as ISO 22301 (71), CSA Z731-03 (72) and NFPA 1600 (73).

Major Issues and Concerns

Critical components of successful emergency response should be addressed during ERP, including:

- Total commitment of leadership and staff with a clear purpose and scope;
- Identification of needed resources, response team organization, roles and responsibilities, and comprehensive internal and external communication systems;
- ERP planning that includes goals, objectives, an incident management system, risk assessments and comprehensive hazard identification;
- Coordination of response actions with government or other emergency response entities;
- Development and implementation of a plan that has clear procedures, recordkeeping, incident management protocols, and incident termination/recovery steps; and
- A comprehensive training and education program, aimed at training and educating personnel to consistently display competency in executing the ERP. All exercises and drills should test the ERP effectiveness with lessons learned and corrective actions implemented. They should integrate all interested parties/agencies and incorporate input from all participants.

Regulators may also recommend that operators:

- Coordinate continuous development and modification of ERPs with appropriate authorities (e.g., fire department with facility jurisdiction, and others);
- Perform a thorough hazard identification and associated risk assessment of all phases of their operation; and
- Employ an objective, independent and competent audit function to continually assess the ERP.

Main Take-Aways

- ERPs are used to protect life, property, and the environment. Their design also helps prevent or mitigate impacts suffered in emergency situations. ERP strategies also include developing plans to address a comprehensive range of emergency situations.
- ERP and preparation is a dynamic and ongoing process.
- ERP design and update involves multiple stakeholders including first responders, regulators, internal staff and leadership, and media and community representatives
- Important parts of ERP design are hazard identification and the assessment of associated risk with effective responses managed through an incident management system.

Emergency Response Program Organization

Protecting life, environment, and property must be a core value that is intimately threaded throughout an organization. A properly organized ERP communicates deep commitment to the organization and affected outside agencies and communities. Organizations must address leadership, team structure, roles and responsibilities, resource allocation and deployment, and communication.

a. Purpose and Scope

An effective ERP will guide personnel in emergency preparedness, response, and management. In so doing, the safety of personnel, public, environment, and property will be protected to the maximum extent possible. Recovery times will be reduced for both surrounding communities and routine business activities. A properly designed and executed ERP (covering unique facility attributes as well) will establish minimum guidelines for emergency preparedness, response, and management. It applies to all levels of staff and management, outside emergency response and regulatory agencies, and adjacent communities that may be affected. The ERP will be applicable to all phases of operations including entities owned or contracted by the organization.

b. Leadership, Commitment and Policy

The ERP and its support program must have full commitment of leadership, especially at the executive level. Support must be clearly evident to the entire organization or the ERP and support program will be marginalized. Developing policy pertinent to the ERP is vital and should be a joint effort of management and staff reflecting the organization's core values. ERP policies should be easy to understand and apply, and must include clear statements of everyone's commitment to protecting life, environment, and property. Knowledge, understanding, and implementation of this policy are everyone's responsibility.

c. Response Team Organization

Many organizations use the Incident Command System (ICS), National Incident Management System (NIMS), or close variations which are well known with documented success. These systems are flexible and will cover the full range of emergency situations. They provide an organized set of scalable and standardized operational templates for structure. It is vital to train the organization to use the ICS or NIMS templates if selected for ERP implementation as most businesses organize their operations differently. Important team components are audit and regulatory. The audit function must be objective and independent. Audits must be conducted regularly and with a frequency to insure the ERP is performing as designed and desired. Audits should include detailed records, analysis, summary of plan performance, and corrective

actions at a minimum. A well trained regulatory staff is vital to keep an organization informed and coordinate with all outside regulatory agencies. The ERP must always adhere to all applicable laws, rules, and regulations.

d. Roles and Responsibilities

Well-defined roles and responsibilities, and training to understand them, are critical. Many organizations adopt systems such as RACI (Responsible, Accountable, Consulted, and Informed) to agree upon and communicate all roles and responsibilities for the entire ERP. Roles and responsibilities must be understood to insure the most effective and efficient ERP.

e. Resource Allocation and Development

Defining critical resources is required for an effective ERP to respond properly to an emergency. Resource needs extend beyond money, equipment, and manpower. The organization must devote time, energy, and expertise to identify resources that will be needed to build and manage a comprehensive logistics network, and acquire, manage, and deploy all the necessary resources for an effective ERP. The distribution and logistics function must incorporate a tracking system to insure all staff is supplied with the necessary resources, training, and up-to-date information. Documenting and tracking extraordinary costs associated with the ERP and emergencies are needed as well as any alternative authorization levels in management to avoid confusion or duplication during emergency situations.

f. Communication Systems

The ERP should thoroughly address all aspects of communication. Routine communication networks should include, but are not limited to, procedures, equipment and personnel deployment (primary and back-up), and alarms supporting specific operations. Emergency response operations will likely require communication plans that are specific to the emergency event and location.

A communication plan should include:

i. Public information avenues;

ii. Professional communications personnel;

iii. Links to all outside agencies and regulators; and

iv. Methods to address appropriate internal audiences.

During emergencies it is important to coordinate the dissemination of accurate, timely, and appropriate information. Communication sources and receptors must be well defined to avoid confusion. There must be information sharing between facilities, emergency responders, and affected communities. Proper communication systems and procedures save lives and better protect property and the environment in emergencies.

Emergency Response Planning

The ERP is the culmination of established standards, regulations, experience, and coordinated dialogue with all stakeholders. It addresses specific needs and applications as well as goals and objectives. ERPs

vary greatly, but can be dissected into two major components: planning and implementation. The planning segment may include goals, objectives, design, incident management system, and means of hazard identification. The ERP implementation section may include prevention and mitigation standards, operational procedures and recordkeeping, damage assessment and incident management, and incident termination and business resumption.

a. Emergency Response Plan Planning

i. Plan goals and objectives: Any ERP must be underlain with goals and objectives consistent with the plan purpose and scope. Goals should be constructed to insure continual improvement in ERP quality by evaluating ERP effectiveness through drills and exercises, as well as real time emergencies. Goals should be understood throughout the organization and identify clear responsibilities and accountabilities. ERPs may include SMART goals where the goals should be Specific, Measurable, Attainable, Realistic, and Time-bound.

ii. ERP design: Plan design combines strategies, tactics, vision, policies, goals, required capabilities, detailed risk assessment, and business impact analysis. The planning process must address potential events that could impact personnel, property, the public, or the environment. Design must combine the needs of all stakeholders into a coordinated and coherent plan. Through the use of well-defined procedures, the design can identify, respond to, and manage any emergency. Designs should take into consideration how the quality of emergency management will impact an organization's reputation, ability to conduct business, operations, and relationships with key stakeholders.

iii. Incident management system: Incident management systems (IMS) should be foundational to every organization's health, safety, regulatory, and environmental policies and procedures. IMSs are used to manage resources during an incident. Resources include facilities, personnel, equipment, communication systems, and pre-determined response procedures. Every incident must be investigated to determine root causes. Incidents must be properly documented, and the organization must measure response and recovery against goals, objectives, and Key Performance Indicators to determine criteria for improvement.

iv. Hazard identification: Hazard identification (refer to chapter 3 on Risk Management for additional detail on identification and mitigation of potential threats and hazards) is crucial to planning any ERP and key to continual improvement and update. Adequate time, personnel, and resources must be devoted to analyze all operations for routine and non-routine hazards. Once identified, all hazards need to be risk assessed and prioritized with specific procedures developed to avoid, mitigate, and recover from incidents involving such hazards. A hierarchy to deal effectively with a wide range of hazards may address elimination or substitution of tasks or the engagement of additional engineering and administrative controls. The very last barrier is always use of personal protective equipment (PPE). Well-tested and standardized hazard identification systems are available from the safety engineering industry.

b. Emergency Response Plan Implementation

ERPs address personnel and public safety, as well as protection of property and environment. ERPs shall also document assumptions, functional roles and responsibilities, delegation and transfer of authority,

external liaisons, and support required from logistics and supply chain. The implemented plan should consist of a single, integrated plan, but may include sections specific to operations such as:

i. P&M standards: P&M should be based on hazard identification, risk assessment, business impact, and cost-benefit analysis. Strategies should be built to either prevent specific incidents or mitigate them to limit impact and consequences. Strategies are dynamic with procedures to adjust to changing conditions. See Chapter 3 on Risk Management.

ii. Operational procedures and recordkeeping: Procedures must be clearly written and designed to protect life, property, and the environment to the maximum extent possible. Procedures need to allow for concurrent activities of response, mitigation, prevention, business continuity, and recovery. Volumes of information, data, updates, exercise and emergency documentation, and audit results must be maintained in a recordkeeping system that protects the security and integrity of the ERP. Systems must provide for ease of maintenance, information retrieval, and back-up. Information retention should be sufficiently beyond facility life to accommodate the possible development of latent issues. Quality records are also required to support needs for subsequent due diligence, training, and possible litigation.

iii. Situational/damage assessment and incident management: During any emergency, the organization must timely assess the incident so that appropriate response may continually be executed. Complete instructions are to be included in the ERP about how to perform situational/damage assessment of an emergency incident. Some items to be considered are determination of the nature of the emergency, weather, location, and time; threats to life, property and the environment; and appropriate corrective actions. An operations center should be designed and will issue all appropriate directives to manage the incident.

iv. Incident termination and business resumption: Through effective incident management, the emergency will cease to be a significant threat to life, property, and the environment. Plans should include steps to communicate internally and externally as appropriate, secure the incident area for necessary recovery and remediation activities, and begin the transition from emergency to non-emergency conditions. Business recovery and resumption plans should provide for the restoration of all processes, operations, and communications. The recovery process must be documented. At a minimum, consider issues such as final damage assessment, total operational recovery, supply chain needs, communication protocols with regulators and the public, required additional financial resources, and employee assistance.

c. Training and Education

A critical element of an ERP is a comprehensive, well-integrated, and robust training program. The program should at a minimum include goals, specific training and testing. All involved staff must possess the necessary skills and knowledge to implement, support, and maintain the ERP. An ERP without this component is not complete, nor will it be effective. This component should at a minimum include:

i. Type and frequency of training: Basic training should be general, broadly covering all topics generic to the operation. Other trainings should be specific to task, location, equipment, roles, responsibilities, hazards, and procedures. All personnel should be thoroughly and routinely trained on all aspects within their roles and responsibilities. Frequency of training

should be driven by regulatory requirements which is typically annually but may vary up to every 3 years, and demonstrating competency. To reach desired levels of competency, more frequent training and exercise may be needed beyond that required by law. Keeping detailed training records should be and often is required by regulation.

ii. Public education: All emergency responders and other impacted outside agencies need to be thoroughly trained and briefed regarding the specific operations, equipment, hazards, communications, organizations and any other important previous operational issues. The public should be made aware of potential impacts from operational incidents, ERP procedural information, and key communication and organizational structures.

d. Exercises, Program Maintenance, Improvement and Update

Effective execution of ERPs will not occur without frequent and meaningful exercises and drills. At a minimum, these activities should provide opportunities for staff to take action, solve problems, interact with all stakeholders, and deepen their understanding of the ERP. No amount of classroom or tabletop exercises can replace drills and exercises conducted as if a real emergency were taking place.

i. Frequency and types of exercises and drills: Exercise and drill frequency should be at least annually. More frequent drills may be needed to ensure all stakeholders are well-versed in the ERP and can perform their duties effectively. Types of drills can vary from workshops and tabletops to specific functional drills or full-scale exercises. Plan drills and exercises carefully to cover a variety of situations across the full breadth of operations. Strong consideration should also be given to conducting no-notice exercises. Effective exercises and drills require adequate resources (time, material, planning, and personnel) and a full commitment from all stakeholders, particularly senior leadership. Proper practice is definitely one of the most critical parts of ERP implementation.

ii. Exercise and drill design: Exercises must be well-designed and executed for maximum value. They must evaluate ERP effectiveness, procedures, and strategy to deal with a broad range of emergencies. All outside agencies should be integrated into the exercise. Exercises should incorporate a standardized template designed to test the ERP performance, post-exercise analysis, lessons learned, and interaction with all stakeholders.

iii. Total plan review and update: Effective ERPs are dynamic documents and should be thoroughly reviewed and updated at least annually. Other opportunities for improvement, review, and update include exercises and drills, internal and external audit results, changing regulations, organizational modifications, policy and procedural changes, and performance objective refinements. Updates should be timely, follow a sound management of change process, and be immediately communicated internally and to appropriate outside agencies.

Chapter 12
Temporary Abandonment, Well Closure, and Restoration

Introduction

The temporary abandonment, plugging, and restoration of wells associated with the underground storage of gas and other hydrocarbon storage gas operations has been accomplished by the gas storage industry for a many years. Temporary abandonment, well plugging, and restoration requirements can vary extensively between the various state regulatory agencies. Additionally, because of the different types of storage wells (wells in depleted oil and gas horizons, salt caverns, hardrock caverns, and aquifers) consideration of the various methodologies utilized for temporary and permanent abandonment must be evaluated.

Major Issues and Concerns

Perhaps the most critical issue to be addressed is to ensure that by placing the gas storage well into temporary abandonment status or final plugging and abandonment prevents any potential for pathways of gas migration and completely isolates the storage field reservoir from any temporarily or permanently abandoned well. Wells placed into temporary abandonment status still need to demonstrate well integrity, be monitored, be appropriately remediated if necessary, and returned to service, or eventually be permanently plugged and abandoned. While placement of all plugs in a well is important, placement of the first or bottom plug is critical to ensuring that the storage reservoir itself is isolated.

Main Take-Aways

- Temporary abandonment and well closure can be accomplished in a manner that ensures wellbore integrity and prevents those wellbores from serving as pathways for the migration of storage gas.
- Proper well closure and abandonment ensures the integrity of the gas storage reservoir.

Temporary Abandonment, Well Closure, and Restoration

Temporary abandonment of gas storage wells may be considered, but with significant regulatory conditions (including limits on wells remaining in temporary abandonment status) established to ensure that these wells will not present an immediate risk of gas migration out of the gas storage reservoir. Well abandonment designs must ensure that the gas storage cavern or reservoir is isolated long-term from all other porous or hydrocarbon-bearing zones in order to prevent fluid flow or gas migration between the storage zone and any other penetrated formations and the surface. (16) (10) Once the well is plugged and permanently abandoned, the operator should ensure the surface is returned to as near-original condition as is practicable and should follow all applicable regulations and prudent practices.

a. Safety Considerations

A number of safety issues must be considered during testing of temporarily abandoned and/ or permanent plugging and abandonment of gas storage wells. During each phase of the plugging or restorations operations, a job safety analysis should be undertaken prior to any work being conducted. Everyone onsite

has stop work authority. All required PPE should be worn at all times when on location and the appropriate level of safety training should be conducted for anyone that will be on location.

b. Potential Considerations for Porosity Storage (Depleted and Aquifer Storage Reservoirs)

i. Wellhead control considerations and capabilities;

ii. Protection of USDWs or other protected groundwater;

iii. The many potential wellbore issues – corrosion zones, flow zones, lost circulation zones, disposal zones, commercial hydrocarbon-bearing horizons, lost fish, casing patches, liners, junk, etc.;

iv. Directionally drilled wells;

v. Preparation for working with pressures anticipated from an existing storage reservoir and potential pressures and flows from uphole formations currently behind pipe that may be exposed to the wellbore if pipe is pulled;

vi. Well integrity and other pressure testing; and

vii. Open-hole and cased hole geophysical logging considerations.

c. Temporary Abandonment Well Considerations for Porosity Storage

i. Develop a plan to prevent migration pathways and isolate the storage reservoir in compliance with regulatory requirements;

ii. Time considerations and notifications;

iii. Well testing and monitoring during temporary abandonment;

iv. Well workovers and corrective action;

v. Temporary abandonment status vs. "idle" well status – identify the differences; and

vi. Reporting requirements.

d. Plugging and Abandonment Well Considerations for Porosity Storage

i. General requirements and considerations

1. Plugging permit, closure plan, or other authorization, if required; and
2. Regulatory review, requirements, and notifications.

ii. Wellhead design considerations

1. Blow-out protection and well control; and
2. Snubbing or swabbing valve on production casing.

iii. Plugging methods, considerations and regulatory requirements

1. Removal of all downhole equipment;
2. Setting of initial bottomhole plug – cement vs. mechanical or both – consideration of pressure testing to ensure isolation of gas storage reservoir;
3. Additional cement plug requirements – casing shoes, casing rips, lost circulation, flow zones, commercial hydrocarbon-bearing zones, corrosion zones, other mineral zones (coal and others), USDWs or other protected groundwater, and surface plugs;
4. Staging of cement vs. bullhead cement jobs;
5. Cement types, additives, quality, and quantity;
6. Wait-on-cement time, pressure testing, and tagging plugs;
7. Plug spacer considerations;
8. Casing recovery (when possible and not cemented to surface);
9. Geophysical logging considerations;
10. Groundwater monitoring considerations; and
11. Submittal of plugging and abandonment report.

e. Restoration of Site for Porosity Storage Wells

i. Removal of wellhead and wellhead equipment;

ii. Cut off casing below grade (below plow depth if required);

iii. Tack weld steel plate with API or other identification information/number;

iv. Restoration of the area around the well; and

v. Records retention considerations.

f. Potential Issues for Salt Cavern Storage Wells

i. Wellhead control capabilities;

ii. Protection of USDWs or other protected groundwater;

iii. Addressing the many wellbore issues – corrosion zones, flow zones, lost circulation zones, disposal zones, commercial hydrocarbon-bearing horizons, lost fish, casing patches, liners, junk, and others;

iv. Directionally drilled wells;

v. Preparation for working with pressures anticipated from the existing gas storage reservoir;

vi. Well integrity and other pressure testing; and

vii. Geophysical logging considerations.

g. Temporary Abandonment Well Considerations for Salt Cavern Storage

i. Develop a plan for agency approval to prevent migration pathways and isolate the storage cavern;

ii. Time considerations and notifications;

iii. Well testing and monitoring during temporary abandonment – maintain a minimum pressure for stability, monitor pressure;

iv. Temporary abandonment status vs. "idle" well status – identify the differences;

v. Reporting requirements include appropriate monitoring data such as pressures. Report significant activities in regards to the well. Determine an appropriate reporting frequency;

vi. Implement measures in regards to wellhead equipment to prevent inadvertent use of the well for storage; and

vii. Submit plan for agency approval for returning well to service.

h. Plugging and Abandonment Well Considerations for Salt Cavern Storage

i. General requirements and considerations

1. Review well construction, operational, monitoring, testing and logging information.
2. Develop a closure plan submitted to the regulatory agency for review and consideration of approval. Plugging permit, closure plan, or other authorization if required;
3. Regulatory review, requirements, and notifications;
4. Wellhead design considerations;

ii. Plugging methods and requirements

1. Blow-out protection and well control;
2. Snubbing or swabbing valve on production casing;
3. Removal of all downhole equipment;
4. Prior to abandonment, removal of all gas to the extent possible through displacement of brine; (11)
5. The cavern must be filled with saturated brine to assist in maintaining cavern stability.
6. Conduct geophysical logging/ cavern surveys. Considerations include - gamma ray, cement bond, temperature, casing inspection logs, and sonar survey;
7. Set initial bottomhole plug – must be a mechanical bridge plug set at the deepest location within the production casing to both properly isolate the cavern and not damage the casing – performance of pressure testing to ensure isolation of gas storage reservoir and then place cement plug on top of the mechanical plug.;
8. Additional cement plug requirements – casing shoes, casing rips, loss circulation zones, flow zones, commercial hydrocarbon-bearing zones, corrosion zones, other mineral zones (coal and others), USDWs or other protected groundwater, and surface plugs;

9. Staging of cement;
10. Cement types, additives, quality, and quantity considerations;
11. Wait-on-cement time, pressure testing, and tagging plugs;
12. If there is a fall back of cement inside the production casing at the surface, the casing must be topped off to the surface with cement.
13. Plug spacer considerations – if allowed. It is recommended that if feasible the well casing be filled with cement from bottom to surface;
14. Casing recovery (when possible and not cemented to surface);
15. Consideration for well and cavern to be at state of static equilibrium prior to plugging and abandonment ;
16. Submittal of plugging and abandonment report; and

i. Restoration of Salt Cavern Storage Wells

i. Remove wellhead equipment;

ii. Tack weld steel plate with API, or other identification information/ number;

iii. Leave casing top accessible and incorporate into monument grid for subsidence monitoring;

iv. Continue groundwater monitoring; and

v. Records retention must meet agency requirements, must be maintained for a period of time until satisfied there are no problems with the well/cavern.

j. Potential Considerations for Hard Rock Cavern Storage Wells

i. Typically, hard rock caverns are normally relatively shallow;

ii. Wellhead control considerations and capabilities;

iii. Operating pressures in the cavern system are intended to keep the stored product in a liquid phase. Depending on the cavern depth and the stored product, these pressures are typically in the range of 20 to 125 psi. A loss of this operating pressure can result in a rapid transformation of liquid into gas;

iv. Protection of USDWs or other protected groundwater is accomplished during the initial installation of operational and venting wells installed to perform mining operations. Not only is the USDW or other protected groundwater protected but the casing program prevents groundwater invasion into the mine;

v. Addressing any wellbore issues – corrosion zones, flow zones, lost circulation zones, lost fish, liners, and junk, etc.;

vi. Well integrity and other pressure testing;

vii. Geophysical logging considerations; and

viii. Favorable conditions for adequate hydraulic containment.

k. Temporary Abandonment Well Considerations for Hard Rock Cavern Storage

i. Develop a plan for prevention of migration pathways and isolation of the storage reservoir. Prior to temporarily abandoning a mined cavern, the stored liquid must be removed and the cavern filled with an inert gas or liquid. To ensure the cavern has been rendered completely inert, the operator may conduct and submit chemical analyses of the storage fluids to the regulatory agency for review. The inert gas can also assist with recovery of both the liquid and gas phases in the cavern. The inert gas is used to maintain positive pressure (100 plus psi depending on depth or the minimum pressure determined by a rock mechanical properties assessment) (53) on the cavern to support the pillars and prevent collapse of the cavern. The inert gas pressure can be monitored at the surface as a possible indicator of migration from either the cavern itself or from one (or more) of the access points.

ii. Time considerations and notifications
The length of time necessary to render inert any cavern will depend on the product volume and market. For example, an operator may have difficulty making a propane cavern inert in July due to market demand. The regulatory agency (federal or state) with responsibility for mined cavern operations is notified when a cavern or caverns are taken out of service.

iii. Well testing and monitoring
When a cavern is temporarily abandoned, the pressure in the access wells is monitored continuously with any significant change in pressure reported within 48 hours. The pres sure is used to support the cavern roof and pillars and the loss of pressure could result in catastrophic failure of the cavern. Integrity testing of the access wells (and other conveyances) may be confirmed before beginning large scale product evacuations and again once the cavern is confirmed to be inert.

iv. Temporary abandonment status vs. "idle" well status – identifying the differences

v. Reporting requirements: The owner/operator of the cavern reports pressure measurements on a quarterly basis for any and all access wells.

l. Plugging and Abandonment Well Considerations for Hard Rock Cavern Storage

Prior to abandoning a hard rock cavern, the cavern should be evacuated, to the extent practicable, of all hydrocarbons. The plugging and abandoning of a mined cavern storage operation requires that the abandonment of the cavern be considered as well as the abandonment of any and all wells that provide access to the cavern. Caverns can be abandoned by filling with an appropriate inert gas or potentially other fluid. The depth of the cavern and any potential communication with the local USDWs or other protected groundwater will dictate the appropriate material. Typically, one or more large diameter boring(s) (60 inches or greater) provides the initial entry to begin mining operations. A single casing string is installed in this boring to the roof of the proposed mine and is either grouted or cemented in place. This casing string provides future access to the mine as well as providing protection of the USDW or other protected groundwater. Subsequent to the completion of the mining operation, additional smaller diameter wells are drilled and cased to provide additional points to place or remove the stored hydrocarbons.

A permit to mine the cavern may have been issued by the federal or state agency with authority over underground mining. The permit to drill the access wells may have been issued by the federal or state agency with authority over drilling. The abandonment of any well permitted to drill should obtain a permit to plug.

The regulatory agency – federal or state – with the authority to permit the mining portion of the operation may require application and review of any plan to abandon the mine and notification when the activity is scheduled to occur. The regulatory agency – federal or state – with the authority to permit any drilling, casing or cementing associated with cavern operation will review any proposal to abandon a permitted operation. The agency may require appropriate prior notification to allow for site inspection and or witnessing.

An operator should develop a plugging and abandonment plan that includes:

i. Demonstration of the stability of all caverns being abandoned with geomechanical analysis and pressure build-up;

ii. Removal of all downhole equipment and uncemented casing strings, unless circumstances prohibit their removal;

iii. Complete isolation from all other porous and permeable zones or hydrocarbon-bearing formations.

iv. Wellhead design considerations

v. Plugging and abandonment procedures;

vi. Blow-out protection and well control;

vii. Snubbing or swabbing valve on production casing;

viii. Setting of initial bottomhole plug, which must include a mechanical plug and then consideration of pressure testing of the mechanical plug to ensure isolation of gas storage reservoir;

ix. Mechanical bridge plugs can be set inside the smaller diameter access wells near the base of the casing where good cement bond exists between the casing and the formation. Once the bridge plug is set, 100 feet of cement is usually placed on the plug with tubing and allowed to cure long enough to reach a prescribed compressive strength. A cement bong log should be run on access wells to ensure that the cement sheath provides adequate hydraulic isolation of the casing/formation annulus;

x. Cement should be spotted with tubing or work string and stage cemented to surface;

xi. Cement types, additives, quality, and quantity considerations;

xii. Wait-on-cement, pressure testing, and tagging plugs;

xiii. A written closure or plugging report summarizing the plugging activities may be submitted to the permitting authority. The report identifies the plugging method, materials, equipment and results. Supporting documentation in the form of contractor reports, invoices and/or job summaries may also accompany the plugging report; and

xiv. Potential groundwater monitoring considerations.

m. Restoration of Hard Rock Cavern Wells

i. Remove wellhead equipment; (57)

ii. Tack weld of steel plate with API or other identification information/ number;

iii. Leave casing top accessible and incorporate into monument grid for subsidence monitoring; and

iv. Records retention requirements.

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Appendix A
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Appendix B
List of Acronyms

Acronym	Meaning
ALARP	As Low as Reasonably Practical
AOR	Area of Review
API	American Petroleum Institute
CBL	Cement Bond Log
CBLs	Cement Bond Logs
CET	Cement Evaluation Tool
CFR	Code of Federal Regulations
CPET	Corrosion Protection Evaluation Tool
CSA	Canadian Standards Association
EM	Electromagnetic Casing Inspection Log
ERP	Emergency Response Plan
ERPs	Emergency Response Plans
FERC	Federal Energy Regulatory Commission
GWPC	Ground Water Protection Council
IFR	Interim Federal Rule
IR	Infrared
IOGCC	Interstate Oil and Gas Compact Commission
ISO	International Organization for Standardization
LEL	Lower Explosive Limit
LPG	Liquid Petroleum Gas
MIT	Mechanical Integrity Test
MAOP	Maximum Allowable Operating Pressure
MOU	Memorandum of Understanding
P&M	Preventative and Migration
PAS	Publicly Available Standard
PHA	Process Hazard Analysis
PHMSA	Pipeline and Hazardous Materials Safety Administration

Acronym	Meaning
PPE	Personal Protective Equipment
RCBL	Radial Cement Bond Log
RMP	Risk Management Plan
RMPs	Risk Management Plans
RP	Recommended Practice
SCADA	Supervisory Control and Data Acquisition system
SAPT	Standard Annulus Pressure Test
SBT	Segmented Bond Tool
UGS	Underground Gas Storage * (Includes underground storage of natural gas and natural gas liquids unless otherwise noted)
USDOE	U.S. Department of Energy
USDOT	U.S. Department of Transportation
USEIA	U.S. Energy Information Administration
USEPA	U.S. Environmental Protection Agency
USDW	Underground Source of Drinking Water
USIT	Ultrasonic Imager Tool

Appendix C
List of Terms

Term	Meaning
Abandonment	The final closure of a well following plugging
Annulus	The space between a casing string and the wellbore, between two casing strings or between tubing and casing
Area of Review	The review of a specified area around a well or defined storage reservoir or cavern
Buffer zone	The region surrounding an underground storage facility within the Area of Review within which observation wells and other monitoring strategies are deployed to detect undesired fluid movement. Defined similarly in API RP 1171
Christmas tree	An assembly of valves, spools, pressure gauges and chokes fitted to the wellhead of a completed well to control production.
Confining Zone/ Caprock Sequence	The stratigraphic layers located above or around the reservoir, often including shales and other lower-permeability rock types that separate the reservoir from areas such as groundwater aquifers, other producing formations, and the ground surface. Referred to as “caprock” in API RP 1170 and 1171.
Containment	Retention of subsurface fluids in their intended wellbores or subsurface zones, such as the reservoir; the desired state for underground gas and liquids storage. Defined similarly in API RP 1171.
Gas	Means natural gas and liquid petroleum gas (LPG) unless otherwise noted
Idle well	A well that is not being used for its intended purpose but which is not plugged or formally temporarily abandoned
Intermediate casing	A casing string set between the surface casing and production casing
Isolation valve	The first valve in a gathering line that is located beyond the wellhead and which could be used to isolate the well
Leakage	Unintended or undesired movement of subsurface fluids into locations such as groundwater aquifers, other producing formations, or the ground surface; corresponds to a loss of containment.

Term	Meaning
Movement	Relocation of subsurface fluids into wellbores or other stratigraphic units; can be intentional (i.e., injection and withdrawal) or unintentional (i.e., reservoir fluids moving through the confining zone/caprock sequence).
Monitoring well	A well drilled into the gas storage zone used to monitor the movement and pressure of the gas stored in the zone
Pipeline	A tube or system of tubes used for transporting crude oil and natural gas from the field or gathering system
Plugging	The permanent sealing of a wellbore with materials designed to prevent the vertical migration of fluids (e.g. cement, bridge plugs)
Production casing	The casing string through which the production of hydrocarbons is achieved
Restoration	The return of a wellsite to the conditions that existed prior to drilling and production
Significant	The amount of change that would be considered unusual under normal operational practices and conditions
Spill point	The structurally lowest point in a hydrocarbon trap that can retain hydrocarbons.
Surface casing	The casing string set through fresh water zones for the protection of groundwater
Temporary abandonment	A well that is in a non functioning condition under an authorization from a regulatory agency
Wellhead	The surface termination of a wellbore that incorporates facilities for installing casing hangers during the well construction phase
Workover	The process of performing major maintenance or remedial treatments on an oil or gas well.

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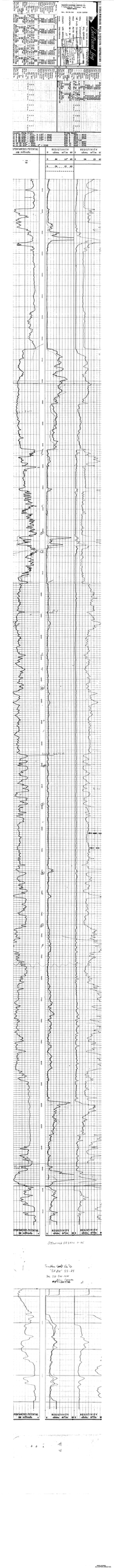
SED 01497

StatesFirst
An Initiative of the IOGCC & GWPC

GROUNDWATER
PROTECTION COUNCIL

INTERSTATE
Oil & Gas
COMPACT COMMISSION

WELL FILE SS-25



File

FORM 105 (2.49)
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice must be given and surety bond filed before drilling begins

Los Nietos, Calif. October 1 1953

DIVISION OF OIL AND GAS

Los Angeles Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of drilling well No. Standard-Seanon 1 #25, Sec. 28, T 3 W, R. 16 W, S.B. B. & M., Alico Canyon Field, Los Angeles County.

Legal description of lease: Standard-Seanon 1

The well is 820.00 feet N. or S., and 5360.00 feet E. or W. from Station #24
(Give location in distance from section corners or other corners of legal subdivision)

Elevation of ground above sea level 2927.02 feet.

All depth measurements taken from top of Derrick Floor, which is 8.35 feet above ground.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 4550' feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	Grade and Type	Depth	Landed or Cemented
11-3/4"	42 & 47#	R&C, H-40, J-55	2500' *	Cemented
7"	23#	T & C, J-55	4775'	Cemented
5"	18#	J-55 F.J.	4500'	Landed

*The 11-3/4" casing will be set between 1000'-2500', depending upon lost circulation.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address P. O. Box "Y", Los Nietos,

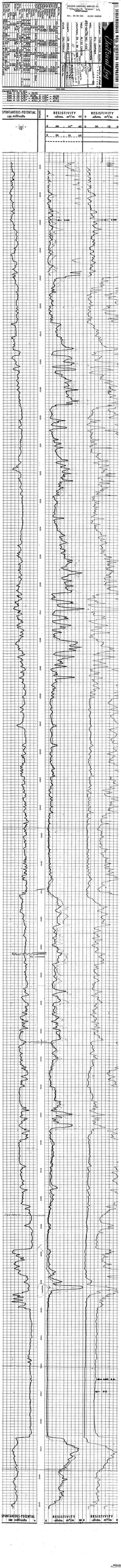
Telephone number OXford 91051

TIDE WATER ASSOCIATED OIL COMPANY
(Name of Operator)

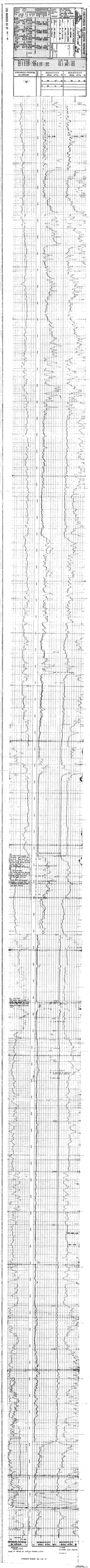
By J. C. Foster
Agent

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED

SED 01501
AC_CPUC_0000163



SPONTANEOUS-POTENTIAL
100 millivolts
RESISTIVITY
ohms. m²/m
0 AM 16" 60
0 04 12 60
0 04 12 60



FORM 111 (1-49)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

RECEIVED
OCT 21 1953
LOS NIETOS

REPORT ON PROPOSED OPERATIONS

No. P 153-1294

Los Angeles 15 Calif. October 20 1953

Mr. F C Foster
Box Y
Los Nietos Calif.

Agent for TIDE WATER ASSOCIATED OIL CO

DEAR SIR:

Your proposal to drill Well No. "Standard-Gennon 1" 25

Section 23, T. 3 N, R. 16 W S.B. & M., Aliso Canyon Field, Los Angeles County,

dated Oct. 1 1953, received Oct. 15 1953, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE MOTION STATES

"The well is 820.00 feet S. and 5360.00 feet W. from Station #84
Elevation of ground above sea level 2927.02 feet.
All depth measurements taken from top of Derrick Floor, which is 6.35 feet above ground.
We estimate that the first productive oil or gas sand should be encountered at a depth of about 4550 feet."

PROPOSAL

"We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing	Weight	Grade and Type	Depth	Landed or Cemented
11-3/4"	42 & 47#	H-40, J-55	2500'±	Cemented
7"	23#	S & C, J-55	4775'	Cemented
5"	18#	J-55 F.J.	4900'	Landed

"The 11-3/4" casing will be set between 1000'-2500', depending upon lost circulation.
It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

DECISION

THE PROPOSAL IS APPROVED PROVIDED THAT

1. Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times.
2. Any hole to be sidetracked in any oil or gas zone shall be filled with cement, if possible.
3. THIS DIVISION SHALL BE NOTIFIED AS FOLLOWS:
   (a) To inspect the installed blowout prevention equipment before drilling below 3000'.
   (b) To witness a test of the effectiveness of the 7" shut-off.

FEE: OK

cc J R Dwyer (2)

T L Mark
c/o Tide Water Associated Oil Co
79 New Montgomery Street
San Francisco California

Jos. Jensen c/o Tide Water Assoc. Oil Co.
555 Pac. Elec. Bldg
Los Angeles 14

Blanket Bond.

R. D. BUSH
State Oil and Gas Supervisor

By _____ Deputy

SED 01504
AC_CPUC_0000162

File

FORM 123. 36347 7-44 7500
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Supplementary Notice

Los Nietos Calif. January 18, 19 54

DIVISION OF OIL AND GAS

Los Angeles Calif.

Our notice to you dated October 1, 19 53, stating our intention to

Redrill (Drill, deepen, redrill, abandon) well No. Standard-Sesnon 1-#25,

Sec. 28, T. 3 N, R. 16 W, S.B. B. & M. Aliso Canyon Field,

County, must be amended on account of changed or recently discovered conditions.

The new conditions are as follows:

1. Drilled to 2567' and cemented 11-3/4" 42# casing at 990' with 600 sacks Diamix and 100 sacks Neat cement.
2. Drilled to 4948' T.D. (Tested 4661'-4781'; 4795'-4910'.) Plugged to 4860'.
3. Left 893' of fish (including Johnston tester with two sidewall packers and 135' of tailpipe) in hole from 3967' to 4860'.
4. Parted 4-1/2" drill pipe while jarring, took hold of fish and resumed jarring, but could not recover.

New Program:

1. Move in larger rotary. Plug interval from 3860' to 3967'.
2. Set whipstock and redrill to 4840'.
3. Test interval from approximately 4710' to 4840'.
4. Redrill to 5630' and test interval from 5450' to 5630'.

We now propose

5. Redrill to approximately 5755' and test interval from 5630' to 5755'. If commercial well indicated, cement 7" casing with water shutoff to be witnessed by D.O.G.
6. If well is not commercial, drill to approximately 8575'.
7. Cement 7" casing at point below the top of the Lower Sesnon Zone.
8. Test for segregation between Upper and Lower Sesnon Zones.
9. Test for water shutoff at top of Upper Sesnon Zone, to be witnessed by Division of Oil and Gas.
10. Drill through Lower Sesnon interval and land 5-1/2" liner.

TIDE WATER ASSOCIATED OIL COMPANY
(Name of Operator)

By J. E. Weaver B.
Agent

SED 01505
AC_CPUC_0000160

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

RECEIVED
JAN 22 1954
LOS NIETOS

REPORT ON PROPOSED OPERATIONS

No. P 154-111

Los Angeles 15 Calif. January 21 19 54

Mr. F C Foster
Box "Y"
Los Nietos Calif.

Agent for TIDE WATER ASSOCIATED OIL CO

Dear Sir:

Your supplementary proposal to drill Well No. "Standard-Sesnon 1" 25,
Section 28, T. 3 N, R. 16 W, S B B. & M., Aliso Canyon Field, Los Angeles County,
dated Jan 18 19 54, received Jan 20 19 54, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The new conditions are as follows:
1. Drilled to 2567' and cemented 11-3/4" 42# casing at 990' with 600 sacks Diamix and 100 sacks Neat cement.
2. Drilled to 4948' T.D. (Tested 4661'-4781'; 4795'-4910'.) Plugged to 4860'.
3. Left 893' of fish (including Johnston tester with two sidewall packers and 135' of tailpipe) in hole from 3967' to 4860'.
4. Parted 4-1/2" drill pipe while jarring, took hold of fish and resumed jarring, but could not recover."

PROPOSAL:
"New Program:
1. Move in larger rotary. Plug interval ffom 3860' to 3967'.
2. Set whipstock and redrill to 4840'.
3. Test interval from approximately 4710' to 4840'.
4. Redrill to 5630' and test interval from 5450' to 5630'.
5. Redrill to approximately 5755' and test interval from 5630' to 5755'. If commercial well indicated, cement 7" casing with water shutoff to be witnessed by D.O.G.
6. If well is not commercial, drill to approximately 8575'.
7. Cement 7" casing at point below the top of the Lower Sesnon Zone.
8. Test for segregation between Upper and Lower Sesnon Zones.
9. Test for water shutoff at top of Upper Sesnon Zone, to be witnessed by Division of Oil and Gas.
10. Drill thfough Lower Sesnon interval and land 5-1/2" liner."

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT in all other respects, the well is redrilled in accordance with the requirements outlined in our report No. P 153-1294 dated October 20, 1953.

FEK:ES

cc T L Wark
Jos Jensen
J R Bovyer (2)

Blanket bond.

R. D. BUSH
State Oil and Gas Supervisor

By R. D. Nelling Deputy

26499 6-50 10M SPC

FORM 103.
CALIFORNIA STATE PRINTING OFFICE

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR TIDE WATER A SSOCIATED OIL COMPANY FIELD ALISO CANYON

Well No. Standard-Sesnon 1-#25, Sec. 28, T. 3 N, R. 16 W, S.B. B. & M.

Signed J. E. Weaver B.

Date May 28, 1954 Title Agent (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

Date	
	LOCATION: 820.00' South and 5360.00' West from Station #84 ELEVATION: 2927.02' Mat 2933.37' Derrick Floor To be drilled on first line Aliso Zone Location Etc - Must 5 Ltr
1953	
9/8-9/28	Grading, digging rat hole and cellar, poured cellar, moved in equipment.
9/29-9/30	Rigged up rotary.
10/1	Spudded 10-5/8" hole at 1:00 PM and drilled to 169'. Lost circulation for 5 hours.
10/2-10/3	Drilled 10-5/8" hole from 169' to 741'. Lost circulation for 3-3/4 hours.
10/4-10/14	Drilled 10-5/8" hole from 741' to 2567'. Ran Schlumberger electric log at 2567'. Opened 10-5/8" hole to 16" from surface to 212'.
10/15-10/18	Opened 10-5/8" hole to 16" from 212' to 990'. Ran and cemented 11-3/4" 42# Youngstown T & C casing at 990' with 600 sacks 1:1 Diamix followed by 100 sacks Neat cement. Lost circulation with 114 cu. ft. of cement slurry to displace. Pressure built up from 200-500# when plugs bumped. Time 9:45 PM. B.J. Service. Cemented around outside of casing with 75 sacks of Neat cement.
10/19	Cemented around outside of casing with additional 60 sacks Neat cement. Cleaned out and found cement at 984'.
10/20-10/22	Cleaned out to 2567'. Drilled 10-5/8" hole from 2567' to 2925'. Twisted off drill collar in hole. Fishing at 2925'.
10/23	Washing over drill collar at 2908'.
10/24	Washed over and recovered drill collar.
10/25-10/26	Drilled 10-5/8" hole from 2925' to 3073'. Twisted off 28 joints of drill pipe and 2 drill collars at 3073'. Recovered same with McCullough socket.
10/27-11/4	Drilled 10-5/8" hole from 3073' to 4362'. Changed to Carbonox mud at 4350'.
11/5	Drilled 10-5/8" hole from 4362' to 4530'.
11/6	Drilled 8-1/2" hole from 4530' to 4630'. Ran Schlumberger electric log at 4630'. Opened 8-1/2" hole to 10-5/8" from 4530' to 4552'.
11/7	Opened 8-1/2" hole to 10-5/8" from 4552' to 4630'. Reduced hole to 8-1/2" and drilled from 4630' to 4685'.
11/8	Drilled 8-1/2" hole from 4685' to 4765'.
11/9	Drilled 8-1/2" hole from 4765' to 4781'. Ran Schlumberger electric log at 4781'. Ran Johnston formation tester on 4-1/2" drill pipe and set packers at 4652' and 4661' with perforated tailpipe to 4781'. Used 500' water cushion. Opened tester at 4:05 PM. Had medium, steady blow for 8 minutes when gas reached surface. Increased to strong, steady blow for next 5 minutes when cushion reached surface. Well unloaded cushion in 12 minutes. After tester was open a total of 20 minutes,

1953

11/9 (cont.) well was producing gas at maximum rate of 1,591,000 CF/D. After 40 minutes, rate decreased to approximately 360,000 CF/D. After 55 minutes, well died. After 60 minutes, had medium to light heading blow for balance of 75 minute test. Recovered 1620' net rise of gas cut drilling mud. Pressure charts showed 1100# pressure.

11/10 Opened 8-1/2" hole to 10-5/8" to 4761', then drilled 8-1/2" hole from 4781' to 4796'.

11/11-13 Drilled 8-1/2" hole from 4796' to 4910'. Ran Schlumberger electric log to 4910'.

11/14 Ran Johnston formation tester on 4-1/2" drill pipe and set sidewall packers at 4787' and 4795' with perforated tailpipe to 4910'. Opened tester at 7:35 AM. Had fair, diminishing to light blow throughout one hour test. Recovered 2590' net rise; top 755' drilling mud, remainder salt water with average salinity of 373 g/g. Bottom hole pressure 1250#. Reran Schlumberger electric log to 4910'. Opened 8-1/2" hole to 10-5/8" from 4761' to 4788'.

11/15-16 Drilled 8-1/2" hole from 4910' to 4948'. Ran Lane-Wells Neutron Ray, Gamma Ray and sidewall sampler.

11/17 Hung 4-1/2" drill pipe and 97' of 2-7/ 8" tubing equipped with scratchers at 4948'. Pumped in 60 sacks Colton Slow cement preceded by 25 cu. ft. of water. Reciprocated and rotated pipe while displacing water and cement. Equalized cement at approximately 4830'. Time 11:30 AM. B.J. Service. Cleaned out to bottom and found no cement.

11/18 Hung 4-1/2" drill pipe and 97' of 2-7/8" tubing equipped with scratchers at 4948' and pumped in 60 sacks Colton Slow cement. Reciprocated and rotated pipe while displacing cement. Time 10:30 AM. B.J. Service. Found top of cement at 4830' and cleaned out to 4860'. Mud weight 74#, 33 viscosity, 3.3 c.c. water loss.

11/19 Ran Johnston tester on 4-1/2" drill pipe and set sidewall packers at 4715' and 4725' with perforated tailpipe to 4860'. Used 500' water cushion. Opened tester at 11:20 AM. Had light, steady blow for 5 minutes, decreasing to faint, intermittent blow throughout balance of 1 hour test. Could not pull tester loose. Jarred for 3 hours without results. Backed off left hand thread below packers and pipe rotated easily. Attempted to pull tester again but would not come loose. Rotated again and twisted off drill pipe, leaving a single, 7 doubles, drill collar and tools in hole (approximately 893' total fish). Backscuttled and recovered fresh water cushion. Ran in with fishing tool, jarred for 3 hours without results.

11/20 Jarred on fish for 4 hours with no results. Pulled out and laid down fishing tools. McAteer Drilling Contractor released at 10:00 AM. Moving out.

11/21-23 Standing idle.

11/24 Finished moving out rotary.

11/25-12/28 Idle.

12/29-31 Moved in and rigged up rotary.

1954

1/1 Replaced Series 600 casing flange with Series 900. Making up drill pipe.

1/2 Cleaned out to top of fish at 3967'. Hung 4-1/2" drill pipe at 3967' and pumped in 150 sacks Colton Slow cement, 20% sand. Time 12:00 Midnight. B.J. Service.

1/3 Found top of cement at 3770'. Cleaned out to solid cement at 3830'. Standing cemented. Mud weight 74#, 68 viscosity, 4.1 c.c. water loss.

1/4 Drilled out solid cement from 3830' to 3860'. Running Eastman "shoe horn type" whipstock. Mud weight 74#, 58 viscosity, 4.2 c.c. water loss.

1/5 Drilled off Eastman "shoe horn type" whipstock from 3860' to 3878' with 7-7/8" bit. Opened hole to 10-5/8" and drilled ahead to 3929'. Deviation at 3900' equals 3.5 degrees. Mud weight 73#, 65 viscosity, 4.2 c.c. water loss.

1954

1/6 Drilled 10-5/8" hole from 3929' to 4139'. Mud weight 72#, 45 viscosity, 5.1 c.c. water loss.

1/7 Redrilled 10-5/8" hole from 4139' to 4333'. Mud weight 73#, 45 viscosity, 6.0 c.c. water loss.

1/8 Redrilled 10-5/8" hole from 4333' to 4594'. Mud weight 75#, 55 viscosity, 5.5 c.c. water loss.

1/9 Redrilled 10-5/8" hole from 4594' to 4661', then reduced size of hole to 8-1/2" and drilled to 4770'.

1/10-1/11 Redrilled 8-1/2" hole from 4770' to 4806'. Repaired drilling equipment.

1/12 Redrilled 8-1/2" hole from 4806' to 4840'. Ran Schlumberger electric log at 4840'. Mud weight 75#, 52 viscosity, 3.3 c.c. water loss.

1/13 Opened 8-1/2" hole to 10-5/8" from 4661' to 4680'. Ran Johnston tester on 4-1/2" drill pipe and set packers at ~~4656'~~ 4706' and 4716' with perforated tailpipe to 4840'. Used 500' water cushion. Opened 3/8" bean at 6:45 AM. Had medium blow for 3 minutes, strong, steady blow for 25 minutes, decreasing to dead in 45 minutes. Pulled packers loose after 50 minute test. Gas to surface in 3 minutes. Maximum rate 247 MCF after being open 15 minutes. Recovered net rise of 360' gas-cut drilling fluid. Pressure bomb charts confirmed details of test. Opened 8-1/2" hole to 10-5/8" from 4680' to 4840'. Mud weight 75#, 48 viscosity, 4.4 c.c. water loss.

Retest of Aliso Zone Sands

1/14 Redrilled 10-5/8" hole from 4840' to 4948'. Deepened from 4948' to 4967' with 10-5/8" bit. Mud weight 76#, 50 viscosity, 3.0 c.c. water loss.

1/15 Drilled 10-5/8" hole from 4967' to 5053'. Mud weight 76#, 45 viscosity, 3.2 c.c. water loss.

1/16 Drilled 10-5/8" hole from 5053' to 5160'. Mud weight 78#, 45 viscosity, 3.6 c.c. water loss.

1/17 Drilled 10-5/8" hole from 5160' to 5450'. Mud weight 77#, 48 viscosity, 3.1 c.c. water loss.

1/18 Reduced size of hole to 8-1/2" and drilled from 5450' to 5630'. Ran Schlumberger electric log at 5630'. Opened 8-1/2" hole to 10-5/8" from 5450' to 5520'. Mud weight 78#, 50 viscosity, 3.0 c.c. water loss.

1/19 Drilled 8-1/2" hole from 5630' to 5645'. Ran Johnston formation tester on 4-1/2" drill pipe and set sidewall packers at 5522' and 5527' with bottom of perforated tailpipe to 5645'. Used 500' water cushion. Opened 3/8" bean at 6:50 PM. Had moderate, steady blow for duration of 1 hour test with gas to surface in 10 minutes. Maximum gas rate after 22 minutes, 38 MCF per day. Recovered 570' net rise gassy emulsified heavy oil. No free water. Charts checked details of test. Final maximum pressure 620#. Cleaned out rat hole to 5645' with 8-1/2" bit. Mud weight 78#, 53 viscosity, 3.2 c.c. water loss.

Test of Upper Section Pebble Zone

1/20 Drilled 8-1/2" hole from 5645' to 5790'. Ran Schlumberger electric log at 5770'. Mud weight 78#, 50 viscosity, 3.5 c.c. water loss.

1/21 Drilled 8-1/2" hole from 5790' to 5945'. Ran Schlumberger electric log at 5945' and took sidewall samples at 5537', 5567', 5627', 5646', 5668', 5722', 5725', 5734', 5757', 5804', 5819', 5858', 5878' and 5938'. Opened hole to 10-5/8" from 5522' to 5945'. Mud weight 77#, 53 viscosity, 3.6 c.c. water loss.

Test Pebble Zone to Aliso Zone

1/22 Cored 8-1/2" hole from 5945' to 6005' with Mercury conventional core barrel. Opened hole to 10-5/8" from 5945' to 6005'. Mud weight 77#, 44 viscosity, 6.6 c.c. water loss.

1/23 Drilled 10-5/8" hole from 6005' to 6372'. Mud weight 78#, 48 viscosity, 3.6 c.c. water loss.

1/24 Drilled 10-5/8" hole from 6372' to 6706'. Mud weight 77#, 45 viscosity, 5.4 c.c. water loss.

1954

1/25 Drilled 10-5/8" hole from 6706' to 7111'. Mud weight 78#, 45 viscosity, 6.3 c.c. water loss.

1/26 Drilled 10-5/8" hole from 7111' to 7227'. Ran Schlumberger Magnetic survey at 7227'. Mud weight 78#, 48 viscosity, 6.8 c.c. water loss.

1/27 Drilled 10-5/8" hole from 7227' to 7526'. Mud weight 78#, 50 viscosity, 7.2 c.c. water loss.

1/28 Drilled 10-5/8" hole from 7526' to 7594'. Stuck drill pipe 138' off bottom (7594'). Spotted 80 barrels of oil and came loose. Mud weight 78#, 55 viscosity, 8.0 c.c. water loss.

1/29 Drilled 10-5/8" hole from 7594' to 7780'. Attempted to run shoe horn type bit at 7778', facing S 25 Deg. E, but failed to function. Mud weight 76#, 45 viscosity, 6.1 c.c. water loss.

1/30 Drilled 10-5/8" hole from 7780' to 7897'. Mud weight 78#, 50 viscosity, 5.8 c.c. water loss.

1/31 Drilled 10-5/8" hole from 7897' to 7917'. Set conventional whipstock at 7917', facing South 55 Deg. East. Drilled off whipstock with 7-1/2" bit to 7928', then opened hole to 10-5/8" and drilled ahead to 7936'. Mud weight 78#, 45 viscosity, 6.0 c.c. water loss.

2/1 Drilled 10-5/8" hole from 7936' to 8030'. Mud weight 78#, 58 viscosity, 6.6 c.c. water loss.

2/2 Drilled 10-5/8" hole from 8030' to 8093'. Mud weight 74#, 46 viscosity, 5.6 c.c. water loss.

2/3 Reamed off key seat from approximately 3800' to 3900', then reamed remainder of hole. Mud weight 76#, 58 viscosity, 5.2 c.c. water loss.

2/4 Drilled 10-5/8" hole from 8093' to 8177'. Mud weight 79#, 48 viscosity, 4.8 c.c. water loss.

2/5 Drilled 10-5/8" hole from 8177' to 8240'. Mud weight 79#, 45 viscosity, 4.3 c.c. water loss.

2/6 Drilled 10-5/8" hole from 8240' to 8373'. Mud weight 79#, 47 viscosity, 4.2 c.c. water loss.

2/7 Drilled 10-5/8" hole from 8373' to 8544'. Mud weight 80#, 52 viscosity, 3.8 c.c. water loss.

2/8 Drilled 10-5/8" hole from 8544' to 8580'. Ran Schlumberger electric log at 8550'. Drilled ahead to 8580' and ran Schlumberger electric log and Neutron - Self-potential log. Circulated with double three point reamer. Mud weight 80#, 50 viscosity, 4.0 c.c. water loss.

2/9 Drilled 10-5/8" hole from 8580' to 8585'. Mud weight 78#, 44 viscosity, 3.3 c.c. water loss. Running 7" casing.

2/10 Cemented 7" Youngstown, Speedtite casing at 8585' with 600 sacks Colton Hi-temperature cement. Detail of casing is as follows: Surface to 2398' - 23#, J-55; 2398' to 6308' - 23#, N-80; 6308' to 8282' - 26#, N-80; 8282' to 8585' - 29#, N-80. Pressure rose from 1000-1500# when plugs bumped. Time 3:10 AM. B.J. Service (two pump trucks). Used two centralizers and three scratchers on each of bottom three joints. Tested casing 1200# O.K. for 15 minutes. Making up 3-1/2" drill pipe.

2/11 Found top of hard cement at 8537'. Drilled out cement to 8584'. Ran Schlumberger Neutron and collar locator to 8584'. Ran Schlumberger jet gun and shot four holes at 8583'.

2/12 Ran Johnston tester on 3-1/2" drill pipe and set packer at 8522' with perforated tailpipe to 8539' to test jet holes at 8583'. Used 1000' water cushion. Opened tester at 11:05 AM. Had light, steady blow for 5 minutes, then dead for 1 hour test. Recovered 30' net rise of water drilling fluid. Charts checked details

1954

2/12 (cont) of test. Obtained segregation at 8583'. Ran Schlumberger jet perforator and shot four holes at 8475'. Ran Johnston tester on 3-1/2" drill pipe and set packer at 8434' with perforated tailpipe to 8451'. Used 1000' water cushion. Opened tester at 9:40 PM. Had light blow for 1 minute, then dead for balance of 1 hour test. Recovered 30' net rise drilling fluid. Charts confirmed results of test. Water shutoff on holes at 8475' witnessed and approved by Division of Oil and Gas. Mud weight 76#, 46 viscosity, 2.4 c.c. water loss.

2/13 Cleaned out from 8584' to 8585'. Drilled 6" hole from 8585' to 8634'. Mud weight 80#, 59 viscosity, 4.8 c.c. water loss.

2/14 Ran Schlumberger electric log at 8749'. Reamed 6" hole from 8585' to 8749'. Mud weight 79#, 47 viscosity, 4.2 c.c. water loss.

2/15 Landed 189' of 5-1/2" 20# J-55 Youngstown flush joint liner at 8748'. Top of hanger 8559'. Perforations 8592' - 8748'. Details of perforations: 120 Mesh, 12 rows, 2" slots, 6" centers, 6° undercut, by Pacific. Laid down drill pipe and made up tubing.

2/16 Installed Christmas tree and landed 2-7/8" tubing at 8540'. Displaced mud with oil.

2/17 Swabbed 12 hours. Fluid level 3200'. Lost swab. Fishing.

2/18 Circulated out swab with oil. Resumed swabbing. Fluid level 1500'. Swabbed out approximately 125 barrels.

2/19 Swabbed 150 barrels gross fluid, all circulating oil. Fluid level 2500'.

2/20 In 12 hours swabbed 107 barrels gross fluid, all formation oil. 94 barrels net oil, 12.0% cut, 18.3 gravity. Swabbed at 6000'. Fluid level 3500'. Released Pike Drilling Contractor at 6:00 PM.

2/21-22 Contractor moving out.

2/23 Shut in. 160# tubing pressure; 325# casing pressure.

2/24 Shut in. 200# tubing pressure; 300# casing pressure.

2/25 Well began flowing at 1:30 PM and in 8-1/2 hours produced 105 barrels gross fluid, 99 barrels net oil, cut 6.0% water, 24/64" bean, 100# tubing pressure, 1600# casing pressure. Well died at 10:00 PM. 6:00 AM tubing pressure 100#; casing pressure 1600#.

2/26 In 3 hours well flowed by heads 39 barrels gross fluid, no cut or gravity, 64/64" bean, 300# tubing pressure, 1475# casing pressure.

2/27 Well dead. 100# tubing pressure, 1400# casing pressure.

2/28 Well dead. Bleeding down casing pressure.

3/1 Rigged up California Production Service hoist and in 16 hours swabbed 82 barrels gross fluid, 78 barrels net oil, 4.4% cut, 19.7 gravity, fluid level remaining from 2500-3000'.

3/2 In 16 hours swabbed 129 barrels gross fluid, 128 barrels net oil, 1.0% cut, 20.6 gravity, 0# tubing pressure, 0# casing pressure. Fluid level 4000'. Released crew 12:00 Midnight.

3/3 Shut in. 350# tubing pressure; 350# casing pressure.

3/4 Shut in. 450# tubing pressure; 300# casing pressure.

3/5 Shut in. 560# tubing pressure; 500# casing pressure.

3/6 Shut in. 560# tubing pressure; 500# casing pressure.

3/7 Shut in. 500# tubing pressure; 560# casing pressure.

3/8 In 17 hours well flowed on gas lift 101 barrels gross fluid, 101 barrels approximate net oil, 0.1% cut, 21.2 gravity, 16/64" bean, 100# tubing pressure, 1350# casing pressure, 0 MCF gas.

OPERATOR: TIDE WATER ASSOCIATED OIL COMPANY

WELL NO.: Standard-Sesnon 1-#25, Aliso Canyon Field

1954

3/9 In 8 hours well flowed on gas lift 29 barrels gross fluid, 29 barrels approximate net oil, 0.1% cut, 21.2 gravity, 16/64" bean, 680# tubing pressure, 1250# casing pressure, 0 MCF gas.

3/10 Shut in. 1300# tubing pressure; 1300# casing pressure.

3/11 Shut in. Let off tubing pressure but well would not flow. 100# tubing pressure; 1400# casing pressure.

3/12 In 8 hours well flowed 76 barrels gross fluid, approximately 74 barrels net oil, 3.0% cut, 21.0 gravity, 16/64" bean, 200# tubing pressure, 1400# casing pressure. Bleeding off pressures. Preparing to install gas flow valves.

3/13 Bleeding off pressure. 200# tubing pressure; 1400# casing pressure.

3/14 Bleeding off pressure. 150# tubing pressure; 700# casing pressure.

3/15 Bleeding off pressure. 200# tubing pressure; 0# casing pressure.

3/16 Bled off pressure and filled hole with dead oil. Will move in mast if weather permits.

3/17 California Production Service moving in with mast.

3/18 Pulled tubing. Ran 7" Guiberson KV-30 wall packer and set at 8525' with 14,000#; included arefive Guiberson gas lift flow valves as follows: 1000# valve - 1965'; 975# valve - 3835'; 950# valve - 5504'; 925# valve - 6973'; 900# valve - 8271' (no ball and check on this valve). Above depths are from tubing head.

3/19 Hooked up tree and began injecting gas. In 15 hours well flowed on gas lift as follows:

	Gross	Net	Cut	Gravity	Bean	Tubing Pressure	Casing Pressure	MCF Gas Inj	MCF Gas Net
	211 gross fluid, of which 171 barrels is formation oil, 166 barrels net oil, cut 3.0%, 50# tubing pressure, 300# casing pressure, 20.3 gravity, 153 MCF injected gas, 47 MCF net.								
3/20	238	232	2.6%	20.3	32/64	100#	700#	217	89
3/21	103	103	0.3%	20.7	32/64	200#	750#	49	88
	Off 13 hours - gas injection line froze.								
3/22	Injection line frozen 3-1/2 hours.								
	190	190	0.2%	21.0	32/64	360#	750#	220	79
3/23	146	143	2.0%	20.6	32/64	140#	750#	211	109
3/24	152	151	0.4%	20.5	32/64	100#	940#	207	109
3/25	130	130	0.2%	20.5	32/64	250#	900#	232	68
	Off 4-1/2 hours - gas injection line frozen.								
3/26	166	166	0.2%	20.5	32/64	250#	900#	232	68
3/27	130	130	0.2%	20.5	32/64	250#	900#	220	118
3/28	119	119	0.2%	20.5	32/64	250#	900#	187	56
	Off 4 hours - gas injection line frozen.								
3/29	70	70	0.3%	20.8	14/64	250#	900#	61	65
	Off 11 hours - gas injection line frozen.								
3/30	95	95	0.3%	20.8	14/64	250#	900#	92	78
3/31	74	74	0.3%	20.8	14/64	250#	900#	145	97
4/1	71	70	0.8%	20.8	14/64	250#	900#	87	53
4/2	97	97	0.8%	20.8	14/64	250#	900#	92	78
4/3	38	38	0.8%	20.8	14/64	250#	900#	150	73

OPERATOR: TIDE WATER ASSOCIATED OIL COMPANY

WELL NO.: Standard-Sesnon 1-#25, Aliso Canyon Field

1954	Gross	Net	Cut	Gravity	Bean	Tubing Pressure	Casing Pressure	MCF Gas Inj	MCF Gas Net
4/4	184	183	0.8%	20.8	14/64	250#	900#	220	87
4/5	103	102	0.8%	20.8	14/64	250#	900#	89	56
4/6	97	96	0.8%	20.8	14/64	250#	900#	49	89
4/7	141	140	0.8%	20.8	14/64	250#	900#	95	87
4/8	124	123	0.8%	20.8	14/64	250#	900#	119	110
4/9	107	106	0.8%	20.8	14/64	250#	900#	120	102
4/10	114	113	0.8%	20.8	14/64	250#	900#	122	124
4/11	92	91	0.8%	20.8	14/64	250#	900#	64	86
4/12	103	102	0.8%	20.8	14/64	250#	900#	44	96
4/13	103	102	0.8%	20.8	14/64	250#	900#	134	84
4/14	62	61	2.0%	20.8	14/64	250#	900#	55	43
	Off 13 hours.								
4/15	103	101	2.0%	20.8	14/64	250#	900#	122	72
4/16	113	111	2.0%	20.8	14/64	250#	900#	128	52
4/17	92	91	2.0%	20.8	14/64	250#	900#	168	40
4/18	103	101	2.0%	20.8	14/64	250#	900#	154	35
4/19-21	Shut in for pressure survey.								

Grant 6 - Bonds
Thru 9-30-57

CASING RECORD

	11-3/4"	42#	C	990'	
	7"	23, 26, 29#	C	8585'	4 H 8583', 8475'
189'	5-1/2"	20#	L	8748'	Top 8559' Pf. 8592'-8748'

JUNK

893' 4-1/2" drill pipe and Johnston tester 3967'-4860'

TUBING RECORD

2-7/8" L 8540'

4748. Pg 3860

8749 T.D.

SED 01513
AC_CPUC_0000157

FORM 101
CALIFORNIA STATE PRINTING OFFICE

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field ALISO CANYON

Well No. Standard-Seanon 1-/25 Sec. 28, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
1-1/4" LANE-WELLS SIDEWALL SAMPLES					
3415'				3/4"	Soft, greenish-gray siltstone containing forams. Faint cut and odor.
3490'				No Recovery.	
3537'				1/2"	Soft, fine grained greenish-brown sandy siltstone. Faint cut, good oder.
3600'				1-1/4"	Soft, greenish-gray siltstone. Faint cut, no odor.
4630'				1-1/4"	Soft, greenish-brown silty shale with occasional forams. Slight cut, good odor.
4665'				No recovery.	
4705'				1/2"	Soft, light brown, coarse grained oil sand. Good cut and odor. Pebbles to 1/2".
4725'				3/4"	As above.
4767'				No recovery.	
4798'				3/4"	As above.
4820'				1-1/4"	As above.
4820'				1/2"	As above.
4820'				No recovery.	
4835'				1"	As above.
4860'				1"	Firm, coarse to medium grained, light brown oil sand with occasional shell fragments. Good cut and odor. Has grayish cast.
4860'				1/2"	As above.
4880'				No Recovery.	
4902'				1"	Soft, medium grained oil sand. Good cut & odor.
4902'				1/4"	As above.

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STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field ALISO CANYON

Well No. Standard-Sagnon 1-25 Sec. 28, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
SCHLUMBERGER SIDEWALL SAMPLES:					
5530'				Fragment	Soft, medium grained, light brown oil sand.
5537'				1/2"	Firm, coarse grained, light brown oil sand.
5567'				3/4"	Firm, medium grained, dark brown oil sand. Good cut and odor.
5627'				No recovery - cup in hole.	
5616'				1/2"	Firm, greenish gray siltstone.
5668'				1"	As above.
5722'				3/4"	As above.
5725'				1/2"	As above.
5734'				1/2"	As above.
5757'				3/4"	Firm, greenish gray siltstone with occasional megafossils.
5804'				1/2"	Firm, greenish gray oil stained siltstone. Fair cut and odor.
5819'				3/4"	Oil stained as above.
5858'				1/2"	Firm, greenish gray siltstone.
5878'				1/2"	As above.
5938'				1/2"	Firm, light brown, silty oil sand with occasional megafossils. Good cut and odor.
8-1/2" MERCURY CONVENTIONAL CORE BARREL:					
5945'	5975'			15'	15' Oil Stained Sand. Variegated, greenish gray and brown, very fine grained to clayey siltstone. Generally firm but friable to mushy where core was disturbed in removing from barrel; fair topoor permeability and

FORM 10F
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SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

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LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field ALISO CANYON

Well No. ~~Standard-Sesnon 1-#25~~ Sec. ~~28~~, T. ~~3 N~~, R. ~~16 W~~, ~~S.B.~~ B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
8-1/2" MIRCSEM CONVENTIONAL CORE BARREL: (cont.)					
5915'	5975' (cont.)				porosity, staining is irregular with reddish brown oil, strong gasoline odor, dark brown cuts, estimated 50% oil stained. Core looks wet. Occasional thin streaks of claystone (green). Shows slick places with black oil on surfaces. Sand grains look fresh and are chiefly quartz.
5975'	6005'			12'	12' Gray Sand. Greenish-gray, very fine grained, silty, well sorted, firm but friable, fair permeability and porosity. No cut, stain or odor except for 3" spotty staining at 6002' where core has mottled appearance (20% saturation), good odor, light amber cut. Sand grains are fresh, chiefly quartz with scattered biotite. Core is definitely wet.

SS 25
6-6-73

1973

6-5 Ran 2-7/8" tubing, including packer, nipple, sliding sleeve and five gas lift mandrels (details attached). Hydrotested tubing to 5000 psi and found no leaks. Landed tubing on doughnut with bottom of tubing at 8492'. Using Hydrotest, pumped down tubing but obtained circulation. Pulled and reran bottom gas lift valve with piano wire unit. Using rig pump, set packer but apparently could not shear ball seat.

6-6 Pumped water down tubing with hot oil truck and found seat had been sheared with rig pump. Using piano wire unit, shifted sleeve at 8390' to open position. Removed B.O.P., installed new X-mas tree and tested doughnut and tree to 3500 psi, each for 20 minutes. Circulated drilling fluid out of hole with lease water. Displaced water to top gas lift valve with nitrogen. Blew well down to zero pressure and shut-in. Moved out rig.

TUBING DETAILS

Derrick floor to top of tubing	0'-8.35'
160 jts. 2-7/8" 8rd., EUE, J-55	8.35'-4983'
KBMG mandrel w/BK valve 1050 psi	4983'-4995'
30 jts. 2-7/8" tubing	4995'-5914'
KBMG mandrel w/BK valve 1025 psi	5914'-5925'
28 jts. 2-7/8" tubing	5925'-6784'
KBMG mandrel w/BK valve 1000 psi	6784'-6795'
26 jts. 2-7/8" tubing	6795'-7589'
KBMG mandrel w/BK valve 975 psi	7589'-7600'
23 jts. 2-7/8" tubing	7600'-8314'
KBMG mandrel w/BK valve 950 psi	8314'-8325'
2 jts. 2-7/8" tubing	8325'-8387'
Baker model "L" sliding sleeve (open)	8387'-8390'
1 jt. 2-7/8" tubing	8390'-8421'
Baker "F" nipple	8421'-8422'
1 jt. 2-7/8" tubing	8422'-8453'
Baker FH hydrostatic packer	8453'-8460'
1 jt. 2-7/8" tubing	8460'-8491'
Baker ball seat & chamfered collar	8491'-8492'

~~Effective Depth 8.148 - 5½ liner~~

~~Hang Bombs 3a I above sleeve~~

Archer - Keed

WIRE LINE SERVICE

205 Baldwin Ave. Ventura, Calif. 93030

VENTURA 642-7061
LONG BEACH 591-0921

SUB-SURFACE DATA

Company So Calif Gas Co Field _____ Date 10-11-73 Run No. _____

Well Std Sesnon #25 Zone _____ Elev. _____

Purpose _____ Status _____

Total Depth _____ Effect. Depth _____

Casing Size _____ Depth _____ Liner Size _____ Top _____ Bottom _____

Perforations _____

Tubing _____

Company So. Calif Gas Co

Well Standard Sesnon 25

Date 10-11-73 Date

Arrive A P Arrive A P

Leave A P Leave A P

Inst. No. 2404 Size 2800PSI

No. Size

Clock No. Hrs.

No. Hrs.

Stylus Marked 8:20 AM A P

Pressure On 8:30 AM A P

Depth 8355' Zero

At Depth Date 10-11-73 Time 8:44 (A)

Off Depth Date 10-12-73 Time 5:50 (R)

Shut In Date 10-11-73 Time 6:00 (S)

Start Press Tbg. Csg. #

Final Press Tbg. Csg. #

Pick-up Temp. F

OBSERVATIONS

Stabilization Period - Hrs.	
Gross Oil Rate - B/D	
Net Oil Rate - B/D	
Formation Gas MCF/D	
Formation Gas - Oil Ratio CFT/BBL	
Circulated Gas MCF/D	
Oil Dry Gravity - °A.P.I.	
Casinghead Pressure - PSIG	
Tubinghead Pressure - PSIG	
Casing Fluid Level - Ft.	

TIME	DEPTH	SCALE	PSI or ↓	TIME	DEPTH	SCALE	PSI or ↓
8/44 AM	8355	1.314	1866	1/40		1.169	15
9/00	32/64 BEAN	1.314	1866	1/50		1.105	15
9/10		1.219	1730 ✓	2/00		1.105	15
9/20		1.190	1689	2/10		1.105	15 ✓
9/30		1.188	1686 ✓	2/20		1.106	15
9/40		1.190	1689	2/30		1.107	15
9/50		1.190	1689 ✓	2/40		1.107	15
10/00		1.189	1687	2/50		1.107	15
10/10		1.190	1689	3/00		1.167	157
10/20		1.191	1690	3/10		1.107	1520
10/30		1.192	1691 ✓	3/15	60/64	1.107	15 ✓
10/40		1.192	1691	3/20	BEAN	1.062	15 ✓
10/50		1.193	1693	3/30		1.040	1474 ✓
11/00		1.194	1694 ✓	3/40		1.043	147
11/10		1.196	1677	3/50		1.055	1496
11/20		1.198	1700	4/00		1.056	1497 ✓
11/30		1.199	1701 ✓	4/10		1.062	150
11/40		1.201	1704	4/20		1.066	151
11/50		1.209	1716	4/30		1.064	1516 ✓
12/00 PM	48/64	1.210	1717 ✓	4/40		1.070	1517
12/10	BEAN	1.183	1677	4/50		1.072	1520
12/20		1.087	1541	5/00		1.073	1521 ✓
12/30		1.082	1534 ✓	5/10		1.073	1521
12/40		1.082	1534	5/20		1.074	1523
12/50		1.084	1537	5/30		1.075	1524
1/00		1.093	1550 ✓	5/40		1.075	1524
1/10		1.097	1556	5/50		1.076	1525
1/20		1.102	1563	6/00		1.077	1527 ✓
1/30		1.102	1564 ✓	/			

COMMENTS Producing w/ 32/64 bean 9:00 AM to 12:PM, 48/64 12:PM to 3:15 PM & 60/64 3:15 PM to 6:00 PM Shutin Well @ 6:00 PM

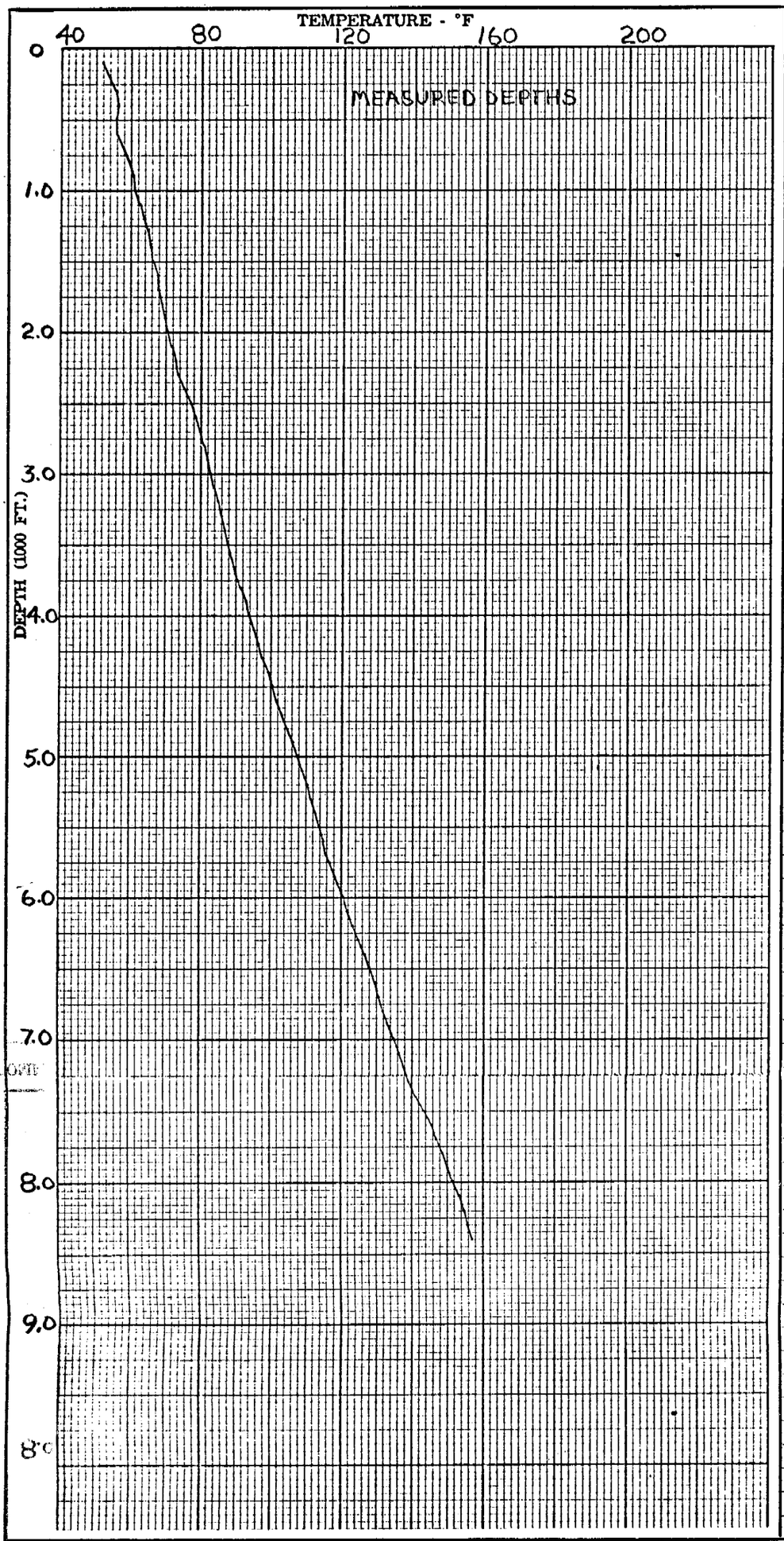
By _____

TECHNICAL SERVICE CO.
801 West 14th Street
Long Beach, California 90813

Phones: 24 Hours
Long Beach - 436-9901
Ventura - - 642-3794

SUB-SURFACE TEMPERATURE DATA

Company: So. California Gas Co. Field: Aliso Canyon Date: March 14, 1974 Run No.:
Well: Standard Sesnon #25 Zone: Elev.: D. F. 8.35'
Purpose: Static Temperature Survey Status: Shut In
Total Depth: Effect. Depth:
Casing Size: Depth: Liner Size: Top: Bottom:
Perforations:
Tubing: 2-7/8" EUE To 8492', KBMG Gas Lift Mandrels @ 4995', 5925', 6795', 7600', 8325', "L" Sliding Sleeve (open) 8390', Baker "FH" Packer @ 8460', Otis "J" Valve 8421'



OBSERVATIONS	
Stabilization Period - Hrs.	
Gross Oil Rate - B/D	
Net Oil Rate - B/D	
Formation Gas MCF/D	
Formation Gas-Oil Ratio CFT/BBL	
Circulated Gas MCF/D	
Oil Dry Gravity - °A.P.I.	
Casinghead Pressure - PSIG	
Tubinghead Pressure - PSIG	
Casing Fluid Level - Ft.	

Traverse Depth Feet	Temperature °F	Traverse Depth Feet	Temperature °F
100	51.8	5100	108.8
200	53.8	5200	110.1
300	55.8	5300	111.3
400	56.2	5400	112.4
500	55.5	5500	113.7
600	55.8	5600	115.0
700	57.5	5700	115.8
800	59.2	5800	117.5
900	60.6	5900	118.8
1000	60.6	6000	120.1
1100	62.3	6100	121.8
1200	63.3	6200	123.3
1300	64.7	6300	124.9
1400	65.7	6400	126.3
1500	66.0	6500	128.0
1600	67.4	6600	129.4
1700	67.7	6700	130.5
1800	68.7	6800	131.9
1900	69.4	6900	133.3
2000	70.4	7000	134.8
2100	71.5	7100	136.3
2200	72.5	7200	137.6
2300	73.5	7300	138.9
2400	75.2	7400	141.0
2500	76.9	7500	143.8
2600	78.3	7600	145.9
2700	79.6	7700	146.6
2800	80.6	7800	148.5
2900	81.4	7900	150.0
3000	82.6	8000	151.8
3100	83.8	8100	153.9
3200	84.8	8200	154.5
3300	86.0	8300	155.7
3400	86.8	8400	156.9
3500	87.4		
3600	88.6		
3700	89.6		
3800	90.8		
3900	92.7		
4000	93.5		
4100	95.0		
4200	96.2		
4300	97.5		
4400	99.2		
4500	100.2		
4600	101.7		
4700	102.8		
4800	104.4		
4900	106.1		
5000	107.4		

COMMENTS: Zero: Mat + 6.35'

By: Worley - Willson - Smith

PRESSURE SURVEY

OTIS ENGINEERING CORPORATION
General Offices: Belt Line Rd. at Webb Chapel
P. O. Box 34380, Dallas, Texas 75234

COMPANY: Southern California Gas Co.		MSO NUMBER: 599567	DATE RUN: 12-20-74
FIELD: Aliso Canyon	LEASE:	WELL: SS 25	SAND:
COUNTY OR PARISH: Los Angeles		STATE: California	

DESCRIPTION

ELEVATION	DATUM: 8410	PERFORATION			T.D.
[X] SHUT-IN [ ] FLOWING	HOURS: 3	FLUID LEVEL	DEPTH REACHED	TUBING PRESSURE	[ ] DWT [ ] GAUGE
SURFACE TEMP. °F	MAX. TEMP. °F	TUBING IN.	TUBING DEPTH	PACKER DEPTH	SLANT HOLE

DEPTH ~~XXXXX~~	~~XXXXXXXXX~~ Deflection	PRESSURE ~~CHANGE~~ psi	GRADIENT PSI / FT
Lub	0.923	2608	
5000	1.058	2986	
6000	1.086	3064	
7000	1.111	3133	
8000	1.133	3194	
8410	1.144	3225	

INSTRUMENT NUMBER: 7374

LAST CALIBRATION DATE: 12-3-74

PRESSURE SURVEY

DATE OF LAST SURVEY:

LAST MAXIMUM:

THIS MAXIMUM:

CHANGE SINCE LAST SURVEY:

CALCULATED BY: D. Lewis

REMARKS:

OEC-156-C

PRINTED IN U.S.A.

PRESSURE SURVEY

OTIS ENGINEERING CORPORATION
General Offices: Belt Line Rd. at Webb Chapel
P. O. Box 34380, Dallas, Texas 75234

COMPANY: Southern California Gas Co.		MSO NUMBER: 599567	DATE RUN: 12-20-74
FIELD: Aliso Canyon	LEASE:	WELL: SS 25	SAND:
COUNTY OR PARISH: Los Angeles		STATE: California	

DESCRIPTION

ELEVATION:	DATUM: 8410	PERFORATION:			T.D.:
[X] SHUT-IN [ ] FLOWING HOURS: 3		FLUID LEVEL:	DEPTH REACHED:	TUBING PRESSURE:	[ ] DWT [ ] GAUGE
SURFACE TEMP. °F	MAX. TEMP. °F	TUBING IN.	TUBING DEPTH:	PACKER DEPTH:	SLANT HOLE:

DEPTH ~~XXXXXX~~	~~XXXXXXXXXXXX~~ Deflection	PRESSURE ~~CHANGE~~ psi	GRADIENT PSI / FT
Lub	0.923	2608	
5000	1.058	2986	
6000	1.086	3064	
7000	1.111	3133	
8000	1.133	3194	
8410	1.144	3225	

INSTRUMENT NUMBER: 7374

LAST CALIBRATION DATE: 12-3-74

PRESSURE SURVEY

DATE OF LAST SURVEY	
LAST MAXIMUM	
THIS MAXIMUM	
CHANGE SINCE LAST SURVEY	

CALCULATED BY: D. Lewis

REMARKS

SED 01521
AC_CPUC_0000488

PRESSURE SURVEY

OTIS ENGINEERING CORPORATION
General Offices: Belt Line Rd. at Webb Chapel
P. O. Box 34380, Dallas, Texas 75234

COMPANY: Southern California Gas Co.		MSO NUMBER: 599567	DATE RUN: 12-20-74
FIELD: Aliso Canyon	LEASE:	WELL: SS 25	SAND:
COUNTY OR PARISH: Los Angeles		STATE: California	

DESCRIPTION

ELEVATION	DATUM: 8410	PERFORATION			T.D.
[X] SHUT-IN [ ] FLOWING HOURS: 3		FLUID LEVEL	DEPTH REACHED	TUBING PRESSURE	[ ] DWT [ ] GAUGE
SURFACE TEMP. °F	MAX. TEMP. °F	TUBING IN.	TUBING DEPTH	PACKER DEPTH	SLANT HOLE

DEPTH ~~CHANGE~~	~~PRESSURE CHANGE~~ Deflection	PRESSURE ~~CHANGE~~ psi	GRADIENT PSI / FT
Lub	0.945	2612	0.0788
5000	1.087	3006	0.0710
6000	1.113	3077	0.0750
7000	1.140	3152	0.0610
8000	1.162	3213	0.0537
8410	1.170	3235	
8590 Datum		3245 (Calculated)	

INSTRUMENT NUMBER: 7519

LAST CALIBRATION DATE: 12-3-74

PRESSURE SURVEY

DATE OF LAST SURVEY:

LAST MAXIMUM:

THIS MAXIMUM:

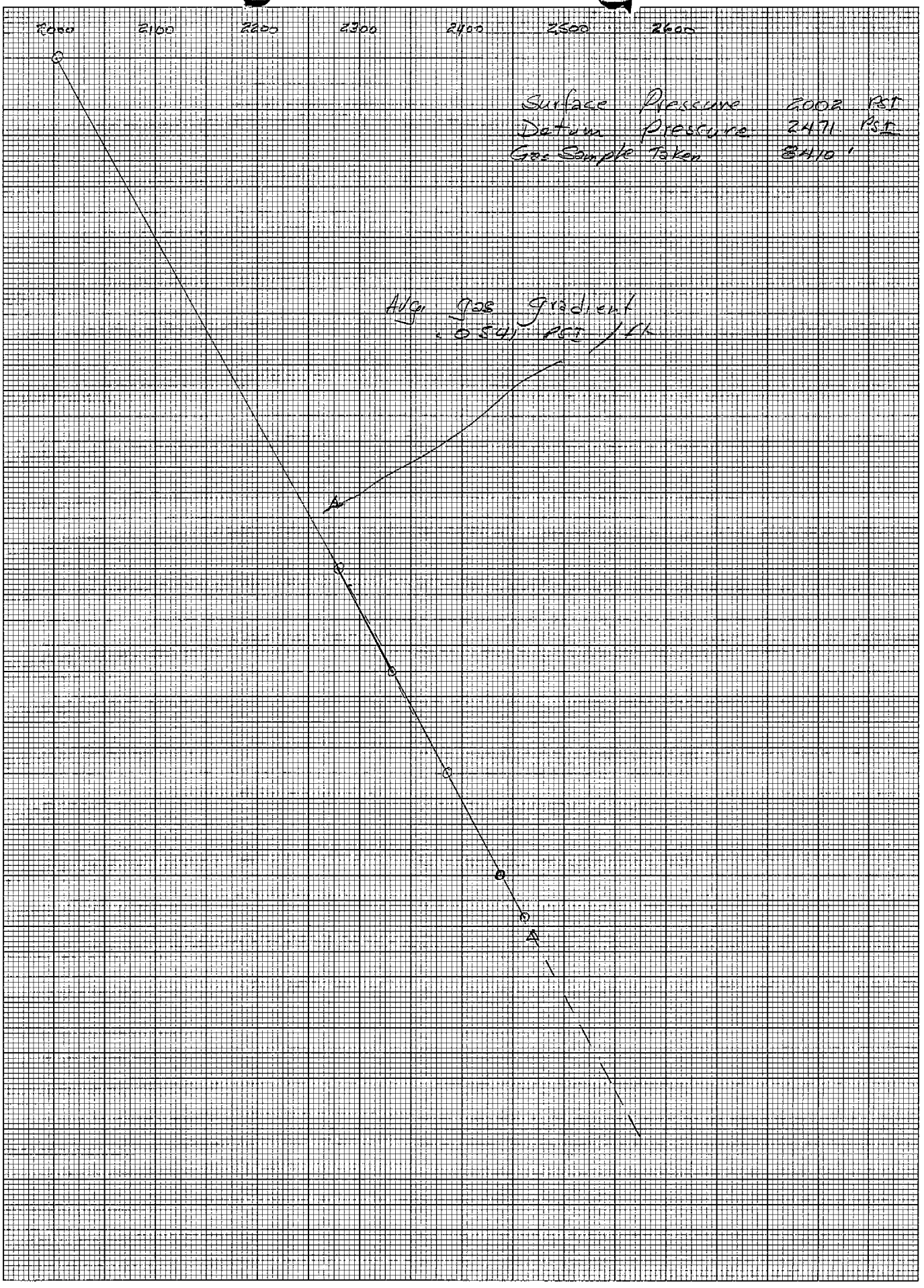
CHANGE SINCE LAST SURVEY:

CALCULATED BY: D. Lewis

REMARKS:

SED 01522
AC_CPUC_0000489

Aliso Canyon. 2-6-75 B.H.P. SS-25



461510

KE 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

PACIFIC LIGHTING SERVICE COMPANY
SUB-SURFACE PRESSURE SURVEY

FIELD Aliso Canyon WELL 55-25 DATE 2-6-75

RECORDER NO. 12827 RUN NO. ___ SHEET NO. 1 OF 1 SHEETS BY Wishon

CLOCK HOURS 1½ TIME CLOCK STARTED 9.58 TIME RUN COMPLETED ___

WELL CONDITION DURING RUN, SHUT IN ___ FLOWING ___ INJECTION ___

HOURS WELL, SHUT-IN ___ FLOWING ___ INJECTION ___ BEFORE RUN ___

WELL HEAD PRESSURE
- TUBING ___
- CASING ___

FLOW RATE
- GAS MCF/D ___
- OIL BBL'S/D ___
- WATER BBL'S/D ___
- GOR ___

MAXIMUM TEMPERATURE 166°

ZERO POINT 6.35'

PICK-UP ___

DATUM 8390'

	SIZE	DEPTH
TUBING	___	___
CASING	___	___
CASING SHOE		___
LINER	___	
TOP		___
BOTTOM		___
PERFORATION		
TOP		___
BOTTOM		___

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	STYLUS DEFLECTION	PRESSURE	GRADIE PSI/100
0		1.035	2001.93	
5000		1.179	2279.92	.0556
6000		1.206	2332.05	.0521
7000		1.234	2386.10	.0541
8000		1.261	2438.22	.0521
8410'		1.273	2461.39	.0565
		Avg. Gas Gradient		.0541
			2471.09	

SPECIAL INSTRUCTIONS: Otis "J" Value 8421' 180

BY ___

REMARKS: 21 min on clock
Same Sampler
11:31 Start
11:52 Sample Taken @ 8410' 2 Samples #1 1310 PSI
Well Shut-in 1:30 PM. 2-5-75 #2 710 PSI

FIELD OPERATOR Reed

CHART READ BY Wishon

PLS FORM 501

SED 01524
AC_CPUC_0000482

MERCHANDISE AND SERVICE ORDER

OEC-110F

OTIS

Otis Engineering Corporation
A HALLIBURTON Company

P. O. BOX 34380 · DALLAS, TEXAS 75234
AREA CODE 214-242-8668

INVOICE TO:
SOUTHERN CALIFORNIA GAS Company
12801 NO. TAMPA AVE
NORTHRIDGE CALIFORNIA

ORDER NO. **599671**
SEE ORDER NO. (ACCT. ONLY)

We hereby request OTIS ENGINEERING CORPORATION to come to the well location of

OWNER NAME

WORK ORDER BY (SIGNATURE)

LEASE | API WELL NO. 55-25

OWNER WELL NO. 55-25

FIELD OR AREA: Aliso Canyon | STATE: CALIFORNIA

FEDERAL WATERS ☐ YES ☒ NO | COUNTY PARISH: Los Angeles

and hereby agree that its work shall be performed under the terms & conditions on reverse side hereof.

(ACCOUNT ONLY) | DATE 3-7-75

SALES CREDIT 443 | ST. | INV. CR. 443 | TAX

CUSTOMER ORDER NO.

END USE CODE 1 0 1 5 0 1

SUB SURFACE SAFETY VALVE WAS:
☐ PULLED & RERUN ☐ PULLED ☐ RUN

TYPE LOCK | DEPTH | TYPE VALVE

BEAN SIZE | SPACERS

TUBING PRESSURE | CASING PRESSURE

TUBING SIZE | WELL DEPTH

TREE CONNECTION

TYPE OF EQUALIZING SUB.

UNIT OR VIA 1960

SERVICE CODE	SERVICE, RENTAL AND THIRD PARTY CHARGES	TL UNITS	UNIT PRICE	AMOUNT
1 0 0 0 0 0	W/L Truck & Crew Land RR Smap 0800-1100	3	38.50	
1 0 0 0 0 0	W/L Truck & Crew Land RR Smap 1100-1200	1	28.50	
1 3 2 2 2 0	Use of 1½" Hydraulic JARS	1	50.00	
1 0 8 0 9 9	FROM: SFS 60 MILES TO LOCATION OR DOCK; TO: SFS 60 MILES FROM LOCATION OR DOCK	120	.75	

MATERIAL FURNISHED AND/OR DESCRIPTION OF OPERATION

CODE	PART NUMBER OR DATE	SIZE, TYPE AND DESCRIPTION	QTY.	UNIT PRICE	AMOUNT
	3-7-75	Rigged up Attempt To Pull SLOCK BAKER W			
		"J" Safety Valve From 8422' - SHeared off			
		2 Times Ran Hyd. JARS. Pulled From 8422'			
		Rigged down			

CUSTOMER'S FIELD COPY

SERVICE PERFORMED AND/OR MERCHANDISE DELIVERED BY:

EMPLOYEE	HRS	EMPLOYEE	HRS
D.L EVANS			
R-LEWIS			

CUSTOMER NAME: SO. CA. GAS CO.
APPROVED BY: W. M. J. Smith
OFF. MGR. APPROVAL | INVOICE NO. | INVOICE DATE

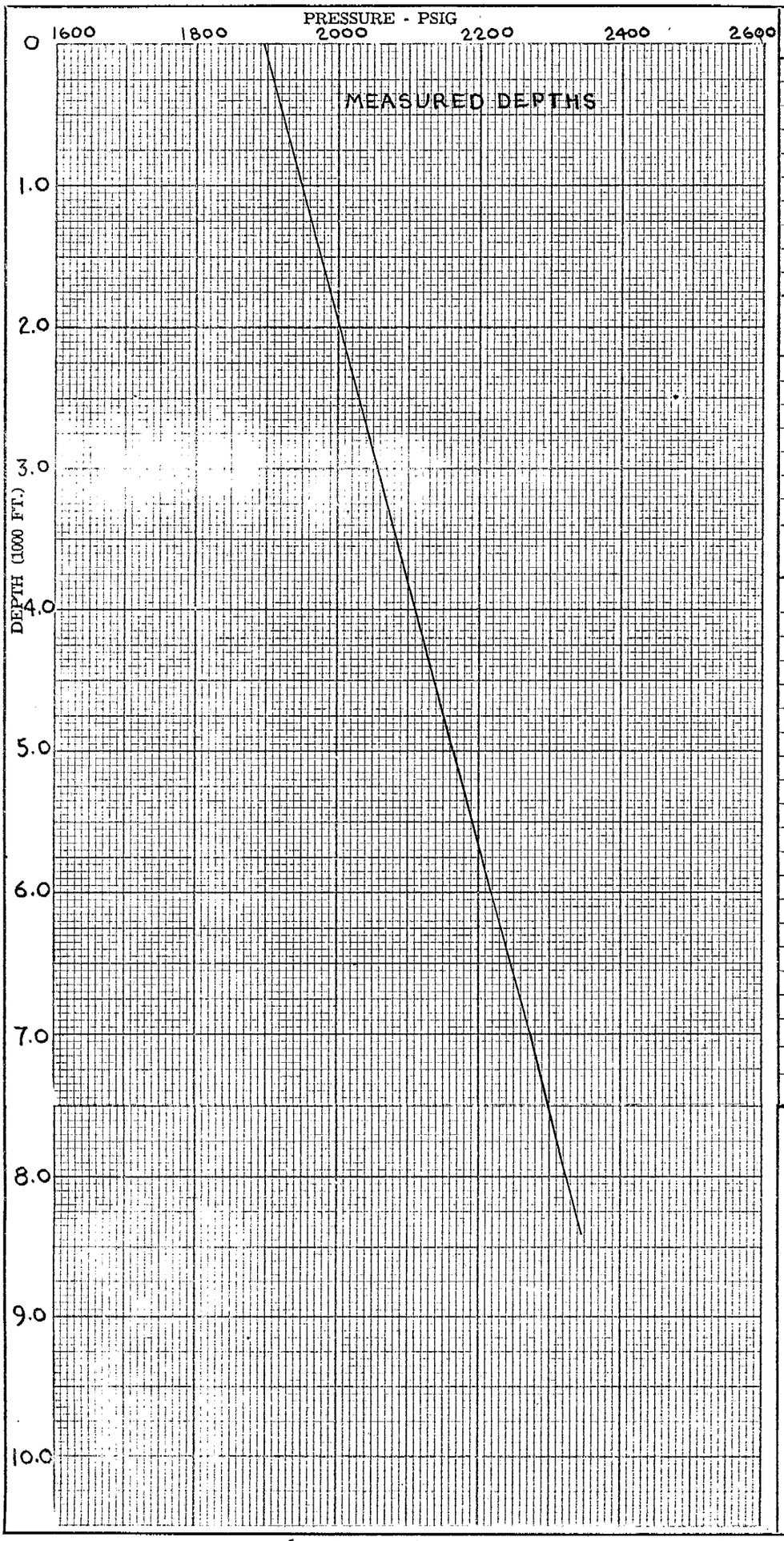
SED 01525 AC_CPUC_0000664

TECHNICAL SERVICE CO.
801 West 14th Street
Long Beach, California 90813

Phones: 24 Hours
Long Beach - 436-9901

SUB-SURFACE PRESSURE DATA

Company: So. California Gas Co. Field: Aliso Date: 4-30-75 Run No.:
Well: S. S. 25 Zone: Elev.: D. F. 8.35'
Purpose: Static Pressure Gradient Survey Status: Shut In
Total Depth: Effect. Depth:
Casing Size: Depth: Liner Size: Top: Bottom:
Perforations:
Tubing: 2-7/8" EUE to 8492', KBMG G. L. Mandrels @ 4983', 5914', 6784', 7589', 8314', "L" Sliding Sleeve (open) @ 8387', Baker "FH" Packer @ 8455'



OBSERVATIONS

Stabilization Period - Hrs.	
Gross Oil Rate - B/D	
Net Oil Rate - B/D	
Formation Gas MCF/D	
Formation Gas-Oil Ratio CFT/BBL	
Circulated Gas MCF/D	
Oil Dry Gravity - °A.P.I.	
Casinghead Pressure - PSIG	
Tubinghead Pressure - PSIG	1895
Casing Fluid Level - Ft.	

RESULTS

Gross Productivity Index	B/D PSI
Net Productivity Index	B/D PSI
Static M.E.P. - Run No.	PSI
Static M.E.P. - Projected	PSI
Gross Absolute Potential	B/D
Net Absolute Potential	B/D
Datum Pressures:	

Traverse Depth MD Feet	Pressure PSIG	Gradient PSI/FT
0	1895	
5000	2164	0.054
6000	2218	0.054
7000	2273	0.055
8000	2323	0.050
8410	2345	0.054

COMMENTS: Zero: Mat + 6.35'. Maximum temperature not recorded.

By Snider - Smith

SED 01526
AC_CPUC_0000474

PACIFIC LIGHTING SERVICE COMPANY
SUB-SURFACE PRESSURE SURVEY

FIELD Aliso Canyon WELL Standard Sesnon 25 DATE 4-30-75

RECORDER NO. 4770 RUN NO. ____ SHEET NO. ____ OF ____ SHEETS BY ____

CLOCK HOURS 3 TIME CLOCK STARTED ____ TIME RUN COMPLETED ____

WELL CONDITION DURING RUN, SHUT IN ____ FLOWING ____ INJECTION ____

HOURS WELL, SHUT-IN ____ FLOWING ____ INJECTION ____ BEFORE RUN ____

WELL HEAD PRESSURE

TUBING 1895

CASING ____

FLOW RATE

GAS MCF/D ____

OIL BBL'S/D ____

WATER BBL'S/D ____

GOR ____

MAXIMUM TEMPERATURE --

ZERO POINT 6.35'

PICK-UP ____

DATUM 8590'

	SIZE	DEPTH
TUBING		
CASING		
CASING SHOE		
LINER		
TOP		
BOTTOM		
PERFORATION		
TOP		
BOTTOM		

SURVEY DATA

DEPTH		STYLUS DEFLECTION	PRESSURE	GRADIENT PSI/100 F
MEASURED	VERTICAL			
0		.991	1895	
5000		1.132	2164	0.054
6000		1.160	2218	0.054
7000		1.189	2273	0.055
8000		1.215	2323	0.050
8410		1.227	2345	0.054

SPECIAL INSTRUCTIONS: ____

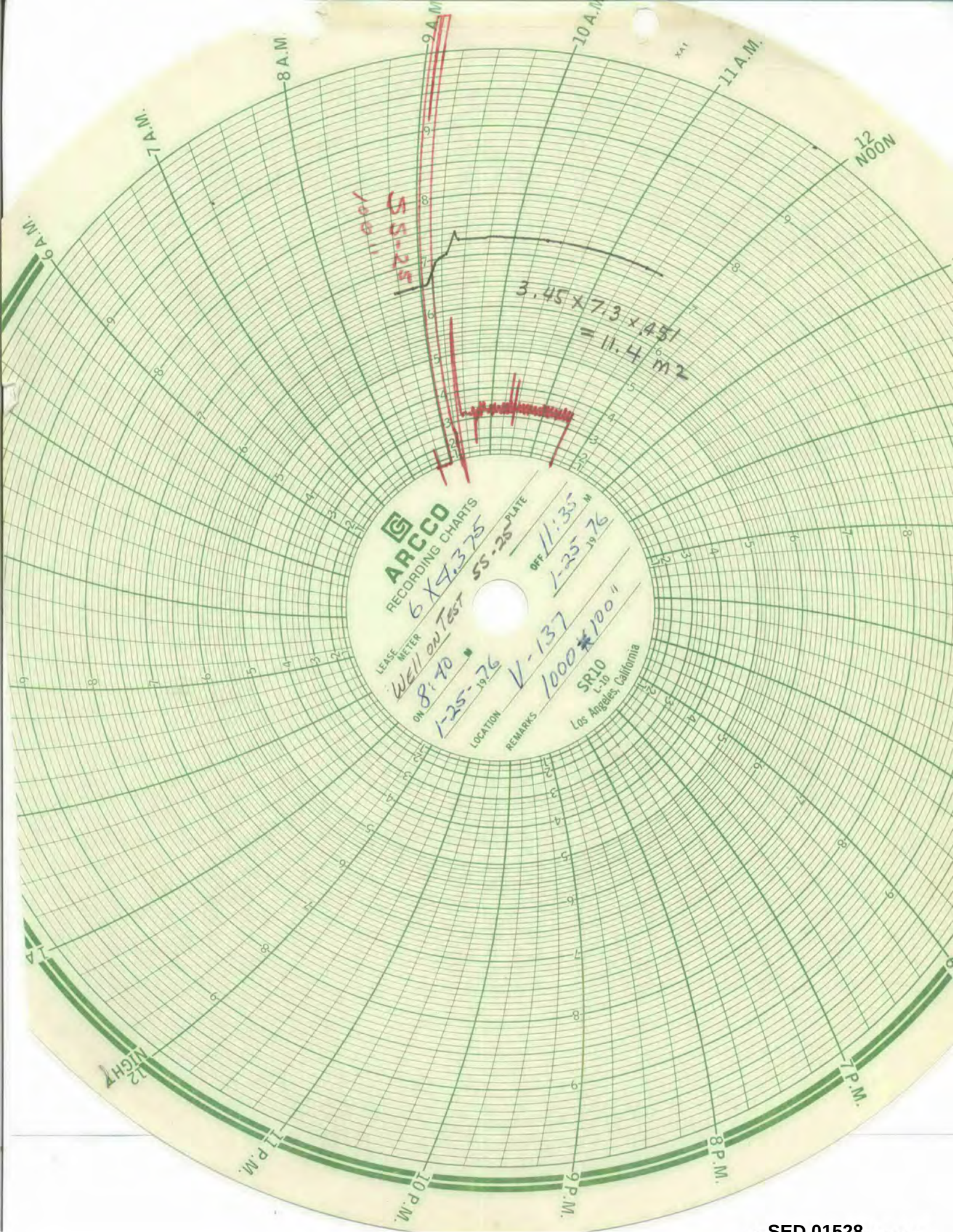
BY ____

REMARKS: Unit 1 Survey sequence #7

FIELD OPERATOR Snider

CHART READ BY Smith

PLS FORM 501



ARCCO
RECORDING CHARTS
LEASE METER 6 X 4.375
PLATE 55-25
ON 8:40 1-25-1976
OFF 11:35 1-25-1976
LOCATION V-137
REMARKS 1000 # 100"
SR10 L-10
Los Angeles, California
3.45 X 7.3 X .451
= 11.4 m2
55-25
100"
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT

INSTRUMENT SERVICE

Gary Foster
2960 N. Ventura Ave.
Ventura, California 93001
Phone 805-649-2228
Bakersfield 805-324-2208

So. Calif. Gas Co.

Aliso Canyon

Company So. Calif. Gas Co. Field Aliso Canyon Date 4-20-76 /

Well SS-25 Tubing PSI / Casing PSI /

Purpose BHT Survey @ 100' per min. Status Shut in

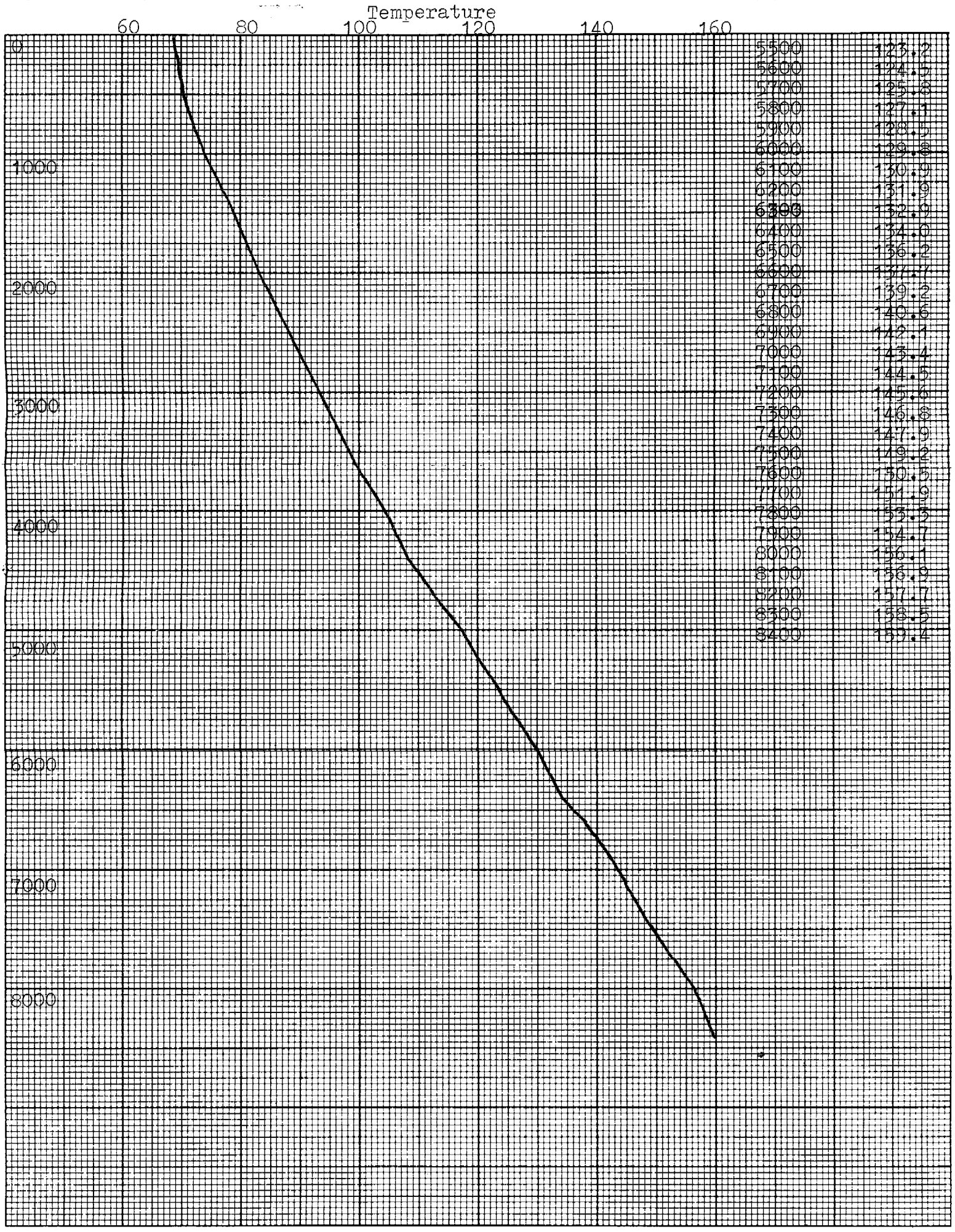
Total Depth Zero

Casing Size Depth Liner Size Top Bottom

Perforations

Tubing 2 7/8" Hung to 8492

Depth	Temp.	1300	77.0	2700	90.2	4100	105.3
0	68.8	1400	78.1	2800	91.1	4200	106.2
100	69.1	1500	79.0	2900	92.3	4300	107.3
200	69.5	1600	79.8	3000	93.3	4400	108.1
300	69.8	1700	80.7	3100	94.4	4500	109.5
400	70.1	1800	81.5	3200	95.3	4600	111.0
500	70.3	1900	82.4	3300	96.4	4700	112.5
600	71.1	2000	83.2	3400	97.2	4800	114.0
700	71.8	2100	84.1	3500	98.2	4900	115.6
800	72.6	2200	85.2	3600	99.4	5000	117.1
900	73.4	2300	86.2	3700	100.6	5100	118.3
1000	74.0	2400	87.2	3800	101.9	5200	119.5
1100	75.0	2500	88.1	3900	103.1	5300	120.8
1200	76.2	2600	89.1	4000	104.3	5400	122.0



INSTRUMENT SERVICE
Gary Foster
2960 N. Ventura Ave.
Ventura, California 93001
Phone 805-649-2228
Bakersfield 805-324-2208

So. Calif. Gas Co.

Aliso Canyon

Company So. Calif. Gas Co. Field Aliso Canyon Date 4-20-76 /

Well SS-25 Tubing PSI / Casing PSI /

Purpose BHT Survey @ 100' per min. Status Shut in

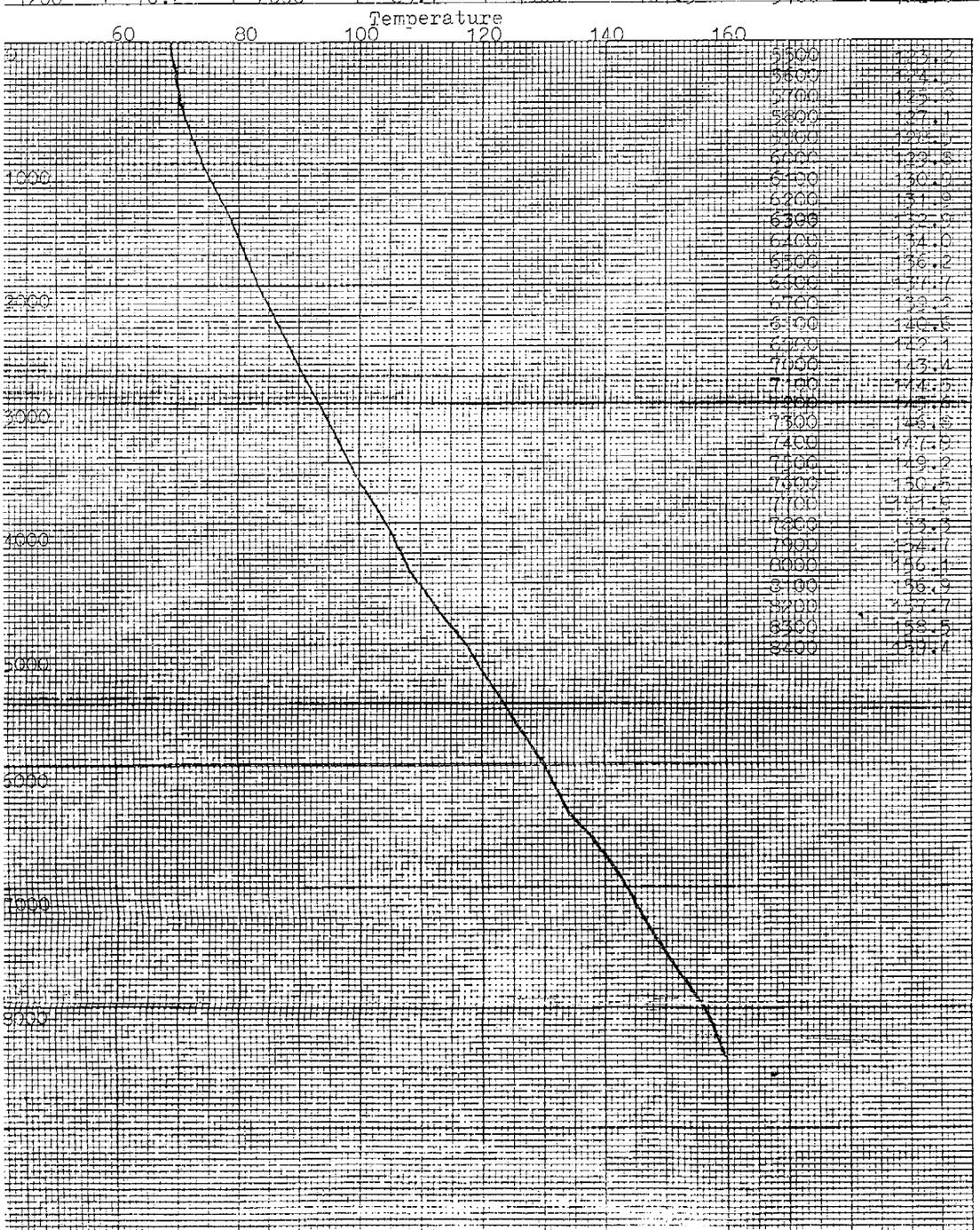
Total Depth Zero

Casing Size Depth Liner Size Top Bottom

Perforations

Tubing 2 7/8" Hung to 8492

Depth	Temp.	1300	77.0	2700	90.2	4100	105.3
0	68.8	1400	78.1	2800	91.1	4200	106.2
100	69.1	1500	79.0	2900	92.3	4300	107.3
200	69.5	1600	79.8	3000	93.3	4400	108.1
300	69.8	1700	80.7	3100	94.4	4500	109.5
400	70.1	1800	81.5	3200	95.3	4600	111.0
500	70.3	1900	82.4	3300	96.4	4700	112.5
600	71.1	2000	83.2	3400	97.2	4800	114.0
700	71.6	2100	84.1	3500	98.2	4900	115.6
800	72.6	2200	85.2	3600	99.4	5000	117.1
900	73.4	2300	86.2	3700	100.6	5100	118.3
1000	74.0	2400	87.2	3800	101.9	5200	119.5
1100	75.0	2500	88.1	3900	103.1	5300	120.8
1200	76.2	2600	89.1	4000	104.3	5400	122.0



RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Rework Well

This notice and indemnity or cash bond shall be filed, and approval given, before rework begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

FOR DIVISION USE ONLY		
BOND	FORMS	
	114	121

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 3. Public Resources Code, notice is hereby given that it is our intention to rework well No. STANDARD-SESNON #25, API No. _____, Sec. 28, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 8749'

2. Complete casing record, including plugs and perforations:

11 3/4" cemented 990'

7" cemented 8585', seg 8583', WSO 8475'
perforated 8510'-8559'

189' 5 1/2" landed 8748' slotted 8592'-8748'

3. Present producing zone name SESNON Zone in which well is to be recompleted -

4. Present zone pressure 3000 New zone pressure -

5. Last produced Gas Storage Well _____ _____ _____
(Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)

or

6. Last injected _____ _____ _____ _____
(Date) (Water, B/D) (Gas, Mcf) (Surface pressure, psig.)

The proposed work is as follows:

1. Move in rig and kill well. Install B.O.P.E. and pressure test.
2. Pull tubing. Clean out to 8748'.
3. Run packer, tubing and safety valve.

It is understood that if changes in this plan become necessary we are to notify you immediately.

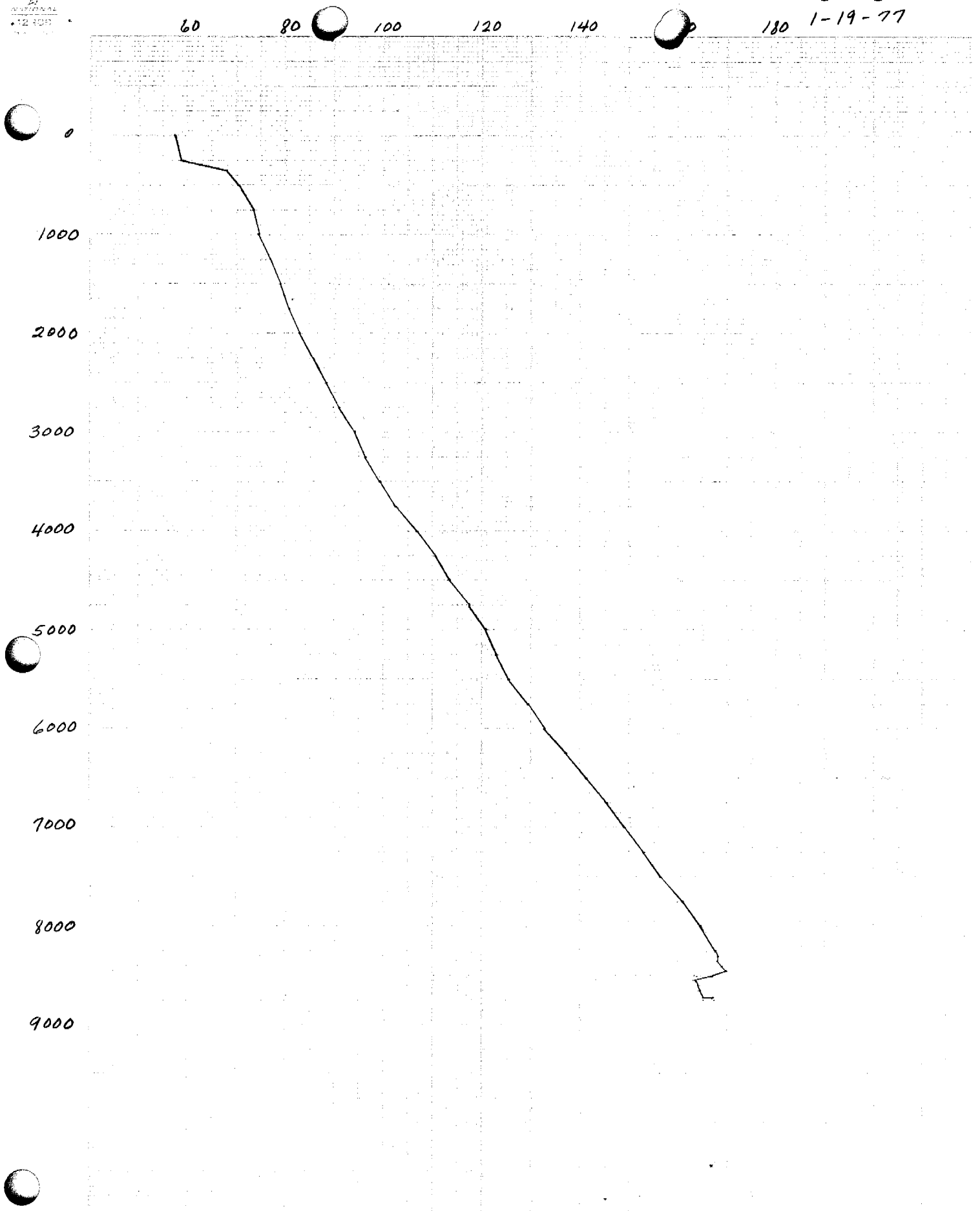
Address P.O. Box 3249, Terminal Annex
(Street)
Los Angeles, California 90051
(City) (State) (Zip)
Telephone Number (213) 689-3561

SOUTHERN CALIFORNIA GAS COMPANY
(Name of Operator)
By P.S. Magruder Jr. 6/16/76
(Name) (Date)
P. S. Magruder, Jr.
Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

OG107 (12-73-GSR1-15M)

55 25
60
100
120
140
160
180
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

55-25
1-19-77


60
80
100
120
140
180
0
1000
2000
3000
4000
5000
6000
7000
8000
9000

SOUTHERN CALIFORNIA GAS COMPANY
SUB-SURFACE TEMPERATURE SURVEY

FIELD Aliso WELL 5525 DATE 1-19-77

RECORDER NO. 39139 RUN NO. ____ SHEET NO. ____ OF ____ SHEETS BY Crum

CLOCK HOURS 3 TIME CLOCK STARTED 8:58 TIME RUN COMPLETED 11:21

WELL CONDITION DURING RUN, SHUT-IN ✓ FLOWING ____ INJECTION ____

HOURS WELL, SHUT-IN ____ FLOWING ____ INJECTION ____ BEFORE RUN ____

WELL HEAD PRESSURE

TUBING 2060 #

CASING 2070 #

FLOW RATE

GAS MCF/D ____

OIL BBL'S/D ____

WATER BBL'S/D ____

GOR ____

AMBIENT TEMPERATURE ____

ZERO POINT Master Valve - 8'

PICK-UP ____

DATUM ____

FLUID LEVEL ____

	SIZE	DEPTH
TUBING		
CASING		
CASHING SHOE		
LINER		
TOP		
BOTTOM		

PERFORATION

TOP ____

BOTTOM ____

SPECIAL INSTRUCTIONS

Press on 9:19

Press off 11:14

BY ____

REMARKS — USE REVERSE SIDE 88

FIELD OPERATOR

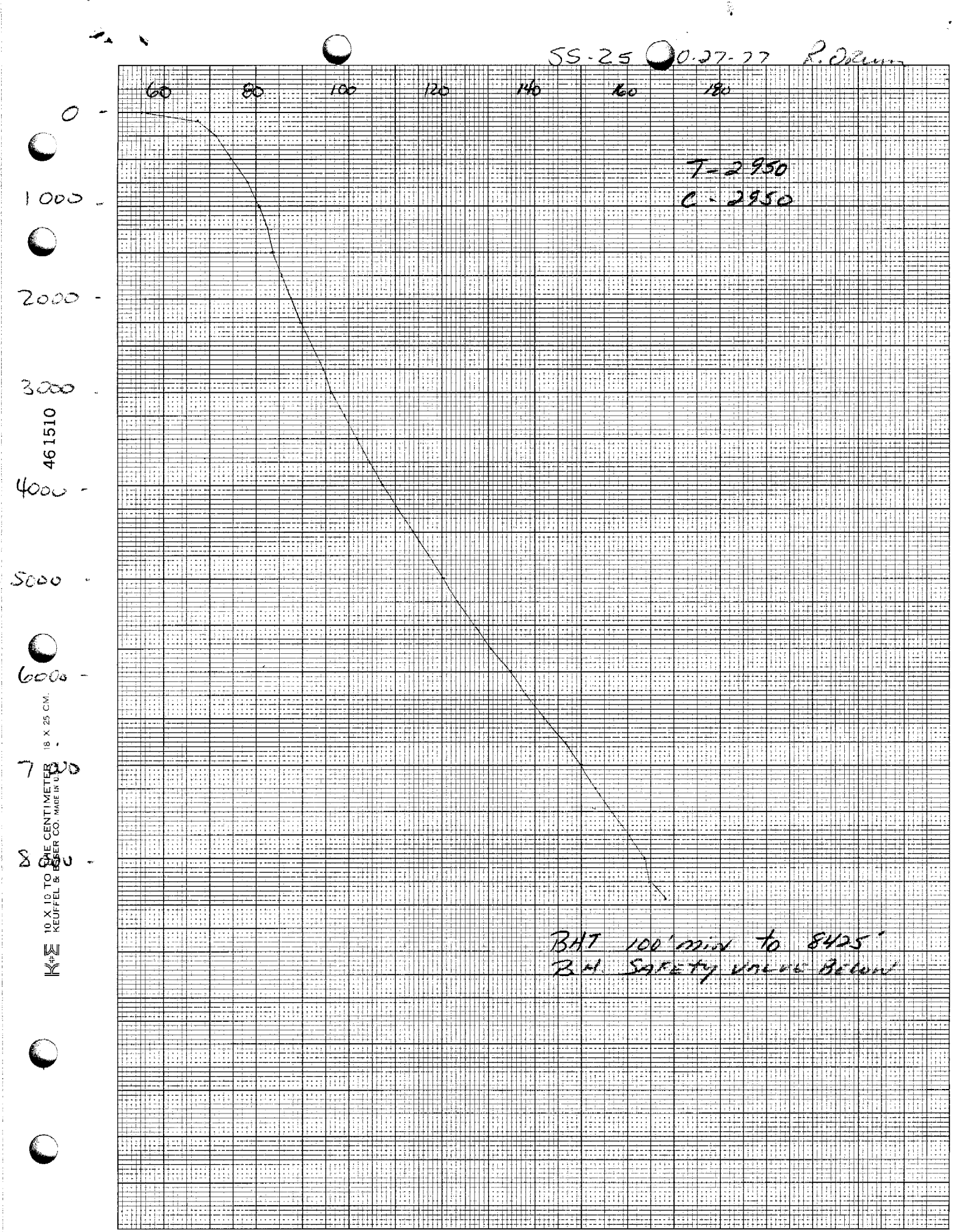
CHART READ BY

SOUTHERN CALIFORNIA GAS CO.—4295

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	TIME	STYLUS DEFLECTION	TEMPERATURE
0	St Dn. 0	9:21	.075	57.6
250	2	9:23	.079	58.7
500	5	9:26	.121	70.2
750	8	9:29	.134	73.4
1000 ✓	10	9:31	.139	74.7
1250	12.5	9:33.5	.148	76.9
1500	15	9:36	.157	79.0
1750	17.5		.165	80.8
2000 ✓	20	9:41	.174	82.9
2250	22.5		.186	85.6
2500	25	9:46	.198	88.3
2750	27.6		.211	90.9
3000 ✓	30	9:51	.227	94.0
3250	32.5		.239	96.3
3500	35	9:56	.255	99.3
3750	38	9:59	.274	102.6
4000 ✓	41	10:02	.299	106.9
4250	43.5	10:04.5	.321	110.4
4500	46	10:07	.347	113.7
4750	48.5	10:09.5	.368	117.6
5000 ✓	51	10:12	.390	120.8
5250	53	10:14	.405	122.9
5500	55	10:16	.424	125.5
5750	57.5		.453	129.4
6000 ✓	60	10:21	.480	132.8
6250	63		.515	137.2
6500	66	10:27	.550	141.4
6750	68½	10:29.5	.585	145.5
7000 ✓	71	10:32	.617	149.1
7250	73.5	10:34.5	.651	152.9
7500	76	10:37	.681	156.6
7750	78.5	10:39.5	.729	160.8
8000 ✓	81	10:42	.764	164.3
8250	83.5	10:44.5	.797	167.6
8500	86	10:47	Over	
8713	ON Bottom 88	10:49		
	OFF Bottom	10:52		

8300	84	.803	168.2
8350	84½	.801	168
8400	85	.810	168.8
8450	85½	.822	170.0
8500	86	.792	167.1
8550	86½	.757	163.6
8600	87	.760	163.9
8650	87½	.763	164.2
8713	88	.771	~~165.0~~
—	90	.793	167.2


SS-25 0-27-77 R. Orum
60
80
100
120
140
160
180
0
1000
2000
3000
4000
5000
6000
7000
8000
T-2950
C-2950
BHT 100' min to 8425'
B.H. Safety valve Below
461510
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

PACIFIC LIGHTING SERVICE COMPANY

SUB-SURFACE TEMPERATURE SURVEY

FIELD Aliso WELL 55 25 DATE 10-27-77

RECORDER NO. 41020 RUN NO. ___ SHEET NO. ___ OF ___ SHEETS BY Smith

CLOCK HOURS 3 TIME CLOCK STARTED 8 27 TIME RUN COMPLETED 10 27

WELL CONDITION DURING RUN, SHUT-IN ___ FLOWING ___ INJECTION ___ .027734

HOURS WELL, SHUT-IN ___ FLOWING ___ INJECTION ___ BEFORE RUN ___

WELL HEAD PRESSURE

TUBING 2950 5 Valve Control

CASING 2950

FLOW RATE

GAS MCF/D ___

OIL BBL'S/D ___

WATER BBL'S/D ___

GOR ___

AMBIENT TEMPERATURE ___

ZERO POINT (7) Master Valve

PICK-UP ___

DATUM ___

FLUID LEVEL ___

	SIZE	DEPTH
TUBING	___	___
CASING	___	___
CASHING SHOE		___
LINER	___	
TOP		___
BOTTOM		___

PERFORATION

TOP ___

BOTTOM ___

SPECIAL INSTRUCTIONS 100' min

8425' 5. Valve at

8449

BY ___

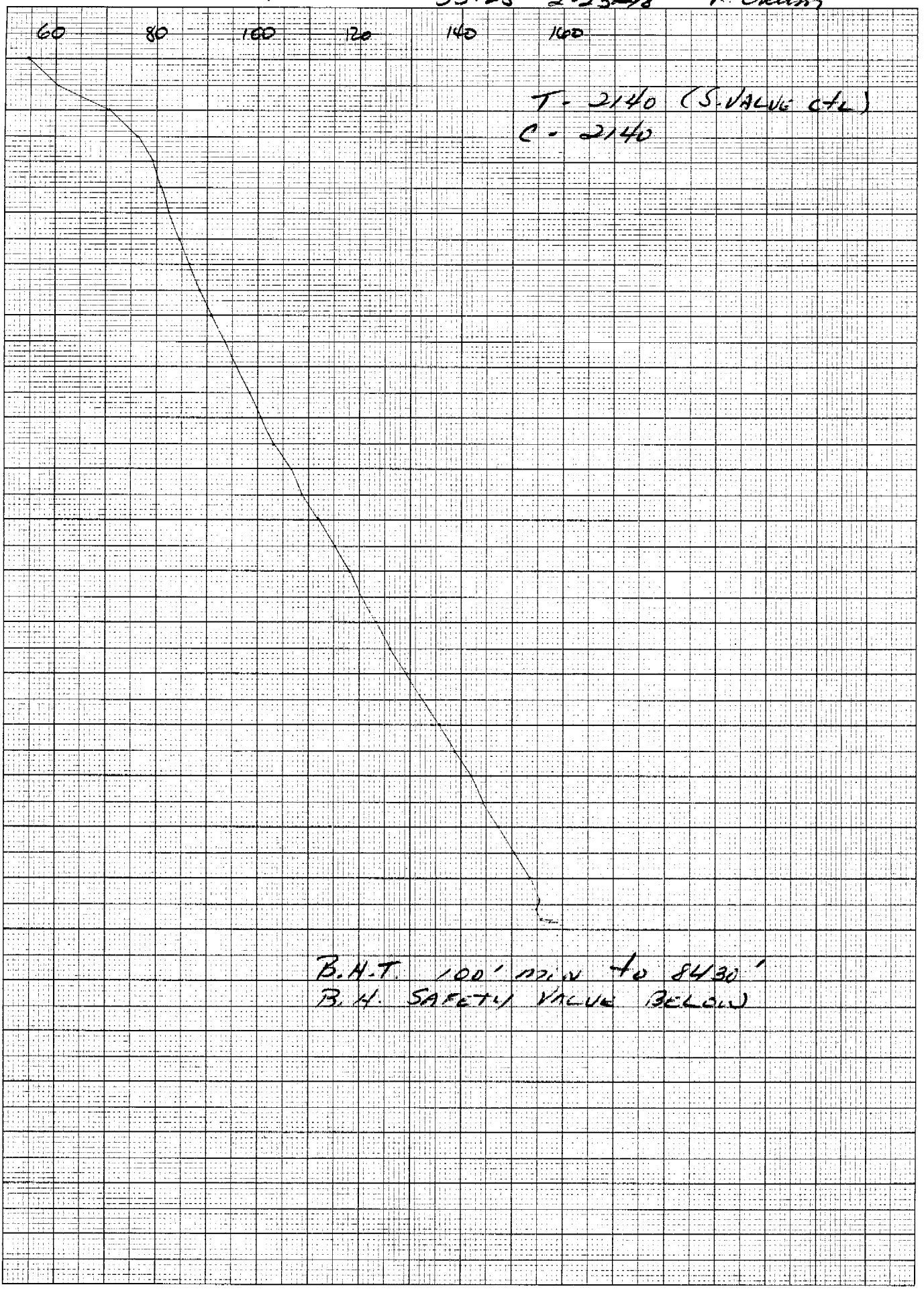
REMARKS - USE REVERSE SIDE

FIELD OPERATOR

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	TIME	STYLUS DEFLECTION	TEMPERATURE
0/100	54 dn	8 42	.066/.111	55.1/67.7
250	2.375		.125	71.2
500	4.75	8 44 3/4	.138	74.4
750	7.375		.154	78.3
1000 x	10	8 52	.165	80.6
1250	12.5		.173	82.4
1500	15	8 57	.179	83.7
1750	17.5		.188	85.6
2000 x	20	9 02	.197	87.6
2250	22.375		.207	89.6
2500	24.75	9 04 3/4	.219	92
2750	27.25		.231	94.4
3000 x	2975	9 11 3/4	.240	96.2
3250	32.25		.255	99.1
3500	34.75	9 16 3/4	.270	101.8
3750	37.25		.285	104.6
4000 x	39.75	9 21 3/4	.300	107.3
4250	42.25		.320	110.6
4500	44.75	9 26 3/4	.340	113.9
4750	47.25		.360	117.2
5000 x	4975	9 31 3/4	.380	120.4
5250	52.25		.400	123.6
5500	54.75	9 36 3/4	.423	127
5750	57.25		.448	130.6
6000 x	59.75	9 41 3/4	.479	134.8
6250	62.375		.502	138
6500	65	9 47	.534	142.1
6750	67.5		.573	146.8
7000 x	70	9 52	.600	150
7250	72.5		.629	153.1
7500	75	9 57	.663	156.8
7750	77.625		.697	160.4
8000	80.25	10 02 1/4	.731	163.7
8250	82.75		.742	164.8
8425	84.5	10 06 1/2	.777	168.1
	89.5	10 16 1/2	.778	168.2

SS FORM 500



No. R 247 00-C (19-0610) 10 Div. to a cm. • Made in U.S.A.
VERNON ROYAL INC., ELIZABETH, N.J. 07208

SUB-SURFACE TEMPERATURE SURVEY

FIELD Aliso Cyn WELL SS-25 DATE 2-23-78

RECORDER NO. 3938 RUN NO. ___ SHEET NO. ___ OF ___ SHEETS BY Orum

CLOCK HOURS 3 TIME CLOCK STARTED 7:59 TIME RUN COMPLETED 9:59

WELL CONDITION DURING RUN, SHUT-IN X FLOWING ___ INJECTION ___ .0278

HOURS WELL, SHUT-IN ___ FLOWING ___ INJECTION ___ BEFORE RUN ___

WELL HEAD PRESSURE

TUBING 2140

CASING 2140

FLOW RATE

GAS MCF/D ___

OIL BBL'S/D ___

WATER BBL'S/D ___

GOR ___

AMBIENT TEMPERATURE ___

ZERO POINT 7' M' VALVE

PICK-UP 8430 B.H. S/V

DATUM ___

FLUID LEVEL ___

	SIZE	DEPTH
TUBING		
CASING		
CASHING SHOE		
LINER		
TOP		
BOTTOM		
PERFORATION		
TOP		
BOTTOM		

SPECIAL INSTRUCTIONS ___

100' per Min.

PRESS ON - 8:08

BY ___

REMARKS.- USE REVERSE SIDE

Barnes

FIELD OPERATOR

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	TIME	STYLUS DEFLECTION	TEMPERATURE
0	St Dn	8:13	.063	54.5
250	2.42	8:15 05 Sec	.083	60.6
500	4.88	8:17 53 Sec	.119	70.7
750	7.44		.140	76.2
1000 ~	10	8:23	.152	79.2
1250	12.415		.160	80.9
1500	14.83	8:27 50 Sec	.167	82.4
1750	17.415		.178	84.7
2000 ~	20	8:33	.187	86.6
2250	22.415		.196	88.5
2500	24.83	8:37 50 Sec	.208	90.8
2750	27.455		.222	93.5
3000 ~	30.08	8:43 5 Sec	.234	95.8
3250	32.575		.248	98.4
3500	35.07	8:48 4 Sec	.261	100.6
3750	37.535		.276	103.1
4000 ~	40	8:53	.298	106.7
4250	42.415		.311	108.7
4500	44.83	8:57 50 Sec	.332	112
4750	47.29		.353	115.2
5000 ~	49.75	9:02 3/4	.373	118.1
5250 ~	52.125		.391	120.6
5500	54.5	9:07 1/2	.410	123.3
5750	56.915		.430	126.1
6000 ~	59.33	9:12 20 Sec	.455	129.5
6250	61.75		.478	132.5
6500	64.17	9:17 10 Sec	.504	135.8
6750	66.67		.528	138.8
7000 ~	69.17	9:22 10 Sec	.554	142
7250	71.71		.575	144.4
7500	74.25	9:27 1/4	.601	147.4
7750	76.79		.629	150.6
8000 ~	79.33	9:32 20 Sec	.656	153.6
8230	81.75	9:34 3/4	OVER	
8430	83.58	9:36 35 Sec	.692	157.5
	90	9:43	.706	159

OSS FORM 55

Depth	Dens.	Temp
8200	.671	155.3
8225	.671	155.3
8250	.670	155.2
8300	.668	154.9
8400	.676	155.8

Archer - Reed

WIRE LINE SERVICE

13702

205 Baldwin Ave. Ventura, California

WIRE LINE AGREEMENT AND OPERATORS SERVICE RECORD

Service charges include mileage and use of A & R men and equipment on the well. If it is necessary to transport A & R equipment by means other than its own power, service charges at location rates commence upon arrival at place such transportation is to begin. A & R personnel will exert its best efforts to perform work requested but results are not guaranteed and A & R reserves the right to move off of the well at any time if, in its opinion, well conditions render such action advisable. The same charges will be made, regardless of results obtained. If A & R personnel is unable to recover its equipment so used in servicing such well, a charge therefor shall be made at regular retail price, provided that upon recovery of said equipment, if then in general use by A & R, it may be returned for full credit, less cost, if any, of reconditioning. When A & R equipment is transported to locations outside inland waters, an additional charge for marine insurance is to be made.

COMPANY So. Calif Gas Co. LOCATION _____ DATE 6-5-73

FIELD Aliso Canyon LEASE Sesnon WELL NO. 25

CASING SIZE _____ TUBING SIZE _____ RECEIVED BY R. Geddes

DATE		MILEAGE CHARGE:	FROM	TO	MILES	RATE PER MILE	AMOUNT
6-5	73	TO LOCATION	Ventura	Well	50	.50	25.00
6-5	73	FROM LOCATION	Well	Ventura	50	.50	25.00

ON LOCATION CHARGES: DESCRIPTION OF OPERATION	TIME OF ARRIVAL	TIME OF DEPARTURE	HRS.	RATE		
Stand by for Rig To finish Running	1200 AM ~~PM~~	300 ~~AM~~ PM	3	Min	105	00
tubing. Made feeler Run To Ball	AM PM	AM PM				
at 8495 Ran 1 5/8 impression Block	AM PM	AM PM				
to Check for Valve Pulled BK Valve	AM PM	AM PM				
from 8322 Repaired Latch Ran	AM PM	AM PM				
Valve tubing Pressured up set Packer	AM PM	AM PM				
Shut down for the Night	AM PM	AM PM				
Additional Hours	300 ~~AM~~ PM	930 ~~AM~~ PM	6 1/2	25.00	162	50
impression Block Repair	AM PM	AM PM			7	50
	AM PM	AM PM				
	AM PM	AM PM				
	AM PM	AM PM				
TOTAL					325	00

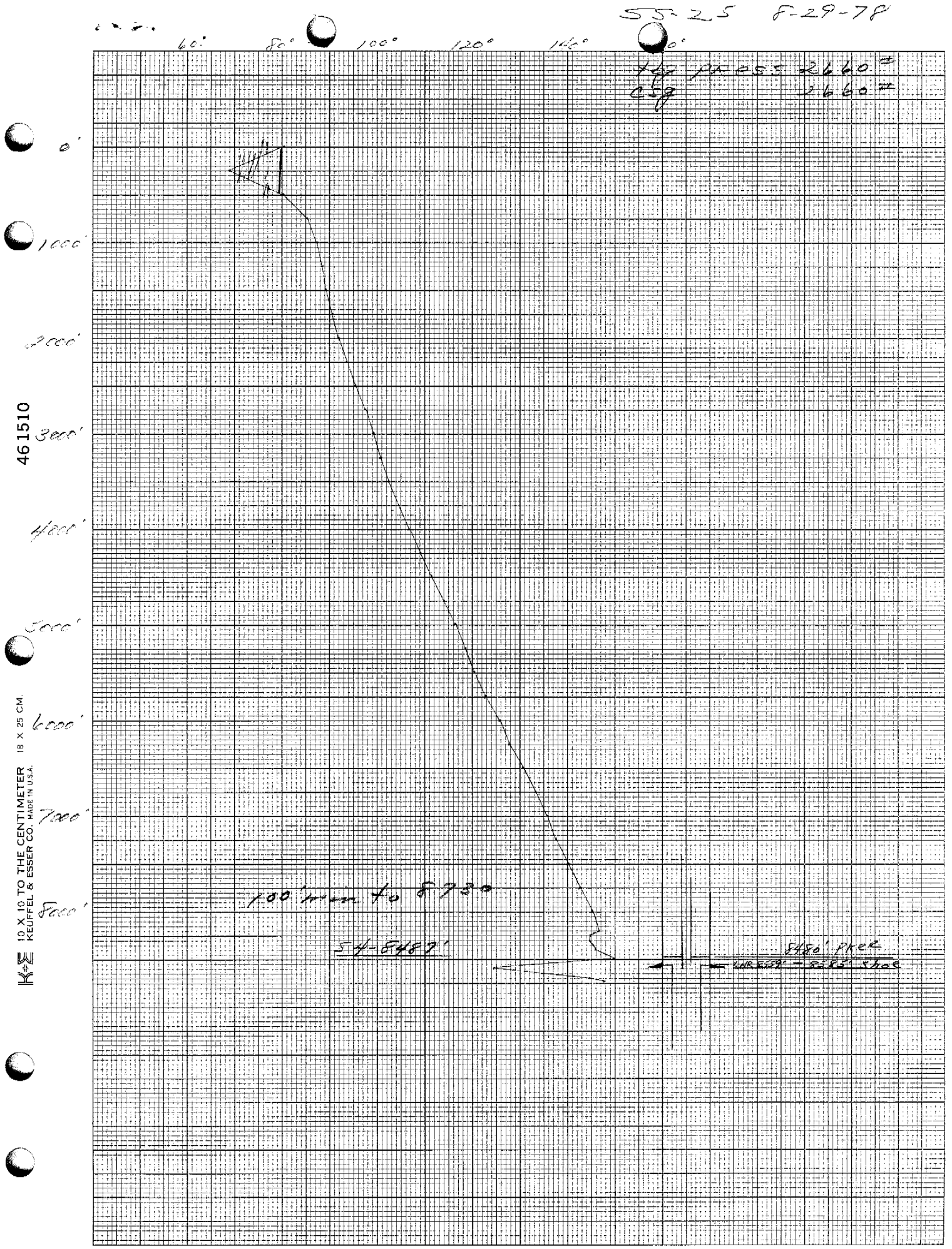
OPERATOR Holland + Gist TRUCK NO. _____ CUSTOMER'S ORDER NO. 97237-86-CC

REMARKS _____

INVOICE COPY

SED 01542

AC_CPUC_0000669


55-25 8-29-78
60°
80°
100°
120°
140°
0°
Tbg press 2660#
Csg 2660#
0'
1000'
2000'
3000'
4000'
5000'
6000'
7000'
8000'
100' min to 8730
54-8487'
8480' PKER
461510
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

0277789 4736

SUB-SURFACE TEMPERATURE SURVEY

FIELD Aliso Cyn WELL 55-25 DATE 8-29-78

RECORDER NO. 39139 RUN NO. ___ SHEET NO. ___ OF ___ SHEETS BY Smith

CLOCK HOURS 3 TIME CLOCK STARTED 10 31 TIME RUN COMPLETED 12 40

WELL CONDITION DURING RUN, SHUT-IN X FLOWING ___ INJECTION ___

HOURS WELL, SHUT-IN 48+ FLOWING ___ INJECTION ___ BEFORE RUN ___

WELL HEAD PRESSURE

TUBING 2660

CASING 2660

FLOW RATE

GAS MCF/D ___

OIL BBL'S/D ___

WATER BBL'S/D ___

GOR ___

AMBIENT TEMPERATURE ___

ZERO POINT 7'

PICK-UP ___

DATUM ___

FLUID LEVEL ___

	SIZE	DEPTH
TUBING		
CASING		
CASHING SHOE		8585
LINER		
TOP		8559
BOTTOM		

PERFORATION

TOP ___

BOTTOM ___

SPECIAL INSTRUCTIONS ___

100' per Min.

PRESS ON - 10 37

BY ___

REMARKS.- USE REVERSE SIDE

FIELD OPERATOR

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	TIME	STYLUS DEFLECTION	TEMPERAT
0	St Dn	10 43	.163	80.3
250		2:61	.157	79.0
500 x		5:22	.162	80.1
750		7:67	.185	85.2
1000 x		10:12	.195	87.4
1250		12.595	.200	88.5
1500		15:07	.203	89.1
1750		17.535	.211	90.7
2000 x		20:00	.218	92.0
2250		22.525	.226	93.6
2500		25:05	.235	95.4
2750		27.46	.246	97.5
3000 x		29:87	.255	99.2
3250		32.385	.264	100.7
3500		34:90	.275	102.6
3750		37.41	.286	104.5
4000 x		39:92	.300	106.9
4250		42.42	.313	109.0
4500		44:92	.327	111.3
4750		47.4	.344	114.0
5000 x		49:88	.360	116.6
5250		52.53	.373	118.6
5500		55:18	.384	120.3
5750		57.715	.400	122.8
6000 x		60:25	.421	125.8
6250		62.75	.436	127.9
6500		65:25	.455	130.6
6750		67.735	.475	133.3
7000 x		70:22	.494	135.9
7250		72.75	.506	137.4
7500		75:28	.527	140.0
7750		77.855	.548	142.7
8000 x		80:43	.568	145.1
8250		82.98	.567	144.9
8500		85:53	.608	149.8
8730		87:92	.590	147.7
		95:00		

SS FORM 5

SED 01544

AC_CPUC_0000440

F000 - $0.43 -

F200 - $2.43 - .582 - 146.2

F225 - $2.68 - .572 - 145.5

~~F250 - $2.98 - .567~~

F300 - $3.48 - .567 - 144.9

F350 - $3.98 - .569 - 145.2

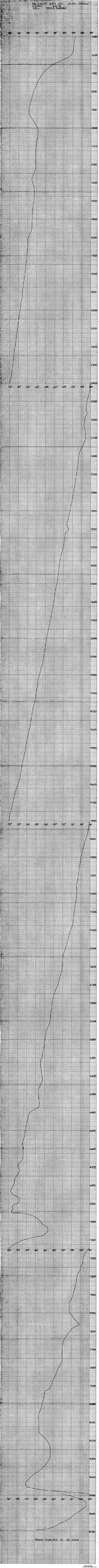
F400 - $4.48 - .575 - 145.9

F450 - $4.98 - .594 - 148.2

~~F500~~

F600 - $6.63 - .412 - 124.5

F700 - $7.92 .566 - 144.8


NO. CALIF. GAS CO. ALEX. CANYON
TEMP. TEMP. A SURVEY
TEMP. SURVEY 13 32 0164

WELL NO: 55-25

TEST NO. & DATE	PROBE NO.	PROBE LOCATION	ERODED AREA (XXX)	AVERAGE INITIAL WEIGHT (gm)	WEIGHT AFTER TEST (gm)	CHANGE IN WEIGHT (mg)	ERODED AREA (sq in)	EROSION FACTOR	CHOKE & TEST Q	RECM'D NEXT CHOKE & TEST Q
6/10, 10-21	613	55 #1	↙	142.2656	142.2644	1.2	2.42	.010	7/1.9 1/1.68	
	614	55 #2	↙	141.6267	141.6255	1.2	2.26	.011		
	615	55 #1	↘	140.3644	140.3631	5.3	3.03	.036		
	616	55 #2	↖	140.4858	140.4821	12.7	2.67	.099		
6/11, 9-21	653	55 #1	↗	143.2305	143.2297	0.8	2.37	.007		
	654	55 #2	↘	143.6487	143.6481	0.6	2.57	.005		
	658	55 #1	↙	138.9160	138.9017	14.3	2.90	.103		
	659	55 #2	↗	137.3695	137.3551	14.4	2.89	.104		

SED 01547
AC_CPUC_0000711

WT:jw 7/3/78

WELL NO: 55-25

TEST NO. & DATE	PROBE NO.	PROBE LOCATION	ERODED AREA (XXX)	AVERAGE INITIAL WEIGHT (gm)	WEIGHT AFTER TEST (gm)	CHANGE IN WEIGHT (mg)	ERODED AREA (sq in)	EROSION FACTOR	CHOKE & TEST Q	RECM'D NEXT CHOKE & TEST Q
-6, 9-29-78	506	US # 1	↘	139.6800	139.6795	0.5	3.24*	.003	.785 37.2	
	507	US # 2	↓	140.4093	140.4075	1.8	3.24*	.012		
	508	DS # 1	↑	135.7818	135.7798	2.0	3.24*	.013		
	509	DS # 2	←	137.6184	137.6163	2.1	3.24*	.014		
-7 10-2-78	524	US # 1	↘	138.9100	138.9080	1.2	2.02	.012	.651 43.5	
	525	US # 2	↗	137.5780	137.5764	1.6	3.24*	.010		
	526	DS # 1	←	139.4619	139.4601	1.8	2.38	.016		
	527	DS # 2	↖	138.2725	138.2719	0.6	2.32	.005		
-8, 10-7-78	546	US # 1	↙	146.4907	146.4899	0.8	3.24*	.005	.950 SONIC 52.5	
	547	US # 2	↖	145.6289	145.6289	0.0		.0		
	548	DS # 1	↘	144.6168	144.6119	4.9	2.93	.035		
	549	DS # 2	←	146.3903	146.3859	4.4	2.50	.037		
9, 10-13-78	580	US # 1	→	140.2585	140.2584	0.1	3.24*	.001		
	581	US # 2	↗	142.9105	142.9103	0.2	3.24*	.001		
	582	DS # 1	↓	142.5687	142.5642	4.5	2.92	.032		
	583	DS # 2	↓	141.3035	141.2992	4.3	2.49	.036		

WT: lw 7/3/78

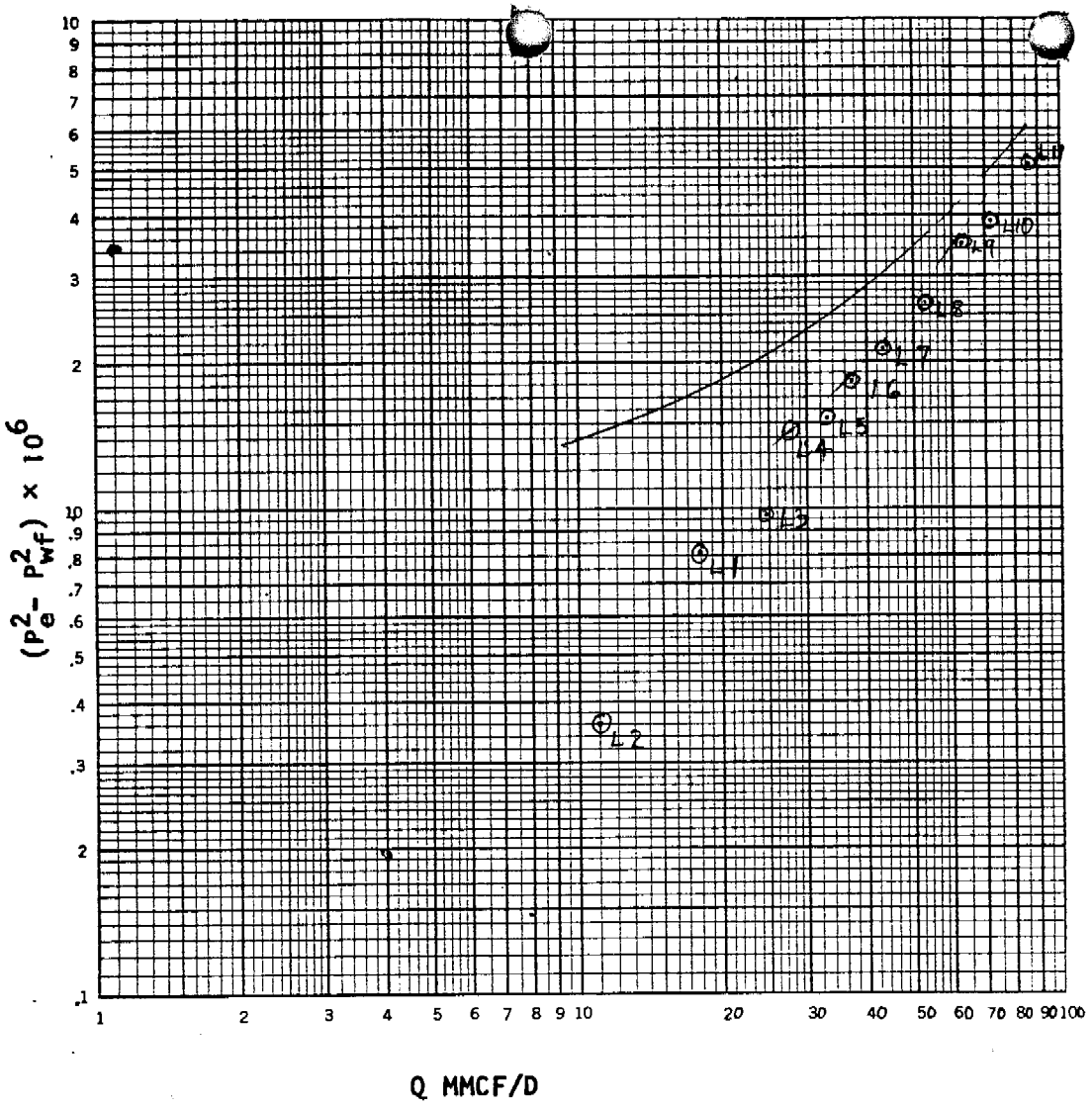
SED_01548
AC_CPUC_0000712

WELL NO: SS 25

TEST NO. & DATE	PROBE NO.	PROBE LOCATION	ERODED AREA (XXX)	AVERAGE INITIAL WEIGHT (gm)	WEIGHT AFTER TEST (gm)	CHANGE IN WEIGHT (mg)	ERODED AREA (sq in)	EROSION FACTOR	CHOKE & TEST Q	RECM'D NEXT CHOKE & TEST Q
1, 8-6-78	249	DS #1		144.3349	144.3338	1.1	3.24*	.011	None 19.9	
2, 9-18-78	NONE	—								
									1400 SURF 11.0	
3, 9-19-78	463	US #1	↙	137.9112	137.9115	-0.0		.0	.620 24.7	
	465	US #2	→	141.5597	141.5596	0.1	3.24*	.001		
	466	DS #1	↑	136.9887	136.9882	0.5	3.24*	.003		
4, 9-22-78	473	US #1	↗	140.1087	140.1055	3.2	3.24*	.021	683 SURF 27.9	
	474	US #2	↘	138.3604	138.3564	4.0	3.24*	.026		
	475	DS #1	↗	137.4722	137.4699	2.3	3.24*	.015		
6, 9-26-78	497	US #1	↖	140.1289	140.1278	1.1	3.24*	.007	1715 33.2	
	498	US #2	↓	139.3863	139.3856	0.7	3.24*	.005		
	499	DS #1	↙	144.1519	144.1517	0.2	3.24*	.001		
	500	DS #2	↙	138.3590	138.3580	1.0	3.24*	.006		

WT:lw 7/3/78

SED 01549
AC_CPUC_0000713

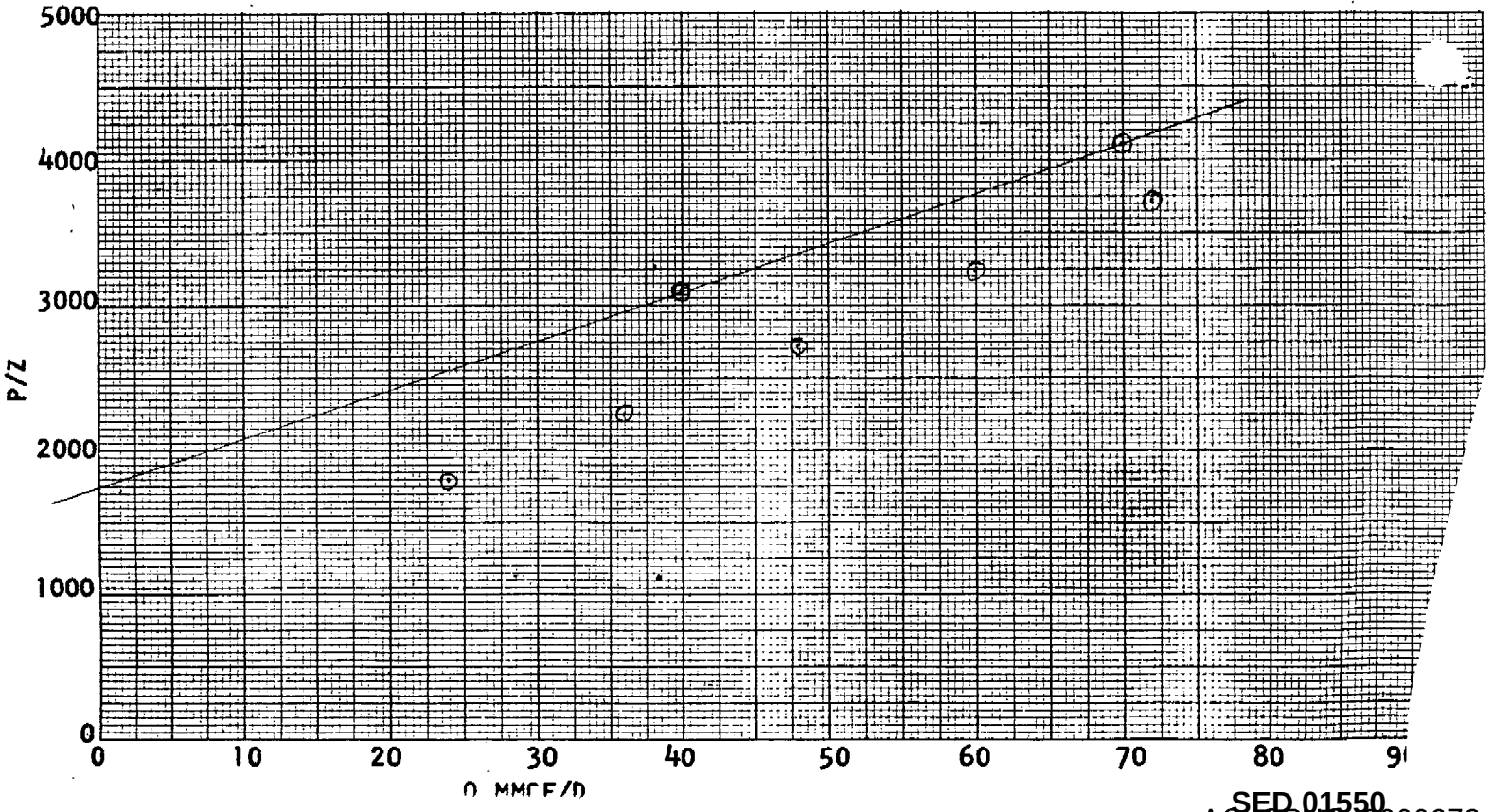


FIELD: ALISO

WELL: SS 25

DATE: 10/24/78

TEST NO.	Q	ΔP^2	DATE
L1	17.9	.81	
L2	11.0	.36	
L3	24.7	.96	
L4	27.9	1.44	
L5	33.2	1.53	
L6	37.3	1.81	
L7	43.5	2.24	
L8	52.7	2.63	
L9	62.9	3.54	
L10	71.9	3.9	
L11	85.7	5.04	



RECEIPT OF DELIVERY AND SALES CONFIRMATION

CAMCO

7010 ARDMORE • P.O. BOX 14484
HOUSTON, TEXAS 77021
PHONE 747-4000 AC 713

SOLD TO: So. Cal. Gas Co.
P. O. Box 3249, Term. Annex
Los Angeles, Ca. 90051
M.L. 227

SHIP TO: CUSTOMER OR FIELD: Aliso Canyon
ADDRESS OR LEASE: 55
CITY OR WELL NO.: 25
MDR 175770

SCH. WEEK OF	SHIP VIA	SHIPPING DATE	SALES ORD. NO.	CAMCO CODE NO.	PURCHASE ORDER NO.	INVOICE NO.	INV. LOC.	DIST.
	CAMCO	12/26/78	78782		4021		66	66

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION	STK. REPL. DESIRED	ACC. CODE	DISC. %	PART NUMBER ASSY.	SUB	VARIANCE	TAX	UNIT PRICE	EXTD. AMOUNT
		Repair 2½ PC-4 S.V. :									
	12	Packing				10242	012	04000		2 78	33 36
	3	GT Rings				20062	016	04000		6 48	19 44
	6	Back-up Rings				20601	012	04000		7 42	44 52
	1	GT Ring				20062	017	04000		6 48	6 48
	2	Back-up Rings				40164	005	04000		6 38	12 76
	1	'O' Ring				20094	010	04000		1 95	1 95
	1	'O' Ring				35321	002	04000		1 94	1 94
		EQUIPMENT PICKED-UP 1 Soft Seat				20605	016	04000		3 81	3 81
	1	Lock Adapter				20605	008	03000		366 03	366 03
	1	Used M Lock				X605001	0000			362 62	362 62
	12	65 - Back-off Repair — Packing				10242	012	04000		2 78	33 36
	2	Kobe Knock-Outs		277						7 32	14 64
	5	HOURS Shop Time SERVICE CHG.		257						20 00	100 00
	2	~~MILEAGE~~ Hours machine shop (Inv. #8123)		257						20 00	40 00

I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT I HAVE FULL AUTHORITY TO OBTAIN THE ABOVE LISTED EQUIPMENT, THAT I HAVE EXAMINED ALL OF THE ABOVE LISTED EQUIPMENT AND FOUND IT TO BE IN GOOD SERVICEABLE CONDITION AND THAT I ACCEPT IT WITH FULL UNDERSTANDING OF AND AGREEMENT TO ALL OF THE TERMS AND CONDITIONS OF SALE SET FORTH ON THE REVERSE SIDE HEREOF.

PURCHASER So. Cal. Gas Co. BY _____

DELIVERED BY: _____ 1040.91

TERMS AND CONDITIONS OF SALE SEE REVERSE SIDE

PAGE 1 OF 1

FORM 7002

EXTRA COPY

SED 01551 AC_CP_UC_000624

INTEROFFICE SOUTHERN CALIFORNIA gas COMPANY CORRESPONDENCE

TO T. M. Giallonardo FROM J. W. Tenfelder DATE December 26, 1978

SUBJECT SS-9 and SS-25

It is recommended that we re-work SS-9 and SS-25. Both wells have Camco 2-1/2" SSSV's that failed during withdrawal. After exhausting all wireline possibilities, tubing-casing communication still exists in both wells. This could be due to a hole in the tubing, a leaking tubing hanger, a broken control line, or a scoured packing bore. In any event a rig is needed to cure our problems. Both of these valves failed by coming unlatched and smashing into the packoff above. Fortunately the packoff held and the valve fell back across the crossover flow ports, where the valve was then partially blocking the flow of gas. The reduction in rate was noticed and the wells were shut-in at the surface.

This is at least the sixth such failure at Aliso for this type valve. Since we use few bottom hole chokes anymore, it is critical to our operation that the SSSV stay in place since it is also our choke in most wells. Therefore it is further recommended that we replace these systems with Otis 2-1/2" SSSV's which have no history of coming loose. We should not buy any Camco systems until Camco determines why their valves are coming loose and corrects their problem.

The following wireline work was performed on the two wells:

SS-9	12/8/78	First attempt to repair valve - Pulled DCRT pump out valve and ran new one. No results.
	12/13	Attempted to pull S.Valve, found valve out of nipple, could not latch on. Will run Spear.
	12/14	Ran spear and pulled valve. Ran another valve, could not shear off.
	12/15	Sheared off, ran packoff, tested, no good. Pulled pack off and ran CSA2 blank plug. Tested, leaked, 165 psi in 6 minutes.
	12/18	Pulled DCRT and ran dummy, still leaked.
	12/21	Pulled S.Valve, plug and dummy DCRT
SS-25	12/12/78	First attempt to repair valve, pulled packoff and attempted to pull valve.
	12/13	Ran spear and pulled valve, found valve out of nipple.
	12/14	Ran another valve and tested, control line leaked off fast.
	12/15	Pulled packoff and set CSA2 blanking plug, tested, still leaking.
	12/16	Pulled DCRT ran new DCRT. No leak. Pulled CSA2 blank plug.
	12/19	Ran blind box to check if S.Valve still in nipple. OK.
	12/20	Pulled S.Valve and ran dummy valve across control line. tested. Good packoff over zone. Ran GS packoff to check communication between casing and tubing. Bled tubing press from 2460 psi to 1550 psi. Well equalized in 22 minutes.

64-D

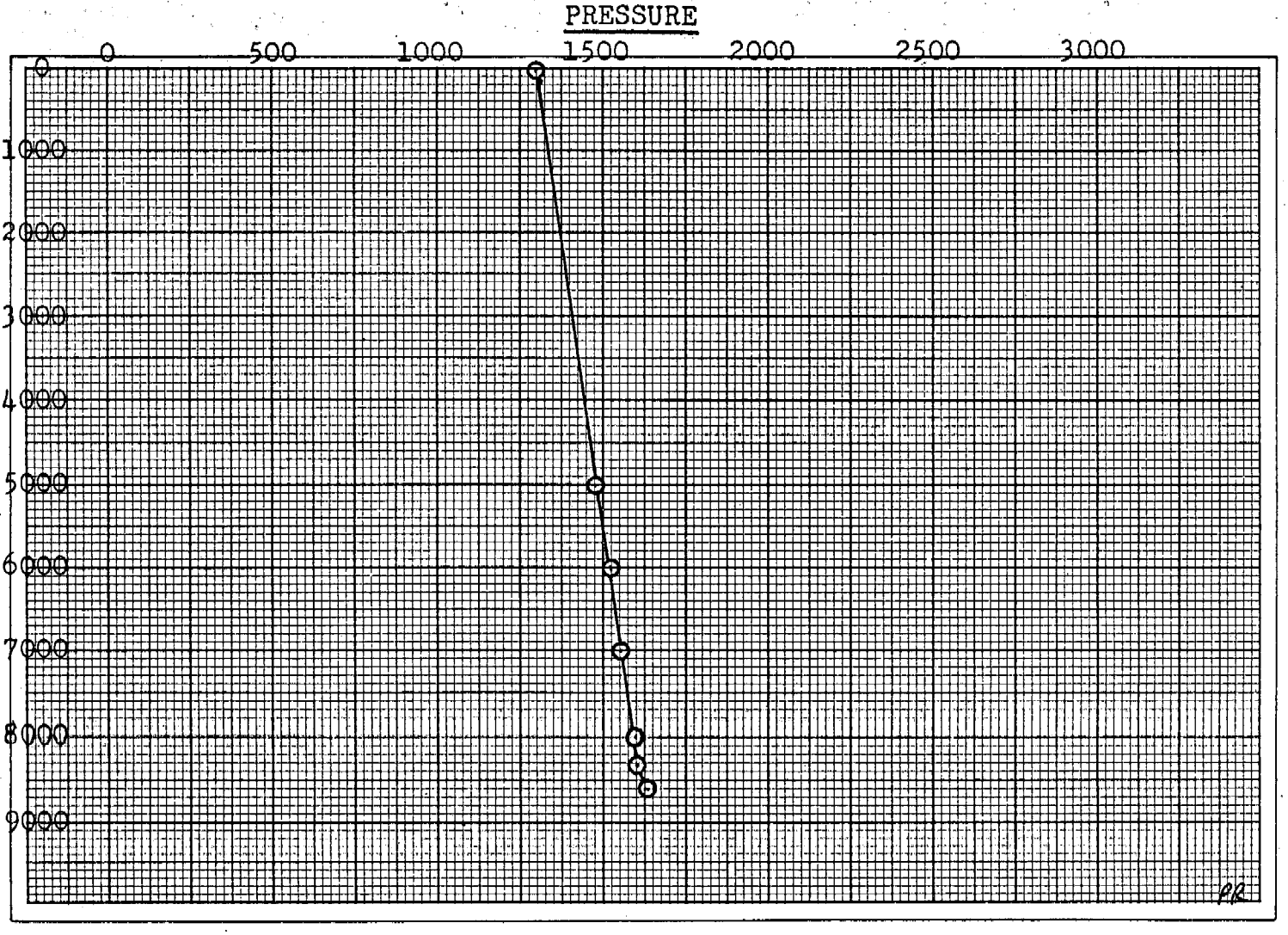
PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE PRESSURE SURVEY

COMPANY Southern California Gas **FIELD** Aliso Canyon **WELL NAME** SS-25

TOTAL DEPTH	--	WELL STATUS	Static	BOMB HUNG @	none	DATE	3-14-79
CASING	--	CASING PRESSURE	--	TIME ON BOTTOM	11:18am	ELEMENT RANGE	5350 PSI
LINER	--	TUBING PRESSURE	--	TIME OFF BOTTOM	11:20am	ZERO POINT	7'
PERFORATIONS	--	ZONE	none	SHUT IN	none	ELEVATION	none
MPP	--	MAX. °F	164.4°	ON PRODUCTION	none	PICKUP	none made
TUBING DETAIL	2 7/8" @ 8491' **			PURPOSE	Pressure Gradient Survey		



MEASURED DEPTH	PRESSURE	SURVEY DATA	VERTICAL DEPTH	GRADIENT
0	1304			
5000	1483			.036
6000	1520	** Packer @ 8480'		.037
7000	1557	No-Go @ 8470'		.037
8000	1592			.035
8327	1603			.034
8590	1637			.129
MPP (5-8) → 8590	1637			G Doolan

Measured depth

M Mishop
3/25/79

SED 01553
AC_CPUC_0000473

PRUETT WIRELINE SERVICE

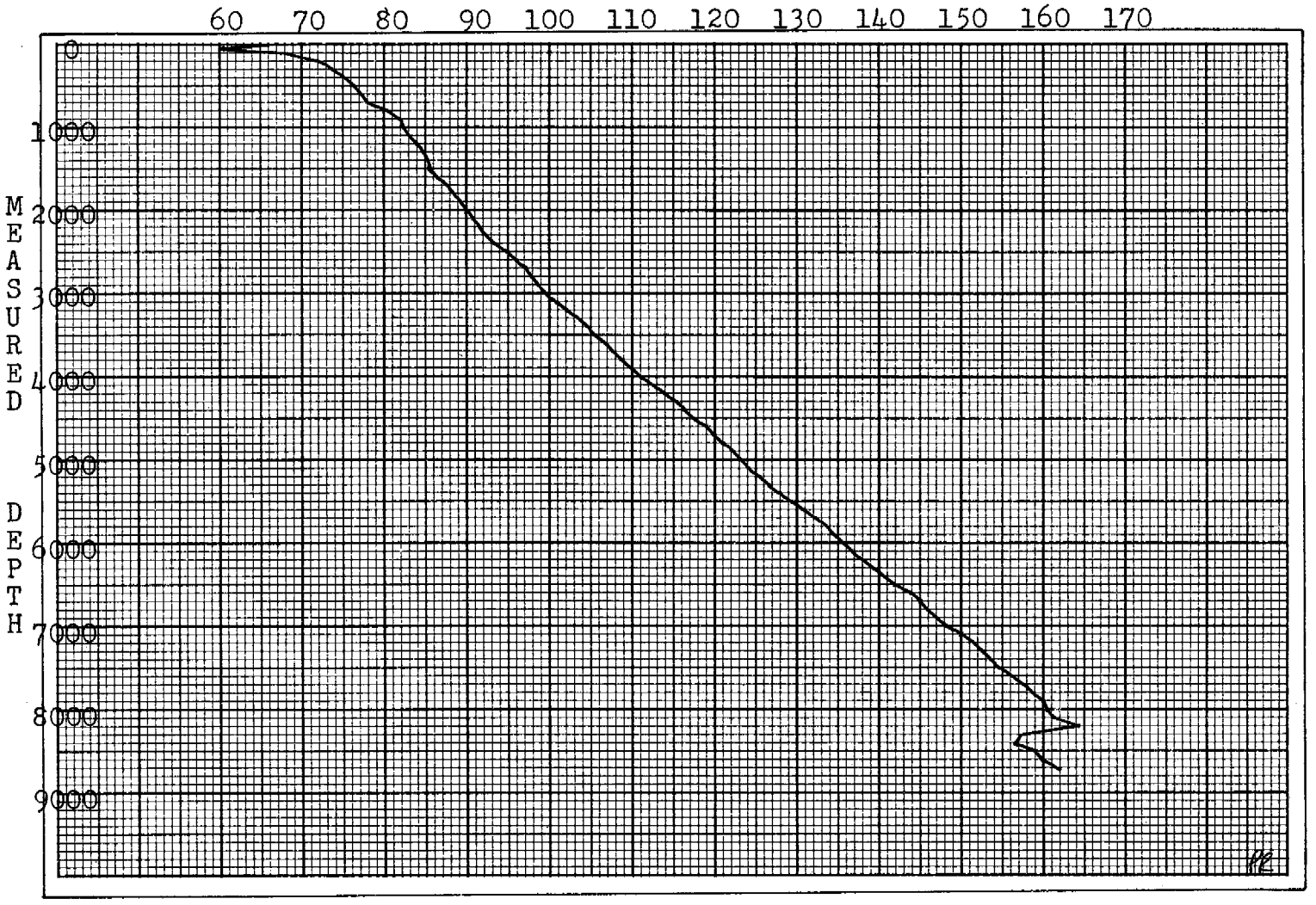
8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE TEMPERATURE SURVEY

COMPANY Southern California Gas **FIELD** Aliso Canyon **WELL NAME** SS-25

TOTAL DEPTH	--	WELL STATUS	Static	BOMB HUNG @	none	DATE	3-14-79
CASING	--	CASING PRESSURE	--	TIME ON BOTTOM	10:32am	ELEMENT RANGE	32-250°
LINER	--	TUBING PRESSURE	--	TIME OFF BOTTOM	10:35am	ZERO POINT	7'
PERFORATIONS	--	ZONE	none	SHUT IN	none	ELEVATION	none
MPP	--	MAX. °F.	164.4°	ON PRODUCTION	none	PICKUP	8720'
TUBING DETAIL	2 7/8" @ 8491' **			PURPOSE	Traverse Temperature Survey		

TEMPERATURE



SURVEY DATA

SEE ATTACHED

** Packer @ 8480'
No-Go @ 8470'

G Doolan

PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE TEMPERATURE SURVEY

COMPANY Southern California Gas FIELD Aliso Canyon WELL NAME SS-25

TOTAL DEPTH	--	WELL STATUS	Static	BOMB HUNG @	none	DATE	3-14-79
CASING	--	CASING PRESSURE	--	TIME ON BOTTOM	10:32am	ELEMENT RANGE	32-250°
LINER	--	TUBING PRESSURE	--	TIME OFF BOTTOM	10:35am	ZERO POINT	7'
PERFORATIONS	--	ZONE	none	SHUT IN	none	ELEVATION	none
MPP	--	MAX. °F.	164.4°	ON PRODUCTION	none	PICKUP	8720'
TUBING DETAIL	2 7/8" @ 8491'			PURPOSE	Traverse Temperature Survey		

SURVEY DATA

DEPTH	TEMPERATURE	DEPTH	TEMPERATURE	DEPTH	TEMPERATURE
0	66.2	2800	98.0	5700	132.2
50	60.5	2900	98.7	5800	133.5
100	67.7	3000	99.6	5900	134.5
200	71.9	3100	100.7	6000	135.8
300	73.7	3200	102.1	6100	137.0
400	75.4	3300	103.3	6200	138.3
500	76.4	3400	104.5	6300	139.4
600	77.2	3500	105.5	6400	140.8
700	78.1	3600	106.8	6500	142.1
800	80.4	3700	107.7	6600	144.0
900	82.0	3800	108.7	6700	144.9
1000	82.4	3900	109.9	6800	145.9
1100	83.1	4000	111.1	6900	147.2
1200	84.0	4100	112.5	7000	148.5
1300	84.7	4200	113.9	7100	150.0
1400	85.2	4300	115.3	7200	151.5
1500	85.6	4400	116.3	7300	152.7
1600	86.5	4500	117.7	7400	153.7
1700	87.7	4600	118.9	7500	154.8
1800	88.6	4700	120.0	7600	156.2
1900	89.4	4800	121.0	7700	157.4
2000	90.0	4900	122.3	7800	158.7
2100	90.7	5000	123.3	7900	159.9
2200	91.7	5100	124.2	8000	160.2
2300	92.6	5200	125.5	8100	161.3
2400	93.6	5300	126.7	8200	164.4
2500	94.9	5400	128.0	8300	157.6
2600	96.1	5500	129.4	8400	156.6
2700	97.2	5600	130.8	8500	159.0
				8600	159.7
				8720	162.1

Instrument Serial No. 39139, calibrated 8-31-76.
Survey traversed 100' per minute.

G Doolan

PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE TEMPERATURE SURVEY

COMPANY Southern California Gas **FIELD** Aliso Canyon **WELL NAME** SS-25

TOTAL DEPTH	--	WELL STATUS	Static	BOMB HUNG @	none	DATE	3-14-79
CASING	--	CASING PRESSURE	--	TIME ON BOTTOM	10:32am	ELEMENT RANGE	32-250°
LINER	--	TUBING PRESSURE	--	TIME OFF BOTTOM	10:35am	ZERO POINT	7'
PERFORATIONS	--	ZONE	none	SHUT IN	none	ELEVATION	none
MPP	--	MAX. °F	164.4°	ON PRODUCTION	none	PICKUP	8720'
TUBING DETAIL	2 7/8" @ 8491'			PURPOSE	Traverse Temperature Survey		

SURVEY DATA

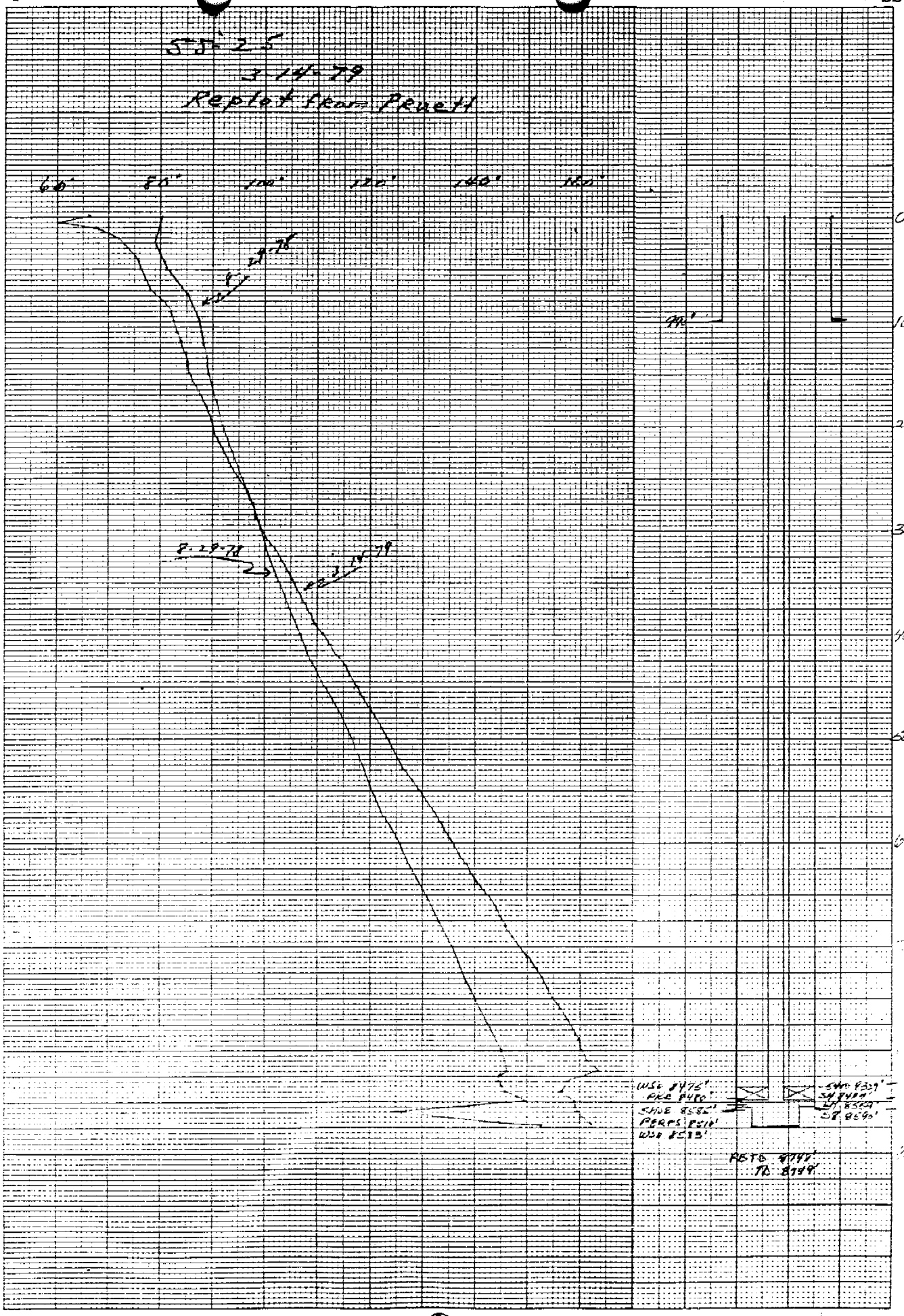
DEPTH	TEMPERATURE	DEPTH	TEMPERATURE	DEPTH	TEMPERATURE
0	66.2	2800	98.0	5700	132.2
50	60.5	2900	98.7	5800	133.5
100	67.7	3000	99.6	5900	134.5
200	71.9	3100	100.7	6000	135.8
300	73.7	3200	102.1	6100	137.0
400	75.4	3300	103.3	6200	138.3
500	76.4	3400	104.5	6300	139.4
600	77.2	3500	105.5	6400	140.8
700	78.1	3600	106.8	6500	142.1
800	80.4	3700	107.7	6600	144.0
900	82.0	3800	108.7	6700	144.9
1000	82.4	3900	109.9	6800	145.9
1100	83.1	4000	111.1	6900	147.2
1200	84.0	4100	112.5	7000	148.5
1300	84.7	4200	113.9	7100	150.0
1400	85.2	4300	115.3	7200	151.5
1500	85.6	4400	116.3	7300	152.7
1600	86.5	4500	117.7	7400	153.7
1700	87.7	4600	118.9	7500	154.8
1800	88.6	4700	120.0	7600	156.2
1900	89.4	4800	121.0	7700	157.4
2000	90.0	4900	122.3	7800	158.7
2100	90.7	5000	123.3	7900	159.9
2200	91.7	5100	124.2	8000	160.2
2300	92.6	5200	125.5	8100	161.3
2400	93.6	5300	126.7	8200	164.4
2500	94.9	5400	128.0	8300	157.6
2600	96.1	5500	129.4	8400	156.6
2700	97.2	5600	130.8	8500	159.0
				8600	159.7
				8720	162.1

Instrument Serial No. 39139, calibrated 8-31-76.
Survey traversed 100' per minute.

G Doolan

46 1512

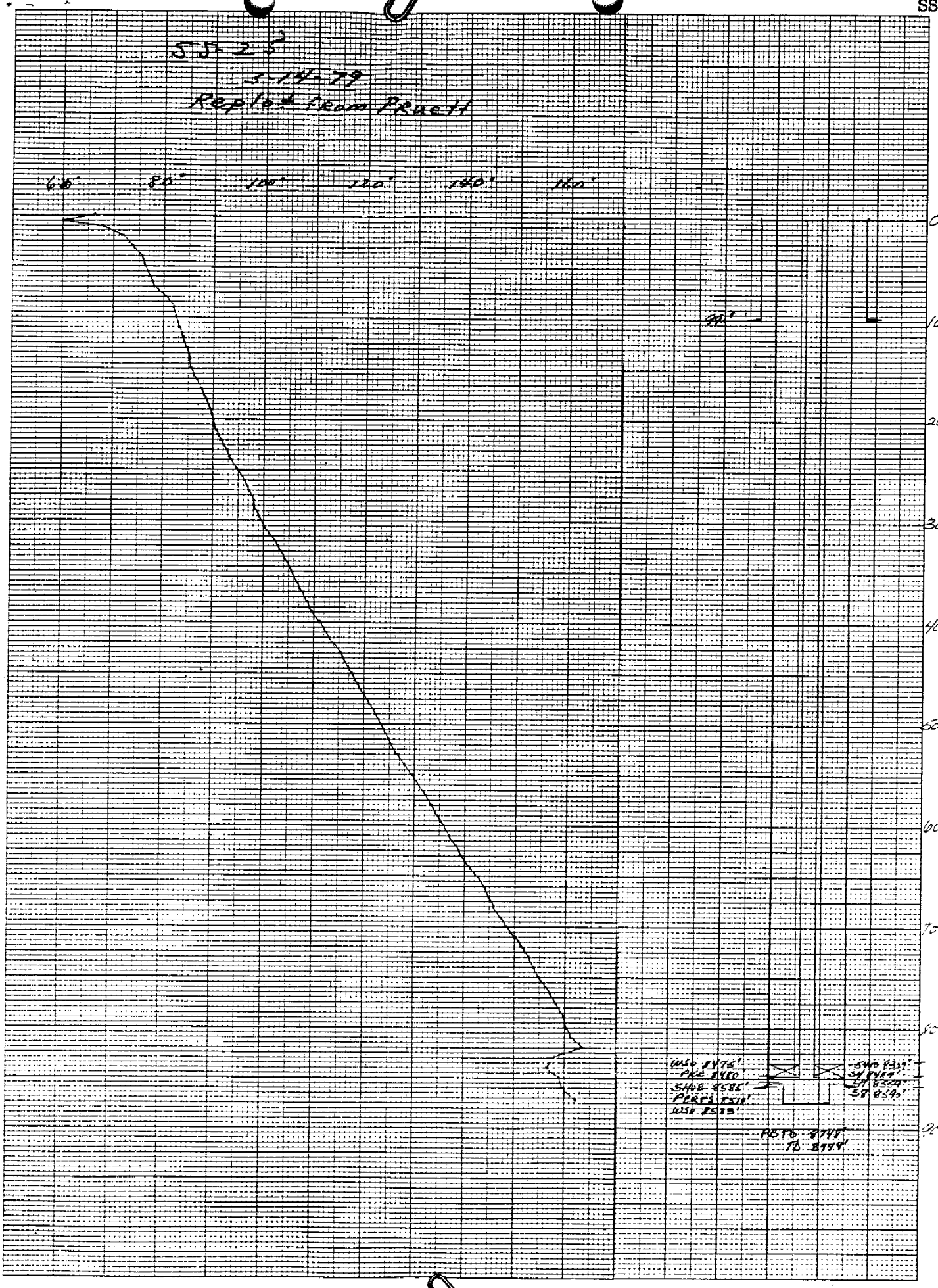
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512

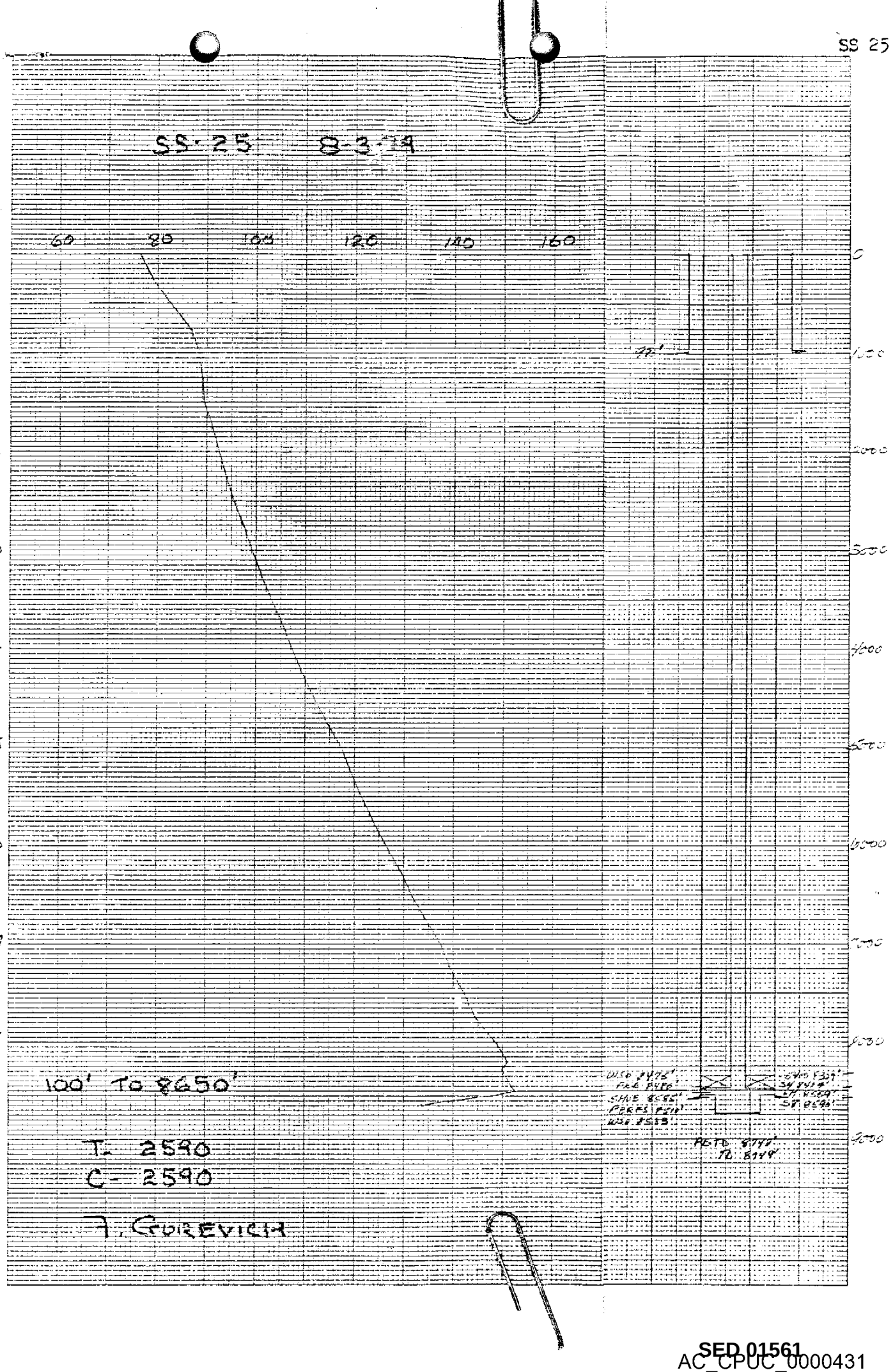
10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO MADE IN U.S.A.

55-25
3-14-79
Replot from Pearl



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

SS-25 8-3-79
60
80
100
120
140
160
1
2
3
4
5
6
7
8
9
100' TO 8650'
T. 2590
C- 2590
J. GUIREVICH
46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SUB-SURFACE TEMPERATURE SURVEY

FIELD Aliso Cyn WELL 55-25 DATE 8-3-79

RECORDER NO. 41020 RUN NO. ___ SHEET NO. ___ OF ___ SHEETS BY ___

CLOCK HOURS 3 TIME CLOCK STARTED 8 40 TIME RUN COMPLETED ___

WELL CONDITION DURING RUN, SHUT-IN X FLOWING ___ INJECTION ___

HOURS WELL, SHUT-IN ___ FLOWING ___ INJECTION ___ BEFORE RUN ___

.029190497 14

WELL HEAD PRESSURE

TUBING 2590

CASING 2590

FLOW RATE

GAS MCF/D ___

OIL BBL'S/D ___

WATER BBL'S/D ___

GOR ___

AMBIENT TEMPERATURE ___

ZERO POINT 6' surface value

PICK-UP ___

DATUM ___

FLUID LEVEL ___

	SIZE	DEPTH
TUBING		
CASING		
CASHING SHOE		
LINER		
TOP		
BOTTOM		

PERFORATION

TOP ___

BOTTOM ___

SPECIAL INSTRUCTIONS ___

100' per Min.

PRESS ON - 8 46

BY ___

REMARKS - USE REVERSE SIDE

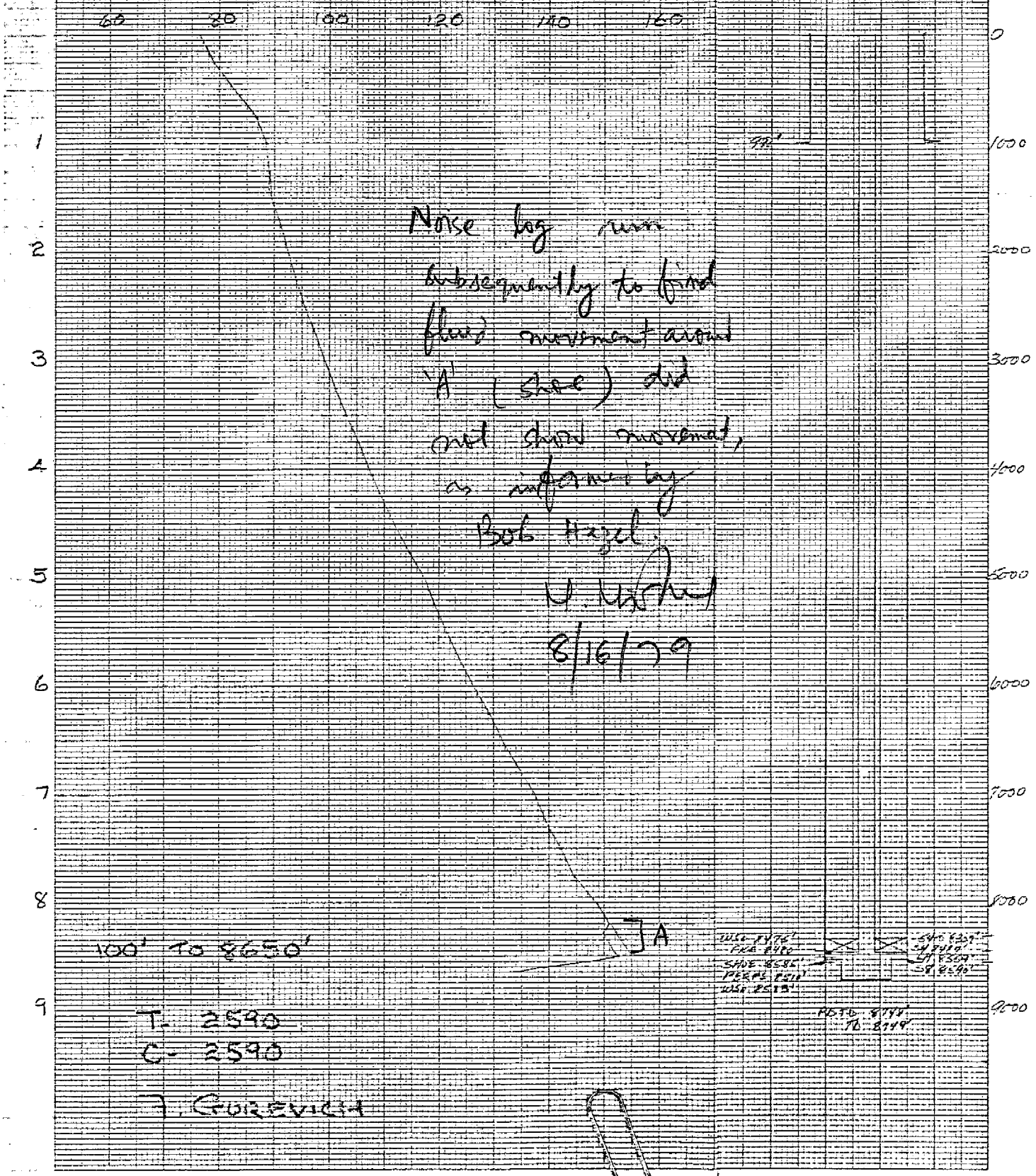
FIELD OPERATOR

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	Read from PRESS on TIME	STYLUS DEFLECTION	TEMPER.
0	St Dn	6.5	.153	76.5
250		12:75	.164	79.0
500		15:32	.180	82.6
750		17.2	.197	86.5
1000 ✓		20:28	.206	88.4
1250		22:75	.210	89.1
1500		25:25	.213	89.7
1750		27.78	.220	91.1
2000 ✓		30:30	.228	92.6
2250		32.89	.235	94.0
2500		35:47	.244	95.7
2750		38.02	.254	97.6
3000 ✓		40:57	.262	99.1
3250		43.04	.273	101.1
3500		45:50	.284	103.1
3750		47.97	.296	105.3
4000 ✓		50:48	.307	107.2
4250		52.97	.321	109.6
4500		55:50	.335	112.0
4750		58.06	.350	114.6
5000 ✓		60:62	.368	117.4
5250		63.09	.380	119.3
5500		65:55	.394	121.5
5750		68.06	.411	124.0
6000 ✓		70:57	.430	126.8
6250		73.36	.447	129.3
6500		75:57	.465	131.8
6750		78.195	.485	134.5
7000 ✓		80:82	.506	137.4
7250		83.32	.524	139.7
7500		85:82	.543	142.5
7750		88.37	.564	144.8
8000 ✓		90:92	.589	147.9
8250	OVER -	93:45	.610	150.4
8500		96:00	.631	152.9
8650.		97:52	.479	133.7
		102.0		

8100'	91.92	.606	150.0
8150'	92.45	.611	150.6
8200	92.95	.615	151.0
8275	93.7	.606	150.0
8300	93.95	.607	150.1
8450	95.5	.623	151.9
8550	96.5	.584	147.3
8600	97.02	.520	139.2

SS-25 8-3-79

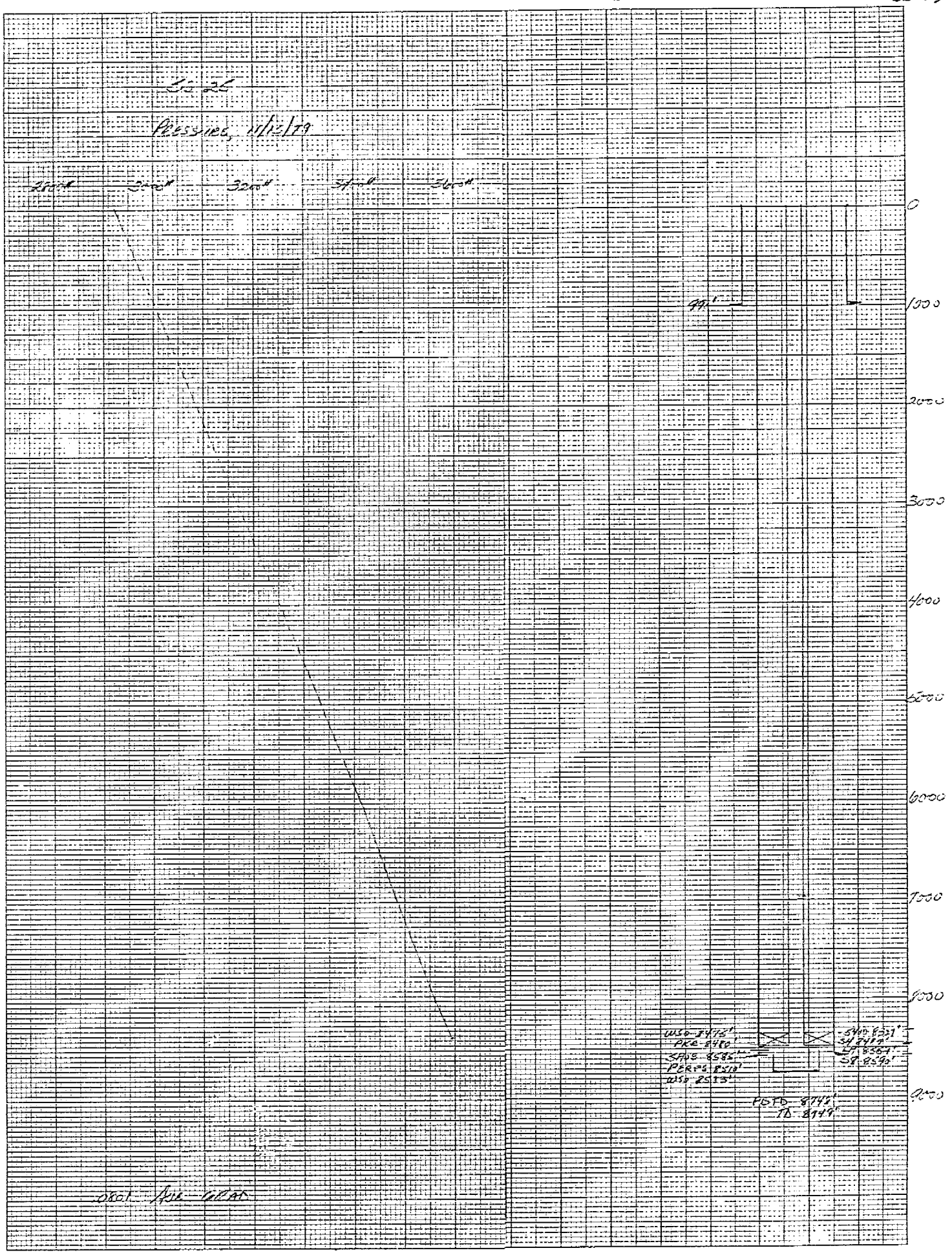


Noise log run subsequently to find fluid movement around 'A' (shoe) did not show movement, as informed by Bob Hazel.

M. [illegible]
8/16/79

46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SS 25



46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO MADE IN U.S.A.

SED 01565
AC_CPUC_0000468

PACIFIC LIGHTING SERVICE COMPANY

SUB-SURFACE PRESSURE SURVEY

FIELD _____ WELL 55-25 DATE 11-13-79

RECORDER NO. 8562 RUN NO. ____ SHEET NO. ____ OF ____ SHEETS BY JG

CLOCK HOURS _____ TIME CLOCK STARTED 843 TIME RUN COMPLETED 940

WELL CONDITION DURING RUN, SHUT IN _____ FLOWING _____ INJECTION _____

HOURS WELL, SHUT-IN _____ FLOWING _____ INJECTION _____ BEFORE RUN _____

WELL HEAD PRESSURE:

TUBING _____

CASING 2895

FLOW RATE

GAS MCF/D _____

OIL BBL'S/D _____

WATER BBL'S/D _____

GOR _____

MAXIMUM TEMPERATURE _____

ZERO POINT 6.35'

PICK-UP _____

DATUM ~~8220~~ 8327

	SIZE	DEPTH
TUBING		
CASING		
CASING SHOE		
LINER		
TOP		
BOTTOM		
PERFORATION		
TOP		
BOTTOM		162°

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	STYLUS DEFLECTION	PRESSURE	GRADI PSI/10
0 3	1.253		2925.40	
5000 3	1.428		3332.55	.0814
6000 3	1.463		3413.95	.0814
7000 3	1.494		3486.04	.0721
8000 3	1.526		3560.46	.0744
~~8400'~~				
8367 3	1.541		3595.34	.0950
~~8590-8460~~				
~~End Hg~~	~~8496~~			
BH. CHOKE		8472		
5	8440		AVE GRAD	.0801
MPP 8590	3617 ✓			

SPECIAL INSTRUCTIONS: ~~this "T" value 8421'~~

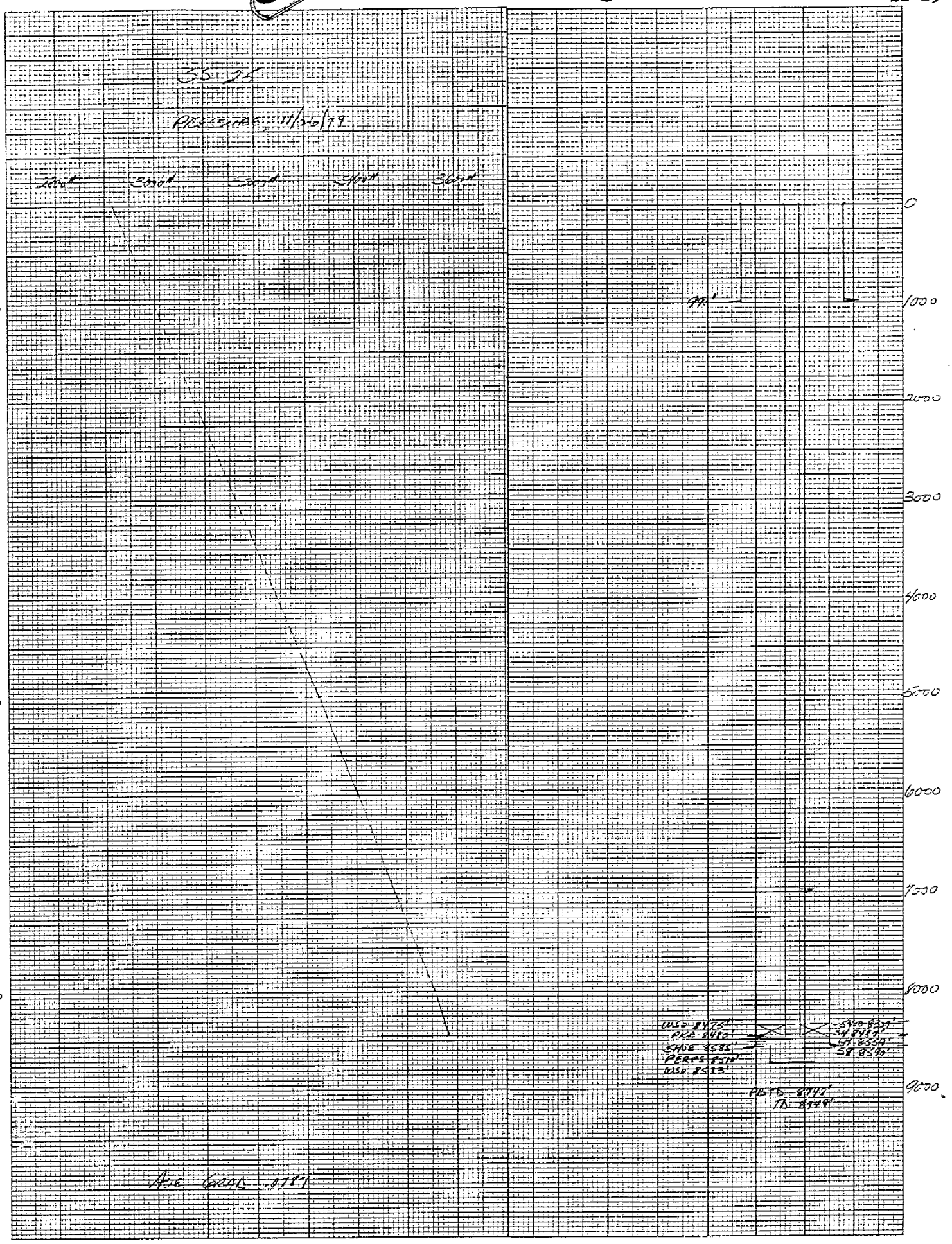
(STOP AT 8440)

BY _____

REMARKS: _____

SED 01566

AC_CPUC_0000469



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

PACIFIC LIGHTING SERVICE COMPANY

SUB-SURFACE PRESSURE SURVEY

FIELD _____ WELL 55-25 DATE 11-26-74

RECORDER NO. 8562 RUN NO. ____ SHEET NO. ____ OF ____ SHEETS BY AG

CLOCK HOURS _____ TIME CLOCK STARTED 855 TIME RUN COMPLETED _____

WELL CONDITION DURING RUN, SHUT IN _____ FLOWING _____ INJECTION _____

HOURS WELL, SHUT-IN _____ FLOWING _____ INJECTION _____ BEFORE RUN _____

WELL HEAD PRESSURE:

TUBING _____

CASING _____

FLOW RATE

GAS MCF/D _____

OIL BBL'S/D _____

WATER BBL'S/D _____

GOR _____

MAXIMUM TEMPERATURE _____

ZERO POINT 6.35'

PICK-UP _____

DATUM ~~8520'~~ 8327

	SIZE	DEPTH
TUBING		
CASING		
CASING SHOE		
LINER		
TOP		
BOTTOM		
PERFORATION		
TOP		
BOTTOM		

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	STYLUS DEFLECTION	PRESSURE	GRADI PSI/IC
0 3		1.250	2918.41	
5000 3		1.425	3325.58	.0814
6000 3		1.458	3402.32	.0767
7000 3		1.490	3476.74	.0744
8000 3		1.523	3553.48	.0767
~~8410'~~		—		
8327 3		1.531	3572.09	.0569
~~8590~~ ~~[illegible]~~ 8425 3		1.535	3581.39	.0949
~~End Hg~~		~~8496~~		
BH. CHOKE		8472		
		AVE GRAD	.0787	
Act M 8590	3597 ✓			

SPECIAL INSTRUCTIONS: ~~Cls "I" Valve 8421'~~

BY _____

REMARKS: _____

SED 01568

AC_CPUC_0000467

WELL ACTIVITY REPORTS FOR SS 25

DATE	ACTIVITY/REMARKS
1/9/80	Camco attempted to fish for tools. Rope swelled up with rain water and would not go thru pulleys. Shut down for day.
1/10/80	Camco fished all tools out of well OK. Set pack-off. Tested SSSV. S/I T 2500; C 2600. Bled tubing to 2000, held OK Bled tubing to 1020, held OK. Bled casing to 2000, valve closed and held OK. Pressure casing to 2500. Pressure tubing to 2460, valve opened OK. Requested instrument department install recording gauge on tubing. Will put well on withdrawal when gauge installed.
1/14/80	Inst. Dept. installed pressure recorder on tubing. Will have well put on withdrawal.
1/22/80	Camco attempted to pull SSSV. Could not latch. Ran in with spear. Slips on spear broke. Ran in with shear and latched onto valve. Unable to pull. Shut down for the night.
1/23/80	Camco pulled SSSV. Fishing neck was flaired out and cracked along side. It had come out of nipple and hit pack-off. Set another SSSV and pack-off. Tested valve. Test no good. Tubing pressure built up 50# in 30 seconds.
1/24/80	Camco pulled pack-off and SSSV. Ran another SSSV and pack-off Tested valve. Bled tubing from 2100 to 1750, pressure rose 50# in one minute. Will test again in morning.
1/25/80	Tested SSSV. Blew tubing pressure to atmosphere, pressure did not get below 350#. Not enough to close valve. Pulled pack-off and SSSV.
1/28/80	Camco ran SSSV and pack-off. Tested valve. Blew tubing down to 550. Open 2" stack, pressure would not go below 280. Bled casing from 2160 to 1900. Pressure rose 50#/min. Valve did not close. Pulled valve and pack-off. System apparently bad.
1/29/80	Archer-Reed ran 1.0 BHC.
2/5/80	Archer-Reed attempted to pull DCRT valve but could not stay latched onto valve. Will try again tomorrow with new pulling tool
2/6/80	Archer-Reed attempted to pull DCRT. Inner core of pulling tool was too long. Could not stay latched on valve. Re-built pulling tool. Will try tomorrow
2/7/80	Archer-Reed pulled DCRT valve. Valve was sheared. Ran another valve
2/11/80	Archer-Reed pulled 1.0 BHC, was not set. Re-ran choke but could not get through SSSV nipple. Pulled out. Re-ran choke and set OK. Tested well. Test no good. Pulled choke, ran scratcher, decided to replace BHC with surface choke.
2/22/80	Gurevich ran temperature survey
7/29/80	Gurevich ran temperature survey
10/20/80	Shut-in BHP survey
10/27/80	Pruett BHP survey
10/29/80	Archer-Reed attempted to set BHC 1.0 no results. Cost $214.00
10/30/80	Archer-Reed continued efforts to set choke, could not get Otis lock through Camco SSSV nipple. Ran broach, still no results. Suspended job. Cost $519.00
10/31/80	Archer-Reed set 1.0 BHC. Cost $196.50
11/3/80	Pruett BHP survey

WELL ACTIVITY REPORTS FOR SS 25

DATE	ACTIVITY/REMARKS
1/15/79	(Inst.) Replaced plug & seat in reg. in safety system
1/24/79	Flow test: 32.1 MM, SIWHP - 2050 psi
2/20/79	Rig removed safety system from well. The control line was gone, exchanged systems with Camco.
3/1/79	Unloaded well. Left S/I. S/I clean-up flow
	WKM valve repaired. Put well on tbg. clean-up flow thru .500 S/C
3/14/79	Ran BHP & temperature survey
3/22/79	Foster shot fluid level. FL 8652 SIWHP 1333
3/26/79	Foster shot fluid level. FL 8652 SIWHP 1370
3/28/79	Foster shot fluid level. FL 8637 SIWHP 1387
4/2/79	Foster shot fluid level. FL 8637 SIWHP 1401
4/4/79	Revised tubing detail; Foser shot fluid level. FL 8637 SIWHP 1415
4/11/79	Foster shot fluid level. FL 8637 SIWHP 1438
4/16/79	Foster shot fluid level. FL 8637 SIWHP 1454
8/3/79	Ran temperature survey, possible shoe leak. (Note: Talked to Bob Hazel today. Both IW 83 and SS 25 had noise logs after these temperature surveys. SS 25 did not show noise. MM 8/14/79)
8/8/79	Ran noise log. No shoe leak
9/18/79	Camco ran gauge ring to DS-1 nipple. Ran into some tight spots. Will run swedge before running valve
10/23/79	Pruett ran BHP survey
11/5/79	Hanson attempted to set BHC. Could not get choke to go through packoff nipple. Left choke in packoff nipple.
11/6/79	Ran BHP survey. Hanson pulled BHC from well. Discovered that backup ring on packing was too large to go through nipple. Changed ring. Set BHC.
11/13/79	Gurevich ran BHP survey. Found that BHC had been set in the safety valve nipple. Pulled loose OK.
11/14/79	Hanson located BHC in safety valve nipple. Pulled choke. Re-dressed choke and attempted to run in but could not get past safety valve nipple. Moved off of well.
11/15/79	Hanson ran in to set BHC but could not get past safety valve nipple.
11/16/79	Hanson again attempted to set BHC. No luck.
11/19/79	Hanson set 1.0 BHC.
11/26/79	Gurevich ran BHP survey
1/4/80	Archer-Reed set CA-2 plug in pack-off nipple. Tested tubing. Pressure held tight. Pulled plug.
1/7/80	Camco pulled 1.0 BHC. Ran in to set SSSV. Could not get valve to stay in nipple. Checked running tool, prong was damaged. Shut down till Monday.
	Camco ran in with broach. Found tight spot at 1356. Beat through. Cleared out tight spot at 3590 and 3608. Continued broaching tight spot at 1346 for remainder of day.
1/8/80	Camco finished broaching tight spot at 1346. Ran and set SSSV. Could not get setting tool to release from valve. Wire broke at counter sheave. Dropped a cutter bar and retreived wire from well. Will change wire and fish for tools tomorrow.

CAMCO WIRELINE, INC.
7010 ARDMORE
P. O. BOX 14484
HOUSTON, TEXAS 77021

SERVICE & SALES AGREEMENT

PHONE 713 / 747-4000

NAME So. Cal. Gas Co. FIELD Aliso Cyn.

ADDRESS P.O. Box 3249, Term. Annex LEASE S.S.

CITY L.A., Calif. 90051 WELL # 25

DATE	DELIVERY TICKET NO.	CAMCO CODE NUMBER	CAMCO UNIT NUMBER	PURCHASE ORDER NUMBER	INVOICE NUMBER	DISTRICT
1-22-80	43291					55

ON LOCATION CHARGES: Rigged up — Pulled 2½" Camco GS-Packoff @ 8434', nose on packoff indicates safety valve came uphole and struck packoff. Ran inner fishing spear and hooked valve, jarred on until slips pulled off. Replaced slips and reran spear, could not hook came out and checked tool. Marks on bottom of spear indicate slips were previously still inside fish neck. Reran spear ~~and~~ on 2" jar and spud into fish neck. Shut down f/ the day.

TIME OF ARRIVAL	TIME OF DEPARTURE	HRS.	RATE
8:00 AM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	12:00 AM PM	4	Min Charge
12:00 AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	3:30 AM PM	3½	48.00
AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		

QUANTITY	DESCRIPTION OF OPERATION	ACC'T CODE	DISC'T %	PART NUMBER VARIANCE	TAXX	UNIT PRICE	EXT. AMT.
120	MILEAGE CHARGE FROM Shop LOCATION / TO LOCATION Shop	432				1 50	180 00
3½	HOURS SERVICE CHARGE	401				48 00	168 00
4	Hrs Minimum Charge	401				50 00	200 00
1	1½" Hyd. Jars Rental 1st Day	452				125 00	125 00
2½	Hrs Travel time	432				48 00	120 00
						TOTAL	793 00

TERMS AND CONDITIONS OF SERVICES AND SALES

See Reverse Side

I, the undersigned, do hereby certify that I have full authority to obtain the above listed services and equipment, that I have examined all of the above listed equipment and found it to be in good serviceable condition and that I accept it and the services to be performed with full understanding of and agreement to all of the terms and conditions of sale set forth on the reverse side hereof.

Total charges approved:

By W.D. [illegible]

Purchaser:

S.C.G.

By W.D. [illegible]

CAMCO WIRELINE, INC. PERSONNEL

E. Cole

M. Ferguson

FORM #7003W B

CUSTOMER COPY

CAMCO

SERVICE & SALES AGREEMENT
PHONE 713 / 747-4000

CAMCO WIRELINE, INC.
7010 ARDMORE
P. O. BOX 14484
HOUSTON, TEXAS 77021

NAME So. CAL. GAS Co.	FIELD Aliso Cyn
ADDRESS P.O. Box 3249, Term. Annex	LEASE S.S.
CITY L.A., Calif. 90051	WELL #25

DATE	DELIVERY TICKET NO.	CAMCO CODE NUMBER	CAMCO UNIT NUMBER	PURCHASE ORDER NUMBER	INVOICE NUMBER	DISTRICT
1-23-80	43292					55

ON LOCATION CHARGES: Set up — Ran in and hooked fish @8440'. Ran 2½" Camco PC-4 safety valve & could not beat through Top (DS-1) nipple, came out and checked tool & valve. Reran same and set @8444'. Ran 2½" Camco GS-Packoff and set @8434'. Standby for test. Did not test good. Shut down

TIME OF ARRIVAL	TIME OF DEPARTURE	HRS.	RATE
7:30 AM	11:30 AM	4	Min Charge
11:30 AM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	3:30 PM	4	48.00
AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		
AM PM	AM PM		

Note: Encountered tight spot @ 3589' every run.

QUANTITY	DESCRIPTION OF OPERATION	ACC. CODE	DISC. %	PART NUMBER ASSY.	PART NUMBER SUB.	PART NUMBER VARIANCE	TAX	UNIT PRICE	EXT. AMT.
120	MILEAGE CHARGE FROM Shop LOCATION TO LOCATION Shop	432						1.00	120.00
4	HOURS SERVICE CHARGE	401						48.00	192.00
4	Hrs minimum charge	401						50.00	200.00
1	1½" Hyd. Jars Rental	452						60.00	60.00
2½	Hrs travel time	432						48.00	120.00
								TOTAL	692.00

TERMS AND CONDITIONS OF SERVICES AND SALES
See Reverse Side

I, the undersigned, do hereby certify that I have full authority to obtain the above listed services and equipment, that I have examined all of the above listed equipment and found it to be in good serviceable condition and that I accept it and the services to be performed with full understanding of and agreement to all of the terms and conditions of sale set forth on the reverse side hereof.

Total charges approved:
By W. D. Davis

Purchaser:
S.C.G.
By W. D. Davis

CAMCO WIRELINE, INC. PERSONNEL
E. Cole
M. Ferguson

FORM #7003W B

CUSTOMER COPY

SED 01572
AC_CPUC_0000606

SERVICE & SALES AGREEMENT
PHONE 713 / 747-4000

CAMCO

CAMCO WIRELINE, INC.
7010 ARDMORE
P. O. BOX 14484
HOUSTON, TEXAS 77021

NAME So. Cal. Gas Co.	FIELD Aliso Cyn.
ADDRESS P.O. Box 3249, Term. Annex	LEASE S.S.
CITY L.A., Calif. 90051	WELL # 25

DATE	DELIVERY TICKET NO.	CAMCO CODE NUMBER	CAMCO UNIT NUMBER	PURCHASE ORDER NUMBER	INVOICE NUMBER	DISTRICT
1-28-80	43295					55

ON LOCATION CHARGES: Set up - Ran 2½" Camco PC-4 Safety Valve (HT-934, F/O @ 550#, F/C 350# @ 60#), and set @ 8444'. Ran 2½" Camco GS-Packoff and set @ 8434'. Stand By for test. Did not test good. Set up - Pulled GS-Packoff @ 8434'. Pulled Safety Valve @ 8444'. Rig Down

TIME OF ARRIVAL	TIME OF DEPARTURE	HRS.	RATE
7:30 AM	AM		
AM	AM		
AM	11:30 AM	4	Minimum Charge
11:30 AM	AM		
AM	AM		
AM	3:30 PM	4	48 00
AM	AM		
AM	AM		
AM	AM		
AM	AM		
AM	AM		

QUANTITY	DESCRIPTION OF OPERATION	ACC. CODE	DISC. %	PART NUMBER: ASSY.	SUB.	VARIANCE	TAX	UNIT PRICE	EXT. AMT.
120	MILEAGE CHARGE FROM Shop LOCATION / TO Shop LOCATION	432						1 00	120 00
4	HOURS SERVICE CHARGE	401						48 00	192 00
4	Hrs Minimum Charge	401						50 00	200 00
3	Hrs Travel time	432						48	144 00
1	1½" Hyd. Jars Rental	452						60 00	60 00
								TOTAL	716 00

TERMS AND CONDITIONS OF SERVICES AND SALES
See Reverse Side

I, the undersigned, do hereby certify that I have full authority to obtain the above listed services and equipment, that I have examined all of the above listed equipment and found it to be in good serviceable condition and that I accept it and the services to be performed with full understanding of and agreement to all of the terms and conditions of sale set forth on the reverse side hereof.

Total charges approved:
By _____

Purchaser:
S.C.G.
By _____

CAMCO WIRELINE, INC. PERSONNEL
E. Cole
M. Ferguson

FORM #7003W B

CUSTOMER COPY

SS-25 2-22-80
40
60
80
100
120
140
160
0
1
2
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4
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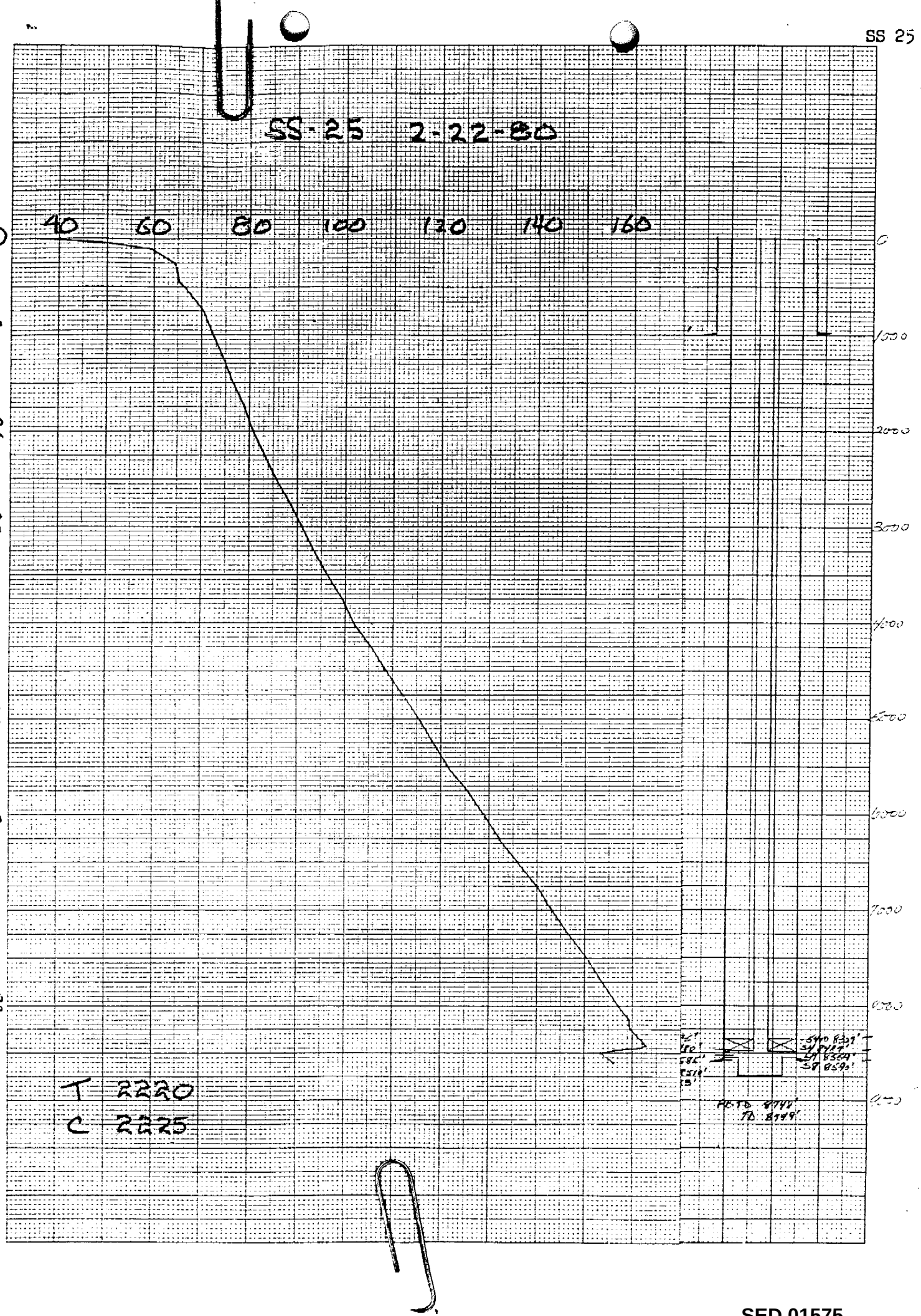
8
T 2220
C 2225
46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

2796703296

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 2-22-8 Element No. 3938 Clock Hours 3

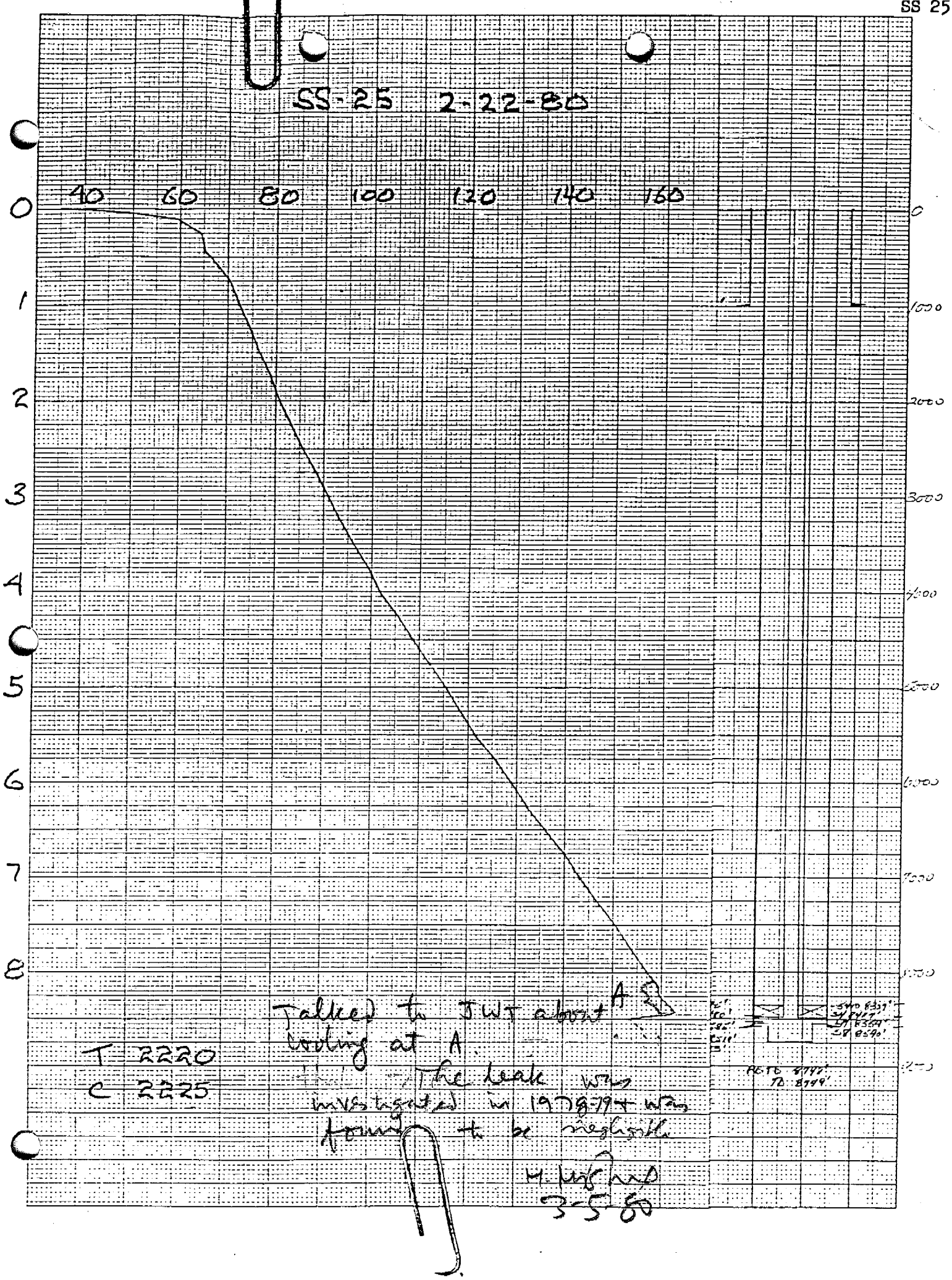
Tubing Press. _____ Status SI Time Clock Started 8:41 Time Clock Off 11:36

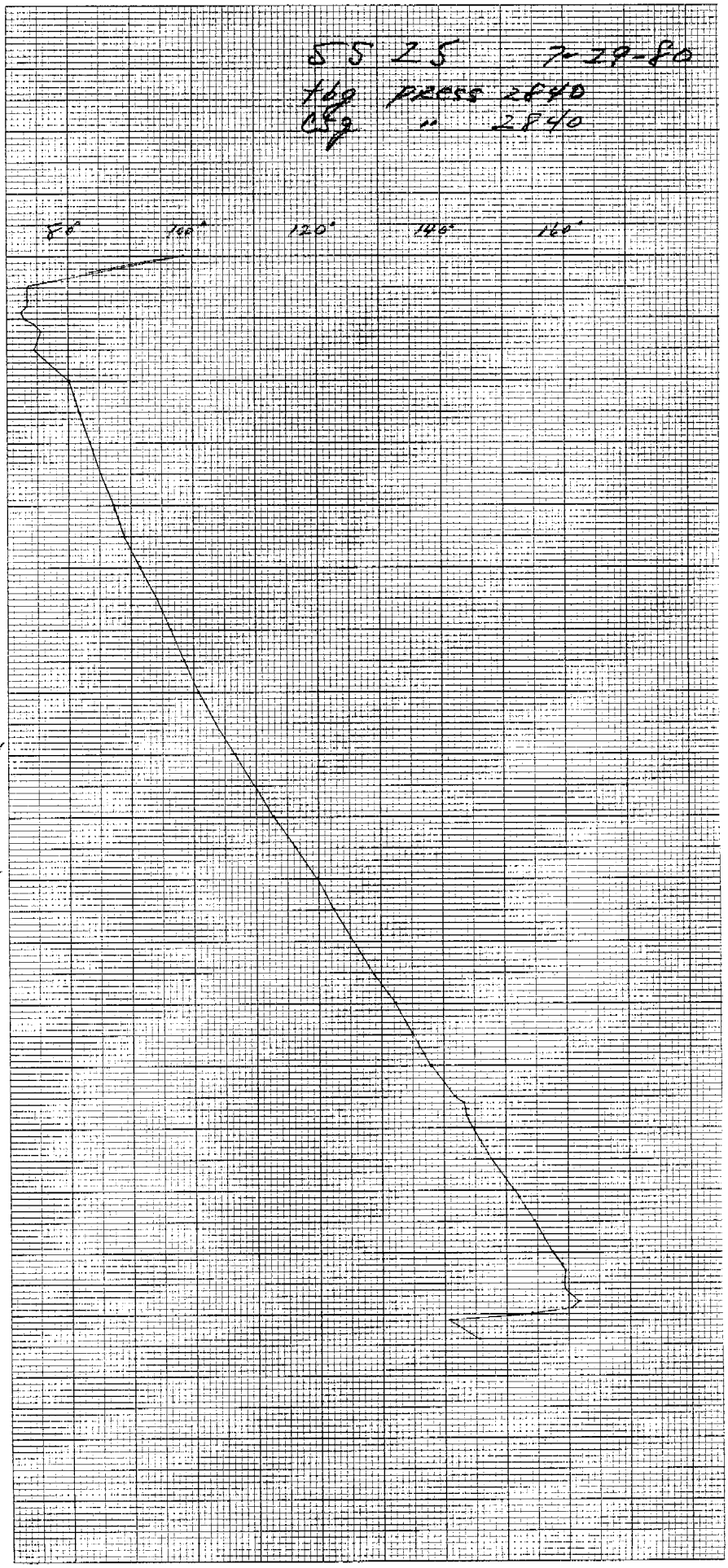
Casing Press. _____ Pick-Up _____ Operator JG _____' per Minute

Time Press. on 845 Time Start Down _____ Zero Point 6

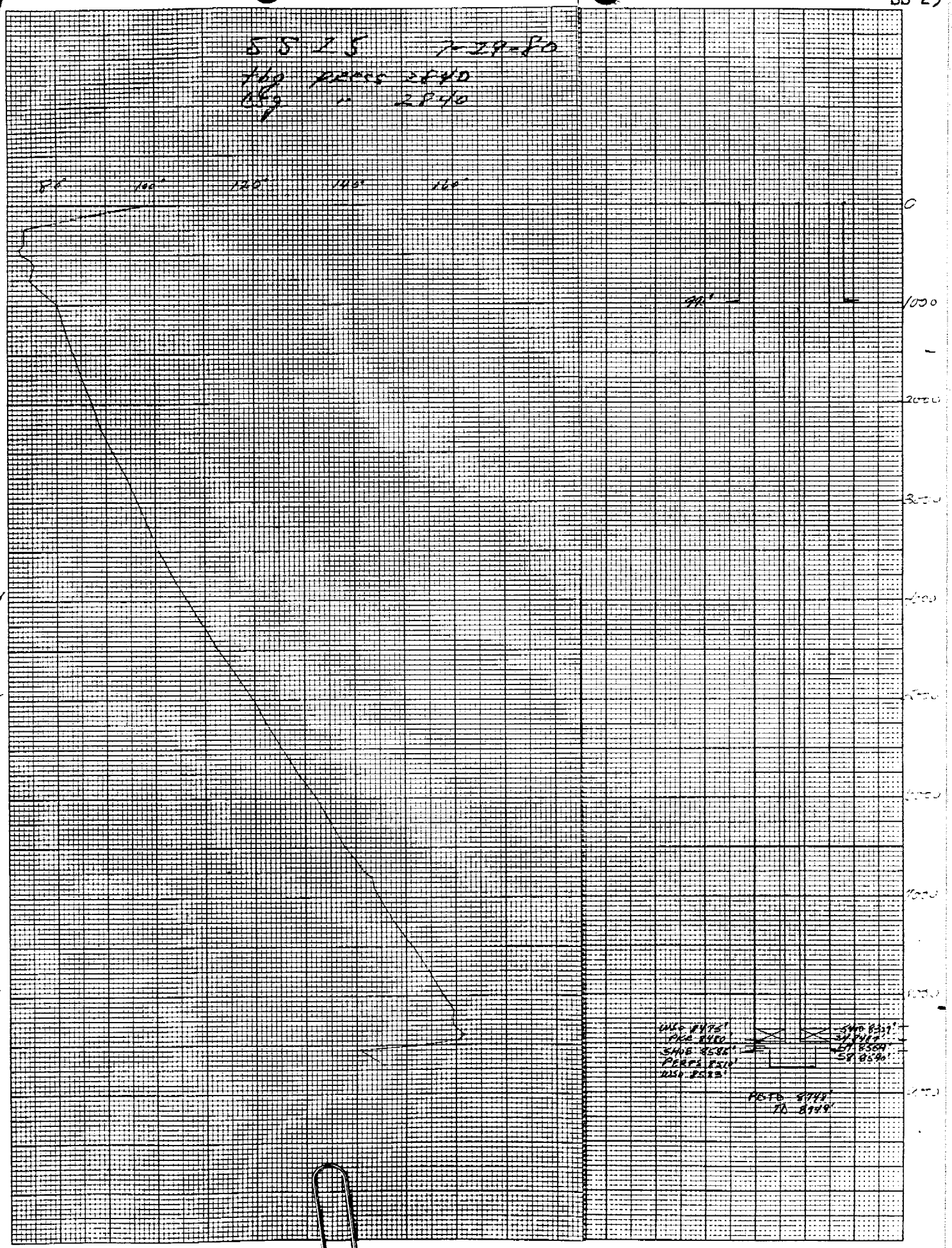
Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5:00	.009	35.6	5000 ✓	55.0	.356	115.7
250	7.50	OVER .095	64.3	5250	57.52	.375	118.4
500	10.0	OVER .104	66.8	5500	60.0	.397	121.5
750	12.5	.117	70.2	5750	62.5	.424	125.3
1000 ✓	15.0	.125	72.3	6000 ✓	65.0	.451	129.0
1250	17.5	.134	74.6	6250	67.5	.476	132.2
1500	20.02	.141	76.5	6500	70.0	.506	136.0
1750	22.5	.151	79.0	6750	72.5	OVER .538	140.0
2000 ✓	25.0	.160	80.9	7000 ✓	75.0	.564	143.1
2250	27.5	.171	83.2	7250	77.52	.594	146.6
2500	30.0	.183	85.7	7500	80.02	.626	150.3
2750	32.5	.196	88.5	7750	82.5	.657	153.8
3000 ✓	35.0	.209	91.0	8000 ✓	85.0	.688	157.1
3250	37.5	.222	93.5	8250	87.5	OVER .714	159.8
3500	40.0	.236	96.1	8500	90.0	OVER .653	153.3
3750	42.5	.253	99.3	8600	91.0	.679	156.1
4000 ✓	45.0	.269	101.9		95.0		
4250	47.5	.290	105.4				
4500	50.0	.312	108.9				
4750	52.5	.333	112.1				

50'	5.5	.047	49.4
100'	6.0	.078	59.1
450	9.5	.098	65.2
6700'	72.0	.531	139.1
6800	73.0	.548	141.3
6900'	74.0	.554	142.0
8175	86.75	.711	159.5
8200	87.0	.711	159.5
8400'	84.0	.738	162.3
8425'	89.25	.742	162.7
8450'	89.50	.730	161.5
8475'	89.75	.680	156.2
8550'	90.5	.673	155.5


SS-25 2-22-80
40
60
80
100
120
140
160
0
1
2
3
4
5
6
7
8
0
1000
2000
3000
4000
5000
6000
7000
8000
A
T 2220
C 2225
Talked to JWT about cooling at A.
The leak was investigated in 1978-79 + was found to be negligible
3-5-80



46 1512
KE 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SOUTHERN CALIFORNIA GAS COMPANY
SUB-SURFACE TEMPERATURE SURVEY

FIELD 171.50 WELL 5525 DATE 7-29-80

RECORDER NO. 39139 RUN NO. ____ SHEET NO. ____ OF ____ SHEETS BY ____

CLOCK HOURS 3 TIME CLOCK STARTED 1146 1/2 TIME RUN COMPLETED ____

WELL CONDITION DURING RUN, SHUT-IN ✓ FLOWING ____ INJECTION ____

HOURS WELL, SHUT-IN 7days FLOWING ____ INJECTION ____ BEFORE RUN ____

WELL HEAD PRESSURE

TUBING 2840

CASING 2840

FLOW RATE

GAS MCF/D ____

OIL BBL'S/D ____

WATER BBL'S/D ____

GOR ____

AMBIENT TEMPERATURE ____

ZERO POINT 6' M Value

PICK-UP ____

DATUM ____

FLUID LEVEL ____

	SIZE	DEPTH
TUBING	____	8491'
CASING	____	____
CASHING SHOE		____
LINER	____	
TOP		____
BOTTOM		____

PERFORATION

TOP ____

BOTTOM ____

SPECIAL INSTRUCTIONS ____

____ BY ____

REMARKS – USE REVERSE SIDE

FIELD OPERATOR

CHART READ BY

SOUTHERN CALIFORNIA GAS CO.—4295

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	TIME (3.0 Start Pick up 2nd time)	STYLUS DEFLECTION	TEMPERATURE
0		3.0	.264	98.6
250		5.60	.143 OVER	73.3
500		8.22	.142	73.0
750		10.78	.148	74.5
1000 ✓		13.25	.173	80.1
1250		15.83	.181	81.8
1500		18.35	.188	83.4
1750		20.82	.196	85.1
2000 D		23.35	206	87.2
2250		25.85	215	89.0
2500		28.42	.227	91.5
2750		30.95	240	94.1
3000 ✓		33.47	251	96.3
3250		36.05	263	98.4
3500		38.60	277	100.9
3750		41.10	292	103.6
4000 ✓		43.67	310	106.6
4250		46.17	329	109.8
4500		48.68	348	112.9
4750		51.15	370	116.2
5000 ✓		53.63	394	119.9
5250		56.18	411	122.4
5500		58.63	433	125.5
5750		61.15	457	128.8
6000 D		63.62	484	132.2
6250		66.10	507	135.0
6500		68.55	532	138.0
6750		70.98	564 OVER	141.9
7000 ✓		73.47	589	144.8
7250		75.80	613	147.6
7500		78.18	646	151.3
7750		80.50	675	154.4
8000 ✓		82.82	705 OVER	157.5
8250		85.35	722 OVER	159.2
8500		87.80	671 OVER	154.0
8700		89.80	596	145.6
		94.0		

350 - .143 - 73.
400 - .144 - 73.5
450 - .140 - 72.5
550 - .148 - 74.5
600 - .153 - 75.7

6800 - .575 - 143.2
6850 - .577 - 143.4
6900 - .580 - 143.7

8100 - .720 - 159.0
8150 - .724 - 159.4
8200 - .723 - 159.3
8300 - .726 - 159.7
8400 - .746 - 161.7
8450 - .733 - 160.4
8550 - .555 - 140.8

PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE PRESSURE SURVEY

COMPANY Southern California Gas FIELD Aliso Canyon WELL NAME SS 25

TOTAL DEPTH	8749'	WELL STATUS	Static	BOMB HUNG @	none	DATE	10-27-80
CASING	7" @ 8585'	CASING PRESSURE	---	TIME ON BOTTOM	8:57	ELEMENT RANGE	5300 PSI
LINER	5½"@8559'-8748'	TUBING PRESSURE	---	TIME OFF BOTTOM	8:59	ZERO POINT	6.35'
PERFORATIONS	--	ZONE		SHUT IN	---	ELEVATION	--
MPP	--	MAX °F	---	ON PRODUCTION	---	PICKUP	none
TUBING DETAIL	2 7/8" @ 8496', Pkr @ 8486'			PURPOSE	Pressure Gradient Survey		

MEASURED DEPTH	PRESSURE		VERTICAL DEPTH	GRADIENT
0	2723			
5000	3113	SURVEY DATA		.078
6000	3185			.072
7000	3255			.070
8000	3327			.072
8327	3349			.067
8590	3370			.080

Tom

SED 01583
AC_CPUC_0000244

PRUETT WIRELINE SERVICE

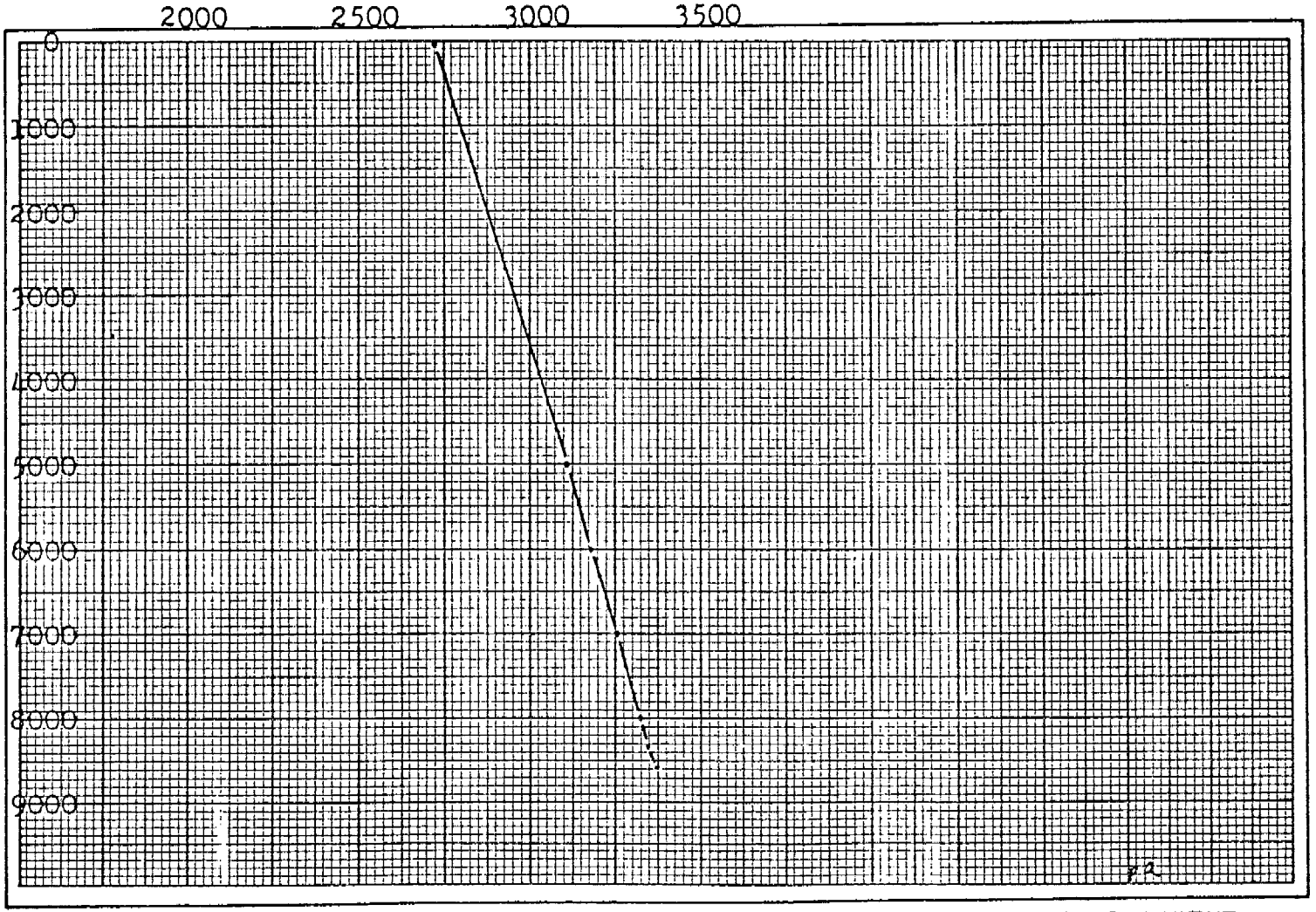
8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

Pruett Wireline

SUB—SURFACE PRESSURE SURVEY

COMPANY Southern California Gas FIELD Aliso Canyon WELL NAME SS 25

TOTAL DEPTH	8749'	WELL STATUS	Static	BOMB HUNG @	none	DATE	10-27-80
CASING	7" @ 8585'	CASING PRESSURE	---	TIME ON BOTTOM	8:57	ELEMENT RANGE	5300 PSI
LINER	5½"@8559'-8748'	TUBING PRESSURE	---	TIME OFF BOTTOM	8:59	ZERO POINT	6.35'
PERFORATIONS	--	ZONE	---	SHUT IN	---	ELEVATION	--
MPP	--	MAX °F.	---	ON PRODUCTION	---	PICKUP	none
TUBING DETAIL	2 7/8" @ 8496', Pkr @ 8486'			PURPOSE	Pressure Gradient Survey		



MEASURED DEPTH	PRESSURE	VERTICAL DEPTH	GRADIENT
0	2723		
5000	3113		.078
6000	3185		.072
7000	3255		.070
8000	3327		.072
8327	3349		.067
8590	3370		.080

SURVEY DATA

Tom

SED 01584
AC_CPUC_0000464

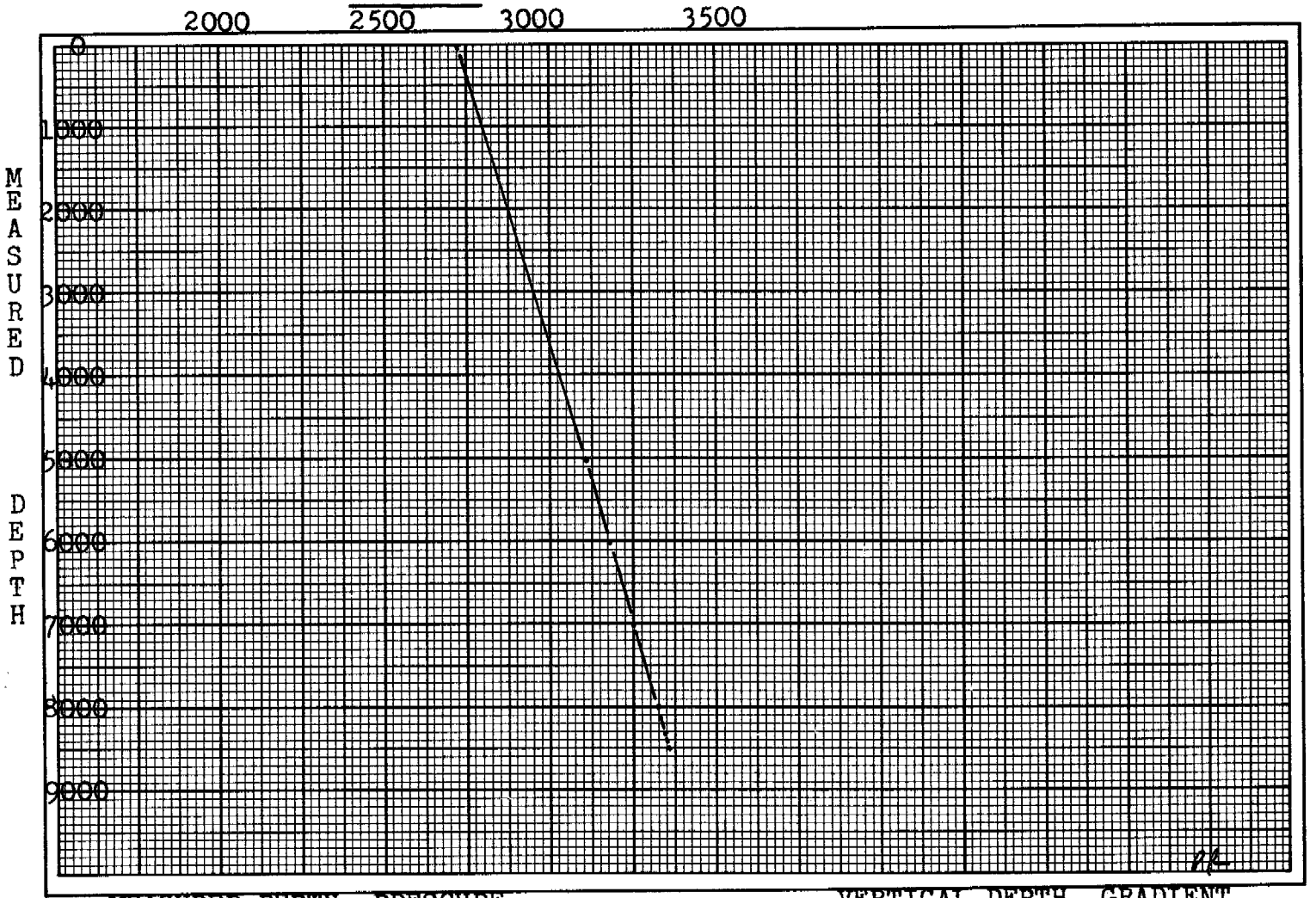
PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE PRESSURE SURVEY

COMPANY Southern California Gas **FIELD** Aliso Canyon **WELL NAME** SS 25

TOTAL DEPTH 8749'	WELL STATUS Static	BOMB HUNG @ none	DATE 11-3-80
CASING 7" @ 8585'	CASING PRESSURE --	TIME ON BOTTOM 8:54	ELEMENT RANGE 5300 PSI
LINER 2 1/2" @ 8559'-8748'	TUBING PRESSURE --	TIME OFF BOTTOM 8:56	ZERO POINT 6' --
PERFORATIONS ---	ZONE --	SHUT IN --	ELEVATION
MPP ---	MAX. °F. --	ON PRODUCTION --	PICKUP none
TUBING DETAIL 2 7/8" @ 8496', Pkr @ 8486'		PURPOSE Pressure Gradient Survey	



MEASURED DEPTH	PRESSURE	VERTICAL DEPTH	GRADIENT
0	2728		
5000	3115		.077
6000	3185		.070
7000	3255		.070
8000	3324		.069
8327	3349		.076
8472	3359		.069

SURVEY DATA

Tom

SED 01585
AC_CPUC_0000243

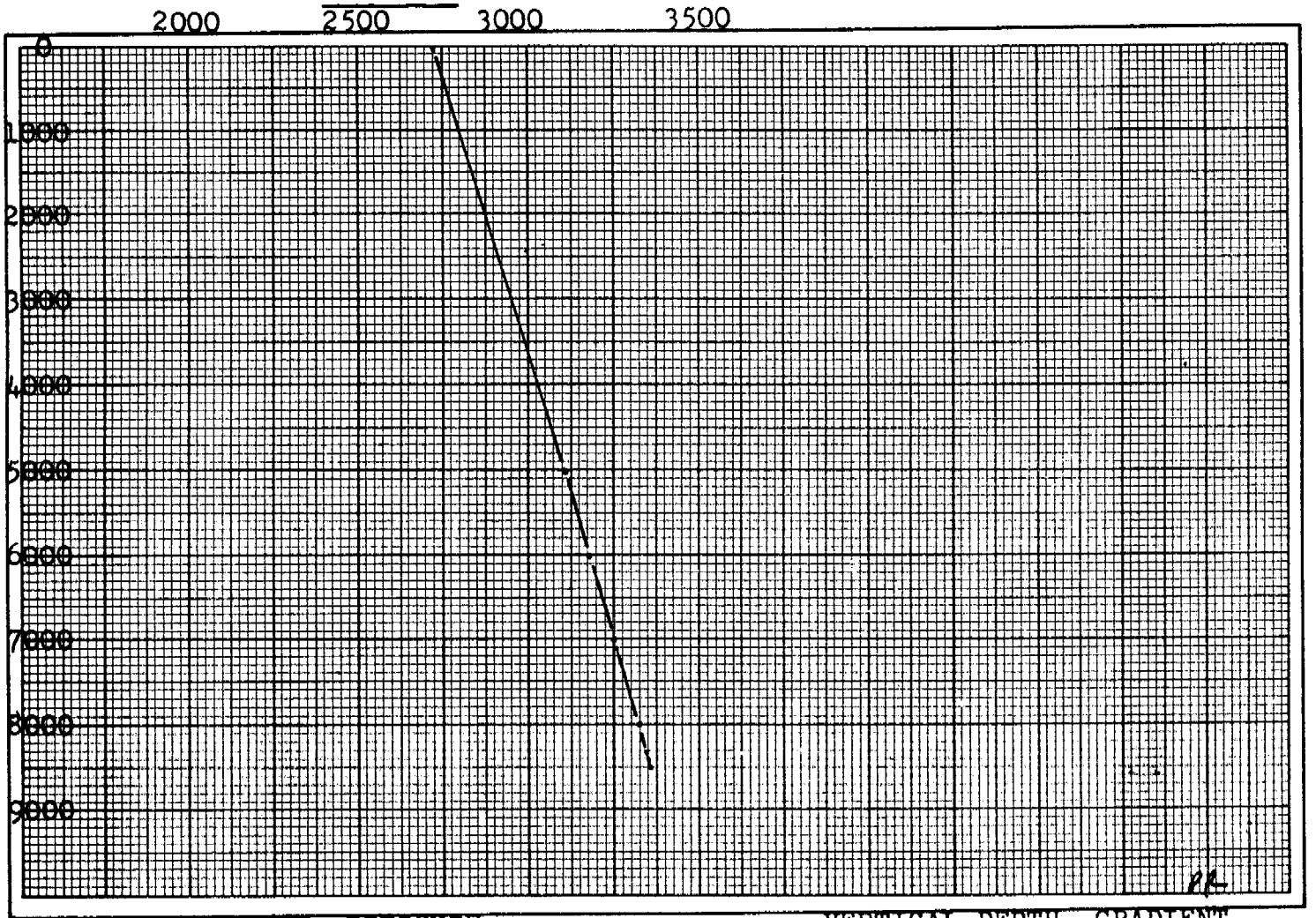
PRUETT WIRELINE SERVICE

8915 Rosedale Hwy, Bakersfield, Ca. 93308
(805) 589-2768

SUB—SURFACE PRESSURE SURVEY

COMPANY Southern California Gas FIELD Aliso Canyon WELL NAME SS 25

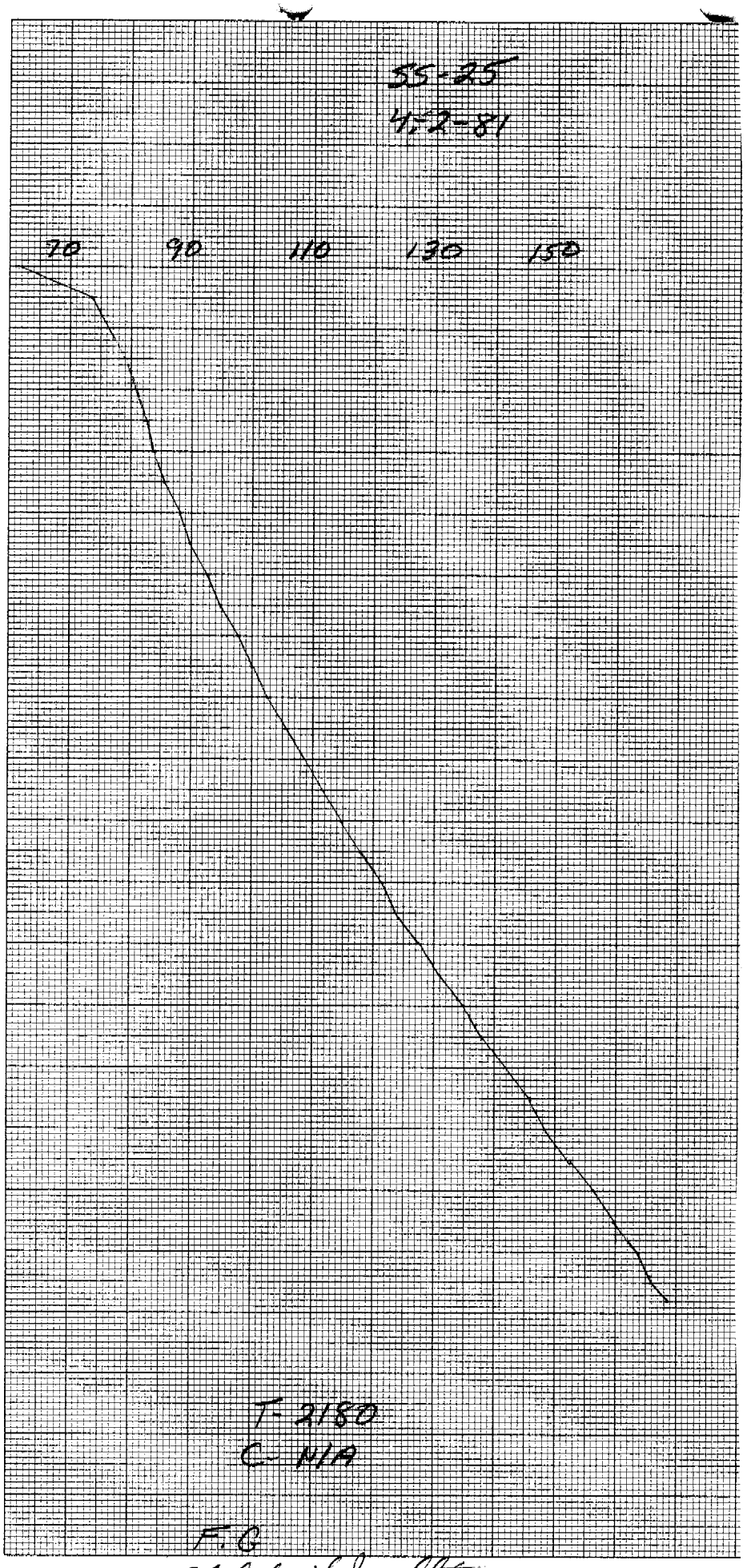
TOTAL DEPTH 8749'	WELL STATUS Static	BOMB HUNG @ none	DATE 11-3-80
CASING 7" @ 8585'	CASING PRESSURE --	TIME ON BOTTOM 8:54	ELEMENT RANGE 5300 PSI
LINER 5½"@8559'-8748'	TUBING PRESSURE --	TIME OFF BOTTOM 8:56	ZERO POINT 6' --
PERFORATIONS ---	ZONE ---	SHUT IN --	ELEVATION
MPP ---	MAX. °F. --	ON PRODUCTION --	PICKUP none
TUBING DETAIL 2 7/8" @ 8496', Pkr @ 8486'		PURPOSE Pressure Gradient Survey	



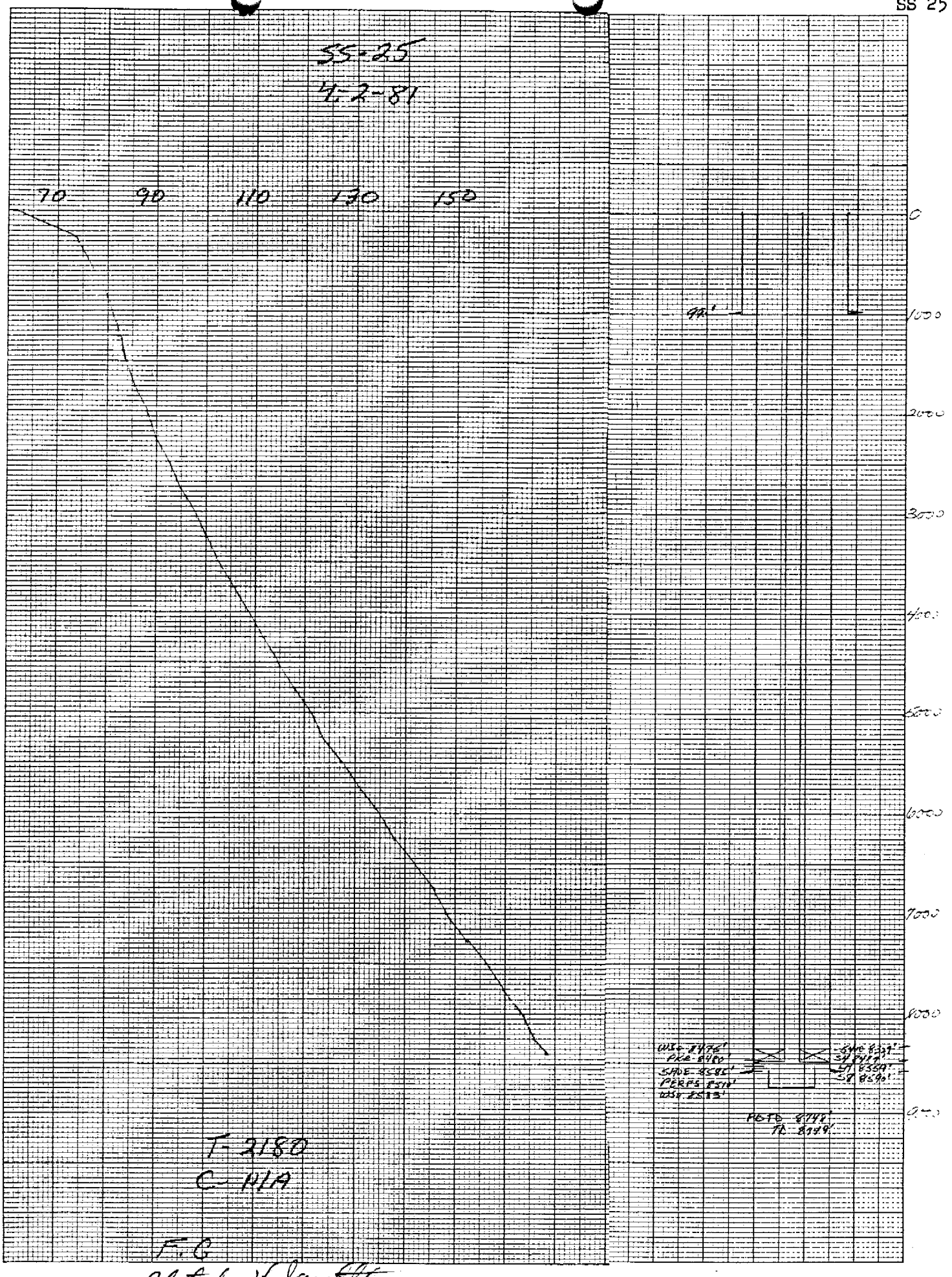
MEASURED DEPTH	PRESSURE	VERTICAL DEPTH	GRADIENT
0	2728		
5000	3115		.077
6000	3185		.070
7000	3255		.070
8000	3324		.069
8327	3349		.076
8472	3359		.069

SURVEY DATA

Tom



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

.02792941176

Southern California Gas Company
Aliso Canyon

Well 5525 Date 4-2-81 Element No. 39134 Clock Hours _____

Tubing Press. 2180 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. N/A Pick-Up _____ Operator JG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5:30	.085	61.2	5000 ✓	55.0	.395	121.2
250	4.5	.129	73.3	5250	57.5	.411	123.4
500	10.0	.133	74.4	5500	60.	.438	127.2
750	12.5	.147	78.0	5750	62.5	.466	130.9
1000 ✓	15.0	.151	79.0	6000 ✓	65.	.496	134.8
1250	17.5	.165	82.0	6250	67.5	.520	137.8
1500	20.	.173	83.6	6500	70.	.551	141.6
1750	22.5	.183	85.7	6750	72.5	.586	145.7
2000 ✓	25.0	.194	88.0	7000 ✓	75.	.606	148.0
2250	27.	.202	89.7	7250	77.5	.645	152.4
2500	30.	.217	92.5	7500	80.	.679	156.1
2750	32.5	.229	94.8	7750	82.5	.713	159.7
3000 ✓	35.0	.245	97.9	8000 ✓	85.0	OVER .747	163.2
3250	37.5	.257	99.9	8250	87.5	.772	165.6
3500	40.0	.271	102.2	8400	89.0	.801	168.4
3750	42.5	.289	105.2	—	91 —		
4000 ✓	45.0	.309	108.4				
4250	47.5	.327	111.2				
500	50.03	.348	114.5				
50	52.52	.372	117.9				

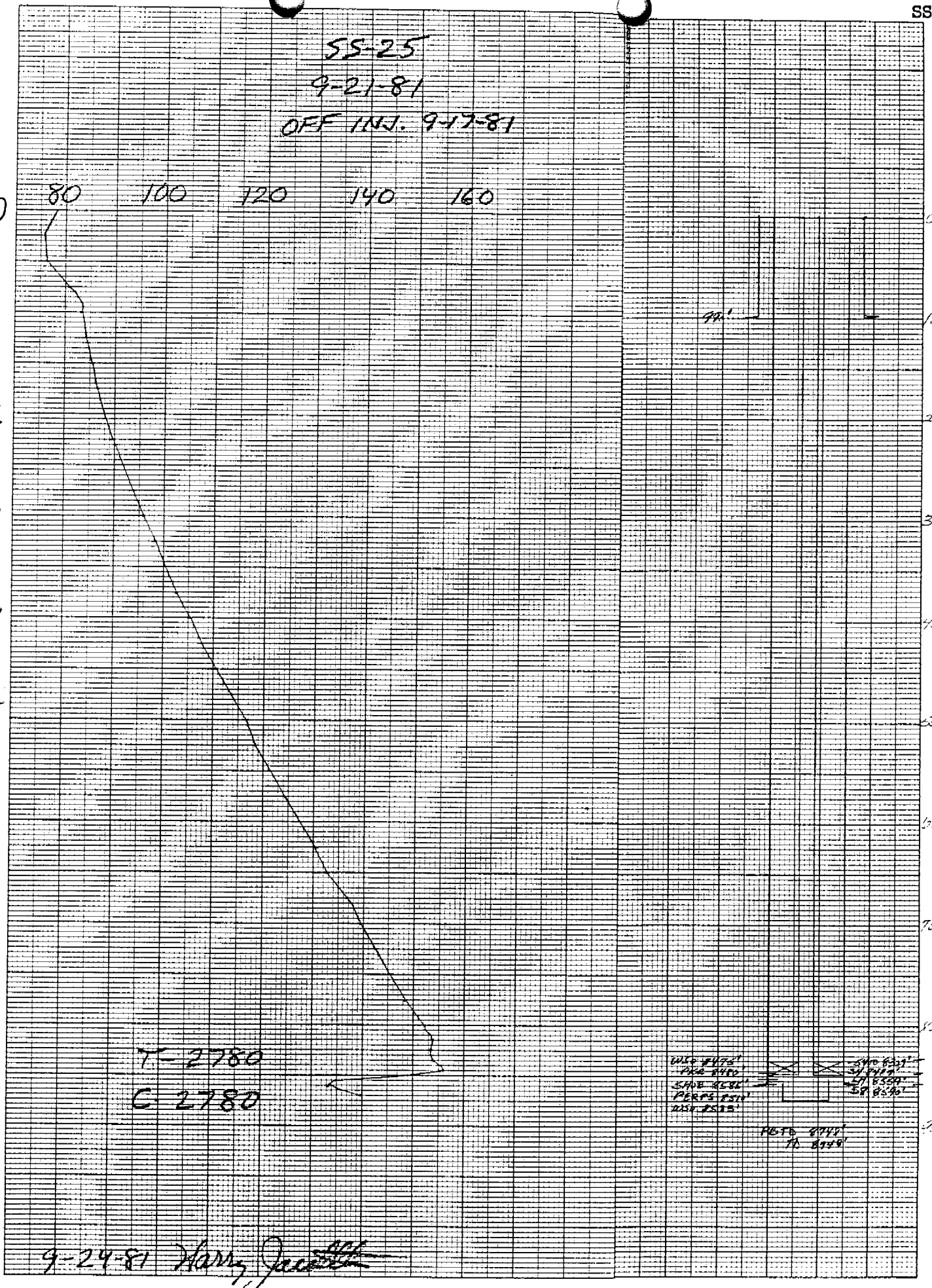
8200 87.0 .772 165.6

55-25
9-21-81
OFF INJ. 9-17-81
80
100
120
140
160
0
1
2
3
4
5
6
7
8
9
T- 2780
C. 2780
9-24-81
46 1512
10 X 10 TO THE CENTI METER
KEUFFEL & ESSER CO. MADE IN U.S.A.
18 X 25 CM.

SS-25

9-21-81

OFF INJ. 9-17-81



46 1512
KE 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

I 9-17

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 9-21-81 Element No. 39139 Clock Hours _____

Tubing Press. 2780 Status S/I Time Clock Started _____ Time Clock Off _____

Casing Press. 2780 Pick-Up _____ Operator HJ 100 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

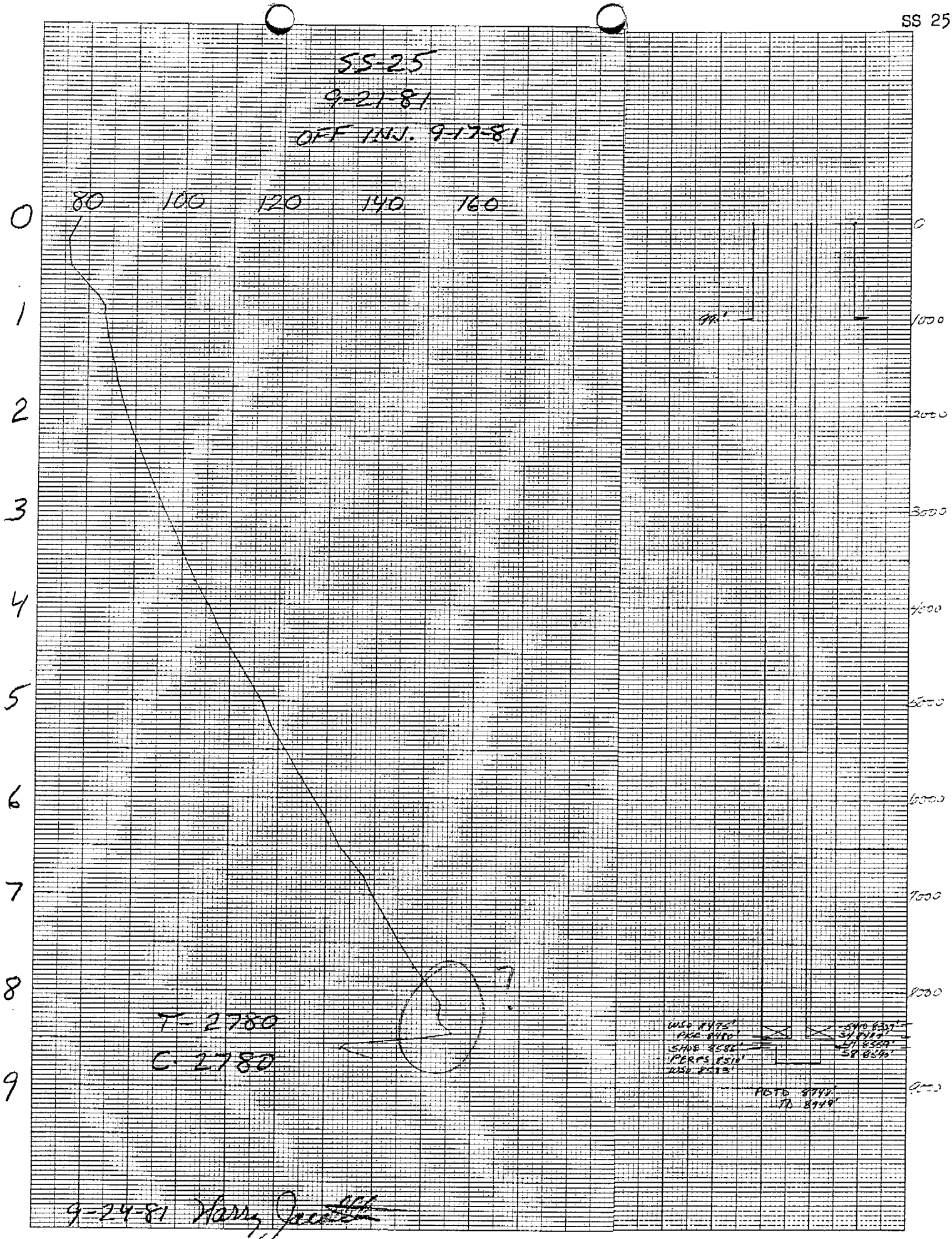
Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5 —	.164	78.1	5000 ✓	55.0	.372	116.5
250	7.5	.154	75.9	5250	57.5	.386	118.7
500	10.0	.156	76.3	5500	60.0	.402	121.1
750	12.5	.177 OVER	80.9	5750	62.5	.424	124.2
1000 ✓	15.0	.188	83.4	6000 ✓	65.0	.446	127.3
1250	17.5	.191	84.0	6250	67.53	.469	130.3
1500	20.0	.197	85.3	6500	70.0	.489	132.8
1750	22.5	.203	86.6	6750	72.5	.520 OVER	136.6
2000 ✓	25.0	.210	88.0	7000 ✓	75.0	.542	139.2
2250	27.5	.219	89.8	7250	77.5	.566	142.1
2500	30.0	.229	91.9	7500	80.0	.594	145.4
2750	32.5	.239	93.9	7750	82.5	.620	148.4
3000 ✓	35.0	.250	96.1	8000 ✓	85.0	.653 OVER	152.1
3250	37.5	.261	98.1	8250	87.5	.665 OVER	153.4
3500	40.0	.274	100.4	8500	90.0	.608 OVER	147.0
3750	42.5	.287	102.7	8700	92.0	.546	139.7
4000 ✓	45.0	.302	105.3				
4250	47.5	.317	107.8				
4500	50.0	.333	110.4	UP	95 —		
4750	52.5	.353	113.7				

800 - 13.0 - .182	82.0
850 - 13.5 - .184	82.5
900 - 14.0 - .187	83.1
950 - 14.5 - .188	83.4

6775 - 72.75 - .525	137.2
6800 - 73.0 - .529	137.7
6850 - 73.5 - .532	138.0
6900 - 74.0 - .535	138.4
6950 - 74.5 - .540	139.0

8050 - 85.5 - .656	152.4
8100 - 86.0 - .666	153.5
8150 - 86.5 - .669	153.8
8200 - 87.0 - .668	153.7
8250 - 87.5 - .665	153.4
8300 - 88 - .665	153.4
8350 - 88.5 - .670	153.9
8400 - 89 - .686	155.5
8450 - 89.5 - .690	156.0

8550 - 90.5 - 504	134.7
8600 - 91 - 495	133.6
8650 - 91.5 - 513	135.8



RCS 9/30/81

46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

WELL ACTIVITY REPORTS FOR SS 25

DATE	ACTIVITY/REMARKS
4/2/81	Fred ran temperature surveys
9/18/81	Pruett pulled BHC. Cost $367.00
9/21/81	Harry ran temperature survey
9/24/81	Pruett ran BHC. Cost $199.00
10/15/81	Pulled BHC and set plug for IW69's rig. Cost $259.00
11/3/81	Pruett pulled plug. Cost $337.50. Tried to set BHC, unable to set
11/4/81	Pruett unable to set BHC
11/5/81	Pruett ran IB, rigged down to get broach for SSSV nipple
11/6/81	Pruett ran broach, still unable to see BHC. Cost $519.00
11/24/81	Triangle ran noise log. Cost $3614.40
11/30/81	Pruett ran BHC
1/8/82	Pruett pulled BHC
1/13/82	Sand testing
1/29/82	Sand testing
2/5/82	Sand testing
2/8/82	Sand testing
3/3/82	Sand testing
3/17/82	Sand testing
10/18/82	Temperature survey. Gradient shift at shoe. Run A/A

WELL: SS-25

FLOW: CSG / [redacted]

	TEST 1	TEST 2	TEST 3	TEST 4	TEST 5
DATE:	12-8-81	1-13-82	1-29-82	2-5-82	2-8-82
$P_{up} \cdot T_{up}$:	590 • 047	1075 • 084	720 • 082	540 • 067	530 • 090
SIWHP:	2600 psi	1780 psi	1360 psi	1380 psi	1430 psi
SIBHP's					
SSSV:	3229 psi	2211 psi	1679 psi	1704 psi	1767 psi
S8/MPP:	3241 psi	2219 psi	1679 psi	1710 psi	1774 psi
-5400:	3219 psi	2204 psi	1673 psi	1699 psi	1762 psi
P_{up}:	590 psi	1075 psi	720 psi	540 psi	530 psi
P_{dn}:	590 psi	550 psi	525 psi	540 psi	630 psi
T_{up}:	47 °F	84 °F	82 °F	67 °F	90 °F
S. Chk:	— "	1.25"	1.35"	— "	— "
Q:	71000 MCF/D	40000 MCF/D	20000 MCF/D	26000 MCF/D	23000 MCF/D
Erosion:	0 %	6.7 %	5.65 %	0.92 %	3.23 %
Oil Prod:	— B/D	— B/D	— B/D	— B/D	— B/D
° API:	—	—	—	—	—

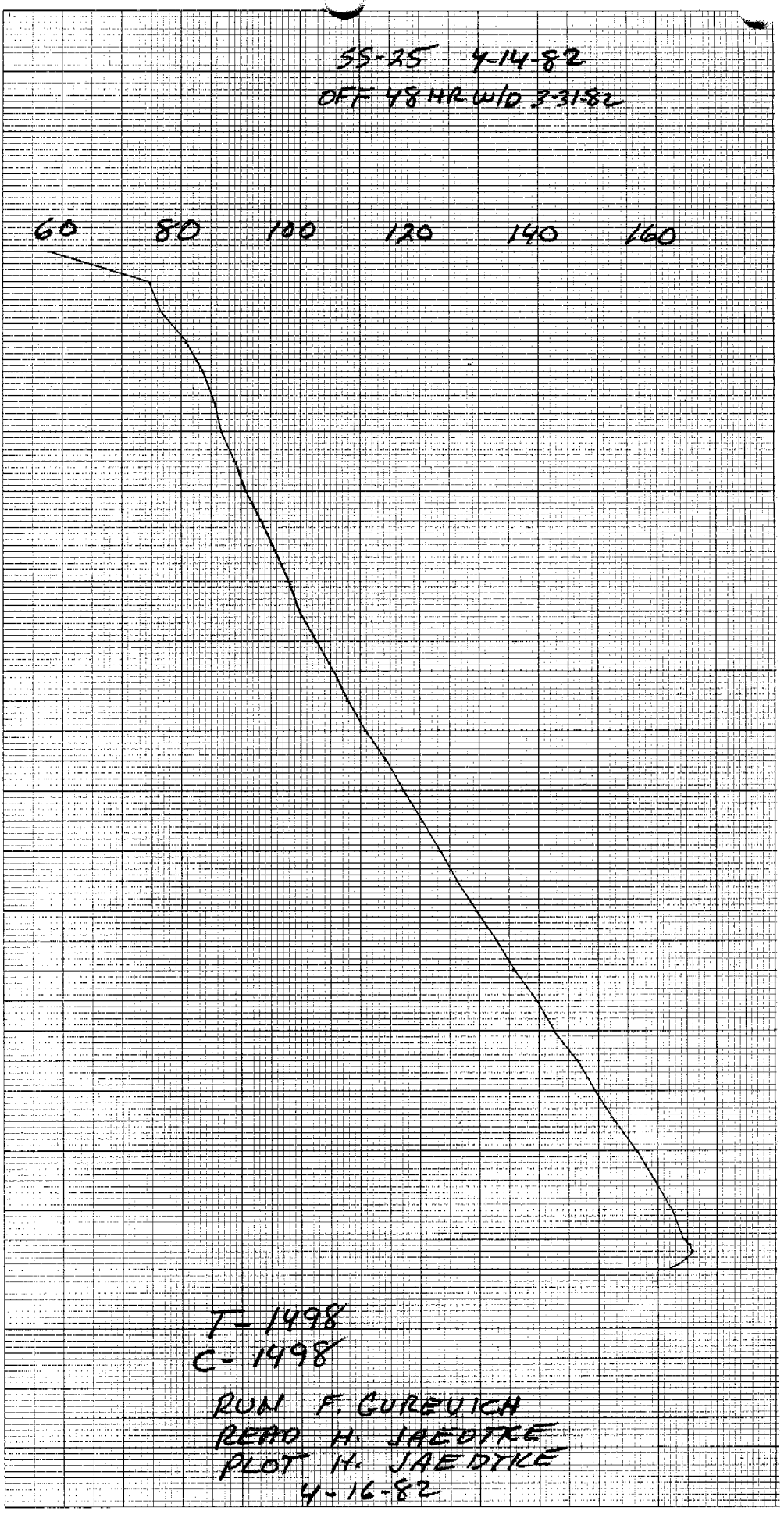
TVD'
① SSSV: 8451'
② S8/MPP: 8590'
③ -5400: 8327'
④ Gas Gr: 0.63
⑥ T_{avg}: 115 °F
⑤ T_{bh}: 159 °F

MD S8: 8590'

TVD' MARKER LLLL'. D.DDD"	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN
⑳ 0.0										
㉑ 0.0										
㉒ 8458.5126	590		1075		720		540		530	
㉓ 0.2313	1422		1504		956		809		768	
㉔ 20.2441	1468		1518		961		819		777	
㉕ 0.2205	1508		1532		966		829		786	
㉖ 21.2441	3032	[1.0 BHC]	1548		973		842		796	
㉗ 67.6184	3056		1562		978		852		805	
㉘ 31.4778	3061		1565		980		854		807	
㉙ 0.0			1567		981		855		808	

ΔP^2:	1.12 X 10^6		2.49 X 10^6		1.88 X 10^6		2.22 X 10^6		2.52 X 10^6	
Design Q:	MCF/D		MCF/D		MCF/D		MCF/D		MCF/D	
Dsgn ΔP^2:	X 10^6 "		X 10^6		X 10^6 "		X 10^6 "		X 10^6 "	
Dsgn Chk:										
By:	JBL	$\frac{P}{2}$ = 3791	JRI	$\frac{P}{2}$ = 2533	JRL	$\frac{P}{2}$ = 1834	JRI	$\frac{P}{2}$ = 1869	JRI	$\frac{P}{2}$ = 1988

SED 01597
AC_CP0C_0000677



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SS-25 4-14-82
OFF 48 HR W/D 3-31-82

60 80 100 120 140 160

0 1 2 3 4 5 6 7 8 9

0 1000 2000 3000 4000 5000 6000 7000 8000 9000

99'

T-1498
C-1498

RUN F. GUREVICH
READ H. JAEDTKE
PLOT H. JAEDTKE
4-16-82

461512

10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SED 01599
AC_CPUC_0000411

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 4-14-82 Element No. 39138 Clock Hours 3

Tubing Press. 1498 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 1498 Pick-Up _____ Operator TG _____' per Minute

Time Press. on _____ Time Start Down 500 Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	500	.074	57.8	5000 ✓	550	.410	123.3
250	7.5	.132	74.1	5250	57.5	.431	126.2
500	10.	.140	76.2	5500	60.	.454	129.4
750	12.5	.160	80.9	5750	62.5	.482	133.0
1000 ✓	15.0	.172	83.4	6000 ✓	65.0	.506	136.0
1250	17.5	.180	85.1	6250	67.5	.533	139.4
1500	20.	.188	86.8	6500	70.	.559	142.5
1750	22.5	.198	88.9	6750	72.5	.593	146.5
2000 ✓	25.0	.208	90.8	7000 ✓	75.0	.618	149.4
2250	27.5	.220	93.1	7250	77.5	.646	152.5
2500	30.	.232	95.4	7500	80.	.680	156.2
2750	32.5	.246	98.0	7750	82.5	.710	159.4
3000 ✓	35.0	.257	99.9	8000 ✓	85.0	.739	162.4
3250	37.5	.272	102.4	8250	87.5	OVER .764	164.8
3500	40.	.289	105.2	8500	90.	.728	161.3
3750	42.5	.305	107.8	8600	91.00	.710	159.4
4000 ✓	45.0	.324	110.7				
4250	47.5	.345	114.0		— 93.5		
4500	50.	.366	117.1				
4750	52.5	.389	120.3				

8300	88.0	.769	165.3
8350	88.5	.773	165.7
8400	89.0	.765	164.9
8450	89.5	.750	163.5

WELL: [illegible]

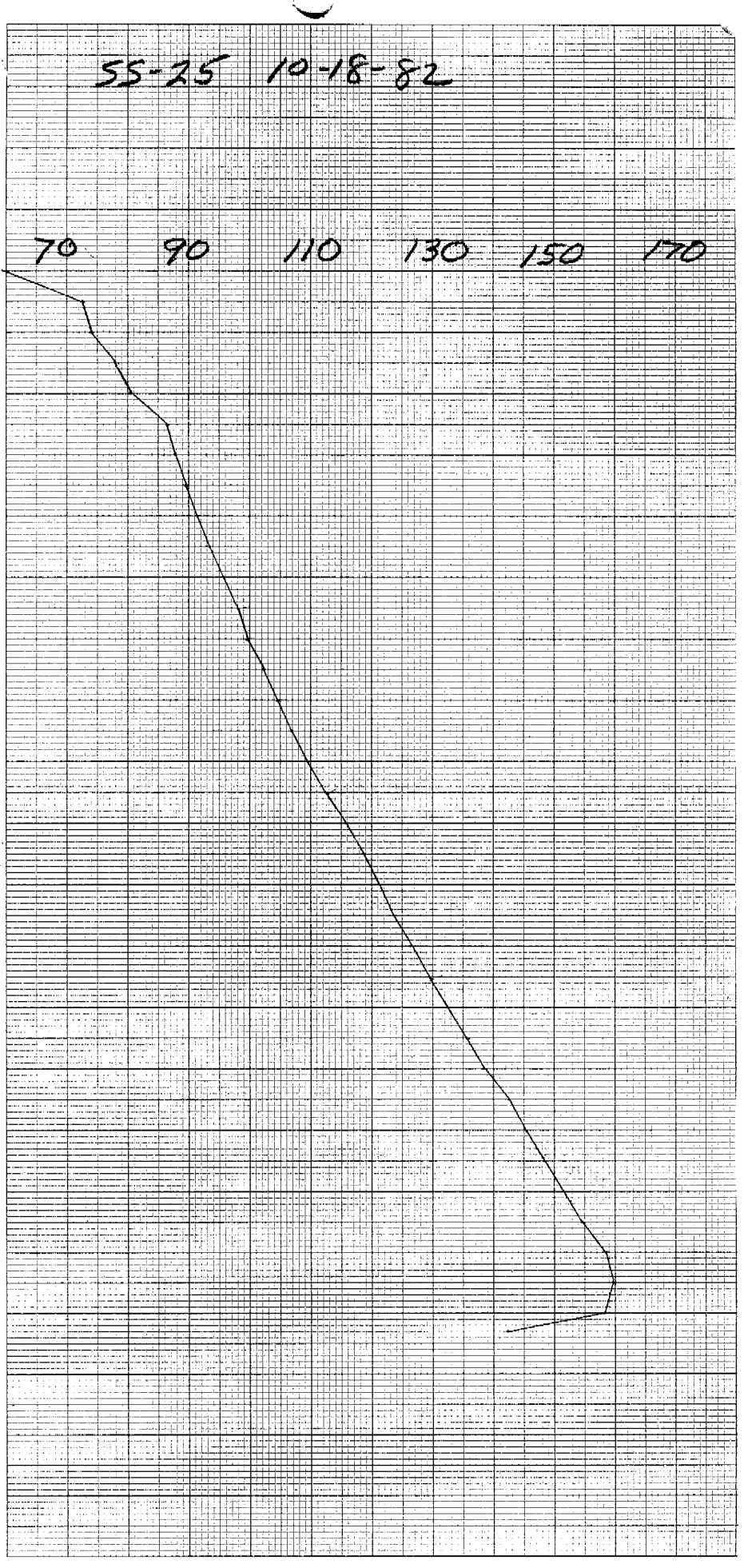
FLOW: CSG / [redacted]

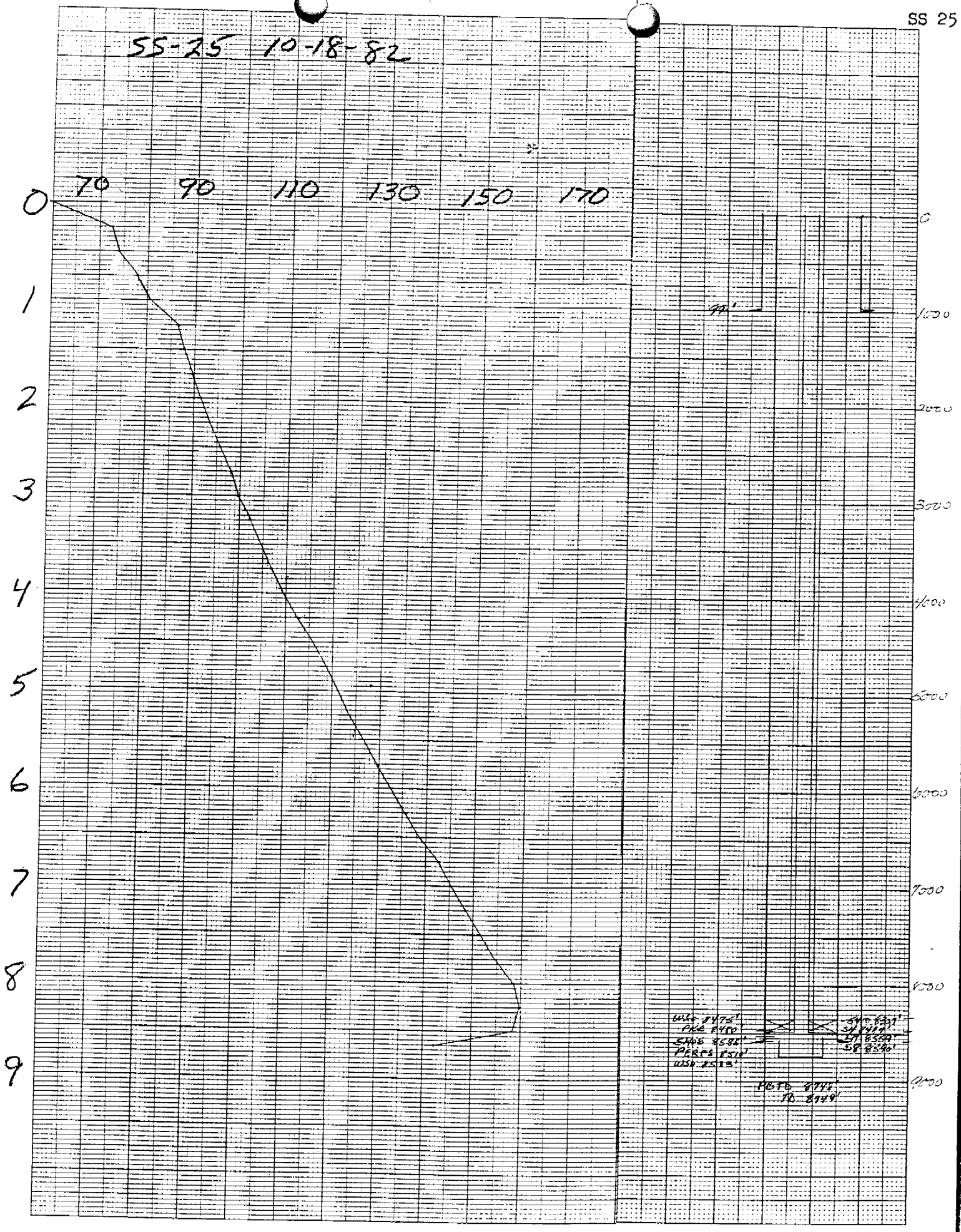
DATE: 3-3-82	DATE: 3-11-82	DATE: 10-10-82	DATE: 1-4-83	DATE: [illegible]	
TEST: 6	TEST: 7	TEST: 8	TEST: 9	TEST: 10	
$P_{up} \cdot T_{up}$: 540 . 061	$P_{up} \cdot T_{up}$: 600 . 077	$P_{up} \cdot T_{up}$: 2300 . 093	$P_{up} \cdot T_{up}$: 1320 . 076	$P_{up} \cdot T_{up}$: 950 . 096	
SIWHP: 1610 psi	SIWHP: 1580 psi	SIWHP: 2900 psi	SIWHP: 2090 psi	SIWHP: 1530 psi	
SIBHP's	SIBHP's	SIBHP's	SIBHP's	SIBHP's	
SSSV: 1996 psi	SSSV: 1958 psi	SSSV: 3589 psi	SSSV: 2601 psi	SSSV: 1894 psi	
S8/MPP: 2003 psi	S8/MPP: 1965 psi	S8/MPP: 3601 psi	S8/MPP: 2611 psi	S8/MPP: 1901 psi	
-5400: 1990 psi	-5400: 1952 psi	-5400: 3578 psi	-5400: 2593 psi	-5400: 1888 psi	
P_{up}: 540 psi	P_{up}: 600 psi	P_{up}: 2300 psi	P_{up}: 1320 psi	P_{up}: 950 psi	
P_{dn}: 520 psi	P_{dn}: 555 psi	P_{dn}: 500 psi	P_{dn}: 490 psi	P_{dn}: 500 psi	
T_{up}: 61 °F	T_{up}: 77 °F	T_{up}: 93 °F	T_{up}: 076 °F	T_{up}: 096 °F	
S. Chk: — "	S. Chk: — "	S. Chk: 1.25 "	S. Chk: 1.25 "	S. Chk: 1.35 "	
Q: 47000 MCF/D	Q: 48000 MCF/D	Q: 82000 MCF/D	Q: 50000 MCF/D	Q: 29000 MCF/D	
Erosion: 2.55 %	Erosion: 5.39 %	Erosion: 4.22 %	Erosion: 0.95 %	Erosion: 1.94 %	
Oil Prod: — B/D	Oil Prod: — B/D	Oil Prod: — B/D	Oil Prod: — B/D	Oil Prod: — B/D	
° API: —	° API: —	° API: —	° API: —	° API: —	

TVD' MARKER LLLL'. D.DDD"	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN	ANALYZE	DESIGN
(20) 0.0										
(21) 0.0										
(22) 8458.5126	540		600		2300		1320		950	
(23) 0.2313	1058		1125		3181		1861		1276	
(24) 20.2441	1084		1152		3211		1879		1284	
(25) 0.2205	1109		1177		3240		1896		1293	
(26) 21.2441	1140		1208		3275		1917		1303	
(27) 67.6184	1165		1233		3306		1934		1312	
(28) 31.4778	1167		1236		3312		1938		1315	
(29) 0.0	1169		1238		3315		1940		1316	

ΔP^2:	2.67 x 10^6	2.35 x 10^6	1.99 x 10^6	3.07 x 10^6	1.90 x 10^6
Design Q:	MCF/D	MCF/D	MCF/D	MCF/D	MCF/D
Dsgn ΔP^2:	x 10^6	x 10^6	x 10^6	x 10^6	x 10^6
Dsgn Chk:	"	"	"	"	"
By:	Dm P/Z = 2254	Dm P/Z = 2218	Dm P/Z = 4154	Ale PZ = 3033	Ale PZ = 2131

SED 01602
AC_CPUC_0000676


55-25 10-18-82
70
90
110
130
150
170
0
1
2
3
4
5
6
7
8
9
46 1512
10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.
18 X 25 CM.



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 10-18-82 Element No. 39138 Clock Hours _____

Tubing Press. 2850 Status _____ Time Clock Started _____ Time Clock Off _____

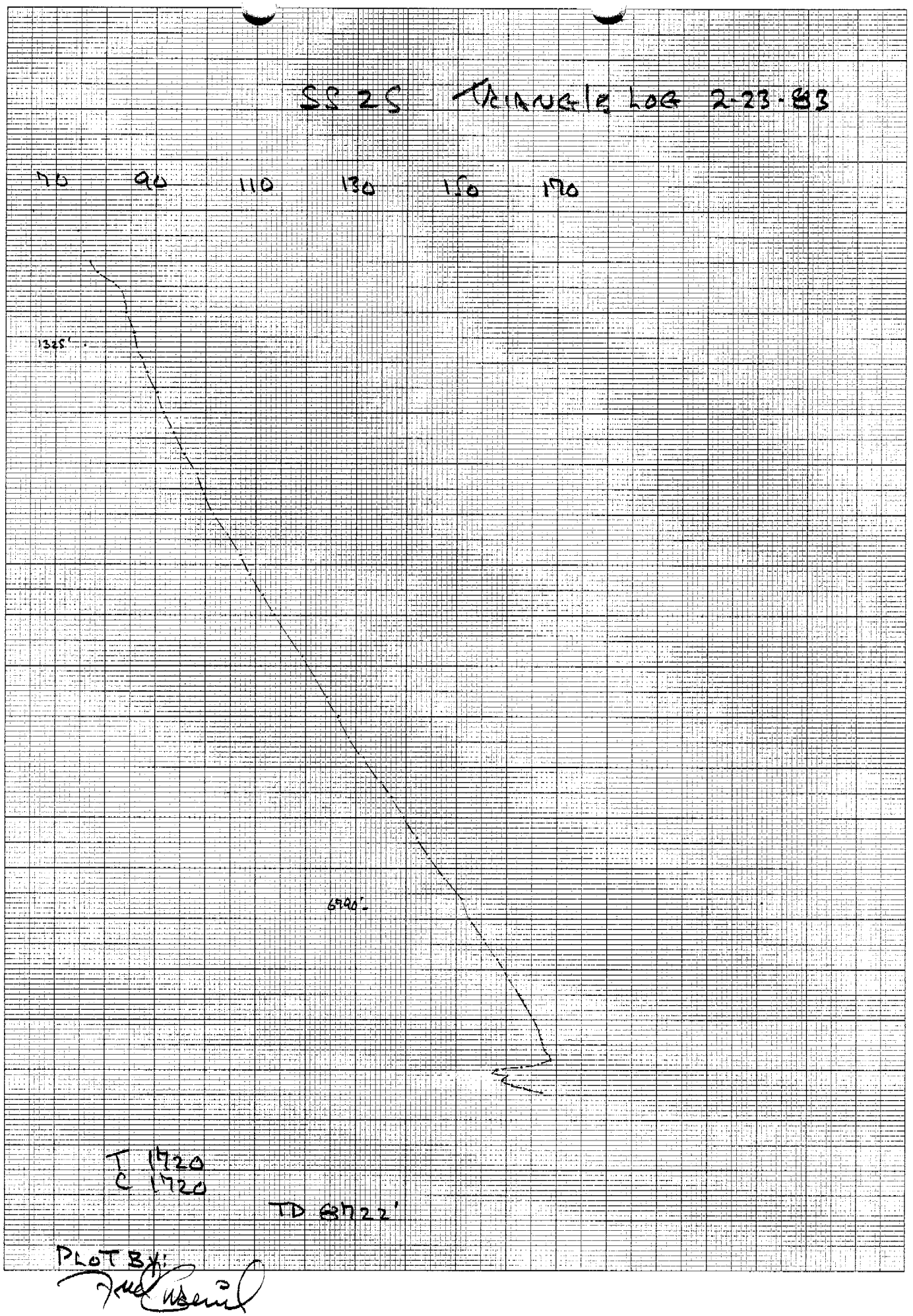
Casing Press. 2850 Pick-Up _____ Operator TG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 7

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5:00	.113	69.2	5000 ✓	55.0	.395	121.2
250	7.5	.146	77.8	5250	57.5	.412	123.6
500	10.	.151	79.0	5500	60.	.432	126.4
750	12.5	.170	83.0	5750	62.5	.457	129.8
1000 ✓	15.0	.181	85.3	6000 ✓	65.0	.480	132.7
1250	17.5	.187	86.6	6250	67.5	.503	135.7
1500	20.	.193	87.8	6500	70.	.526	138.5
1750	22.5	.202	89.7	6750	72.5	.558	142.4
2000 ✓	25.0	.210	91.2	7000 ✓	75.0	.583	145.3
2250	27.5	.221	93.3	7250	77.5	.608	148.2
2500	30.	.233	95.6	7500	80.	.639	151.7
2750	32.5	.246	98.0	7750	82.5	.667	154.8
3000 ✓	35.0	.257	99.9	8000 ✓	85.0	.699	158.3
3250	37.5	.270	102.1	8250	87.5	.714	159.8
3500	40.	.286	104.7	8500	90.	.697	158.1
3750	42.5	.300	107.0	8650	91.5	.557	142.3
4000	45.0	.316	109.5				
4250	47.5	.336	112.6		93.5		
4500	50.	.356	115.7				
4750	52.5	.376	118.5				

WELL ACTIVITY REPORTS FOR SS 25

DATE	ACTIVITY/REMARKS
2/23/83	A noise log was run to check the anomaly at the csg shoe. All four frequencies were quiet above the WSO. No further action recommended.
6/2/83	Ran temperature survey, no anomalies
10/28/83	Ran temperature survey, no anomalies
3/23/84	Ran temperature survey shows anomaly at shoe
4/2/84	Detail temperature shows large cooling at WSO @ 8475'
4/11/84	Noise log ran showed a small amount of gas movement above WSO @ 8475'. Rerun noise log at high inventory
7/18/84	Ran temperature survey which showed cooling at shoe from 8585' up to 8100'. A noise log will follow.
7/27/84	FLo-log ran temperature survey which showed cooling from top of perfs at 8510'-8100'. Noise showed possible gas movement from 8500'-8220'. A R/A survey will follow. Flo-log #285, #3,228.15
7/29/84	Flo-log ran capacitance log which showed fluid level at 8652'. A R/A tracer survey was then run by downhole injecting 100 mc of tracer at 8530' with the well shut-in. Small amount of gas movement was detected from 8510'-8190'. A recommendation is forthcoming. Flo-log #287, $4,707.64
1/31/85	Sand test: SC 1.30, SIWHP 1300 psi, Q 30 MMcf/d, ER 1.21%
2/26/85	Sand test: SC open, SIWHP 1340, ER 2.29%, Q 38 MMcf/d
4/2/85	Ran bottom-hole pressure survey
4/17/85	Ran bottom-hole pressure survey, pressure at datum (8333' TVD) 1546 psi, FL 8525' TVD
4/24/85	Ran temperature survey cooling above shoe less severe than previous survey. July 1984 noise log and tracer indicated small shoe leak. Will monitor at high inventory
7/16/85	Ran temperature survey, anomaly above shoe similar to, but breaks slightly higher than, surveys of past several years. Noise logs 7/84, 4/84, 2/83 and R/A 7/84 indicated no leakage above S-1, will monitor.
12/11/85	Sand testing: SC 1.25, SIWHP 1660, ER 2.1%, Q 38 MMcf/d
12/27/85	Changed choke to 1.35
1/2/86	Sand testing: SC 1.35, SIWHP 1920, ER 2.0%, Q 54 MMcf/d
1/14/86	Sand testing: SC 1.50, SIWHP 1780, ER 1.4%, Q 53 MMcf/d
3/5/86	Ran temperature survey, anomaly above shoe same as temp ran w/quiet noise log 7/27/84.
5/6/86	Ran BHP survey: FL 8460', Datum P 2259 psi, surface pressure not consistent w/deadweight.
8/13/86	Ran temperature survey, anomaly above shoe same as temp ran w/quiet noise log 7/27/84.

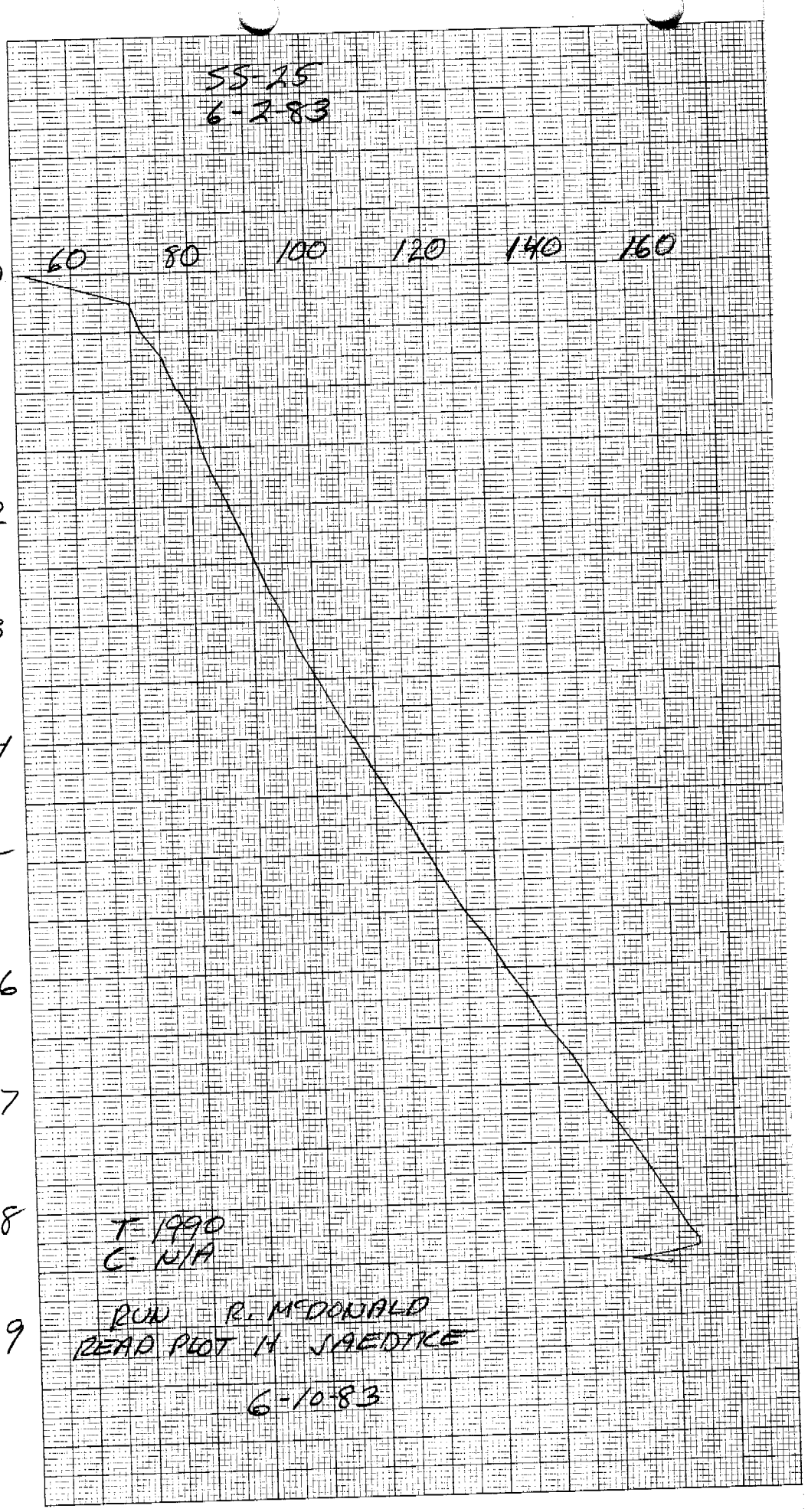


46 1512
K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SS-25 2-23-83

SUB-E'

0	65.4
~~400~~	
200	74.4
300	75.2
400	75.5
500	77.0
600	78.5
700	81.4
800	83.1
900	83.9
1000	84.0
1200	85.6
(1325)	
1400	86.6
1450	87.2
1600	88.2
1800	90.2
2000	91.8
2200	93.8
2400	95.8
2600	98.2
2800	99.8
3000	101.6
3200	104.3
3400	107.0
3600	109.0
3800	111.3
4000	113.8
4200	-
4400	119.2
4600	121.8
4800	124.2
5000	126.5
5200	128.8
5400	131.5
5650	135.0
5800	137.1
6000	139.6
6200	142.1
6400	144.8
6600	147.6
(6790) 6800	151.1
7000	152.8
7200	155.5
7400	158.1
7500	159.6
7600	160.6
7700	162.0
7750	162.6
7800	163.2
7850	163.8
7900	164.3
7950	165.0
8000	165.4
8050	166.
8100	166.5
8150	-
8200	167.1
8250	167.2
8275	167.5
8300	167.8
8325	168.2
8350	168.6
8375	169.0
8400	168.9
8425	168.2
8450	166.3
8475	163.0
8500	158.0
8525	157.2
8550	160.1
8575	160.0
8600	159.2
8625	159.7
8650	161.1
8675	163.4
8700	164.8
8722	167. TD



46 1512

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO MADE IN U.S.A.

55-25
6-2-83

60 80 100 120 140 160

0 1 2 3 4 5 6 7 8 9

0 1000 2000 3000 4000 5000 6000 7000 8000 9000

T= 1990
C= N/A

RUN R. McDONALD
READ PLOT H. JAEDICKE
6-10-83

46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 6-2-83 Element No. 39138 Clock Hours _____

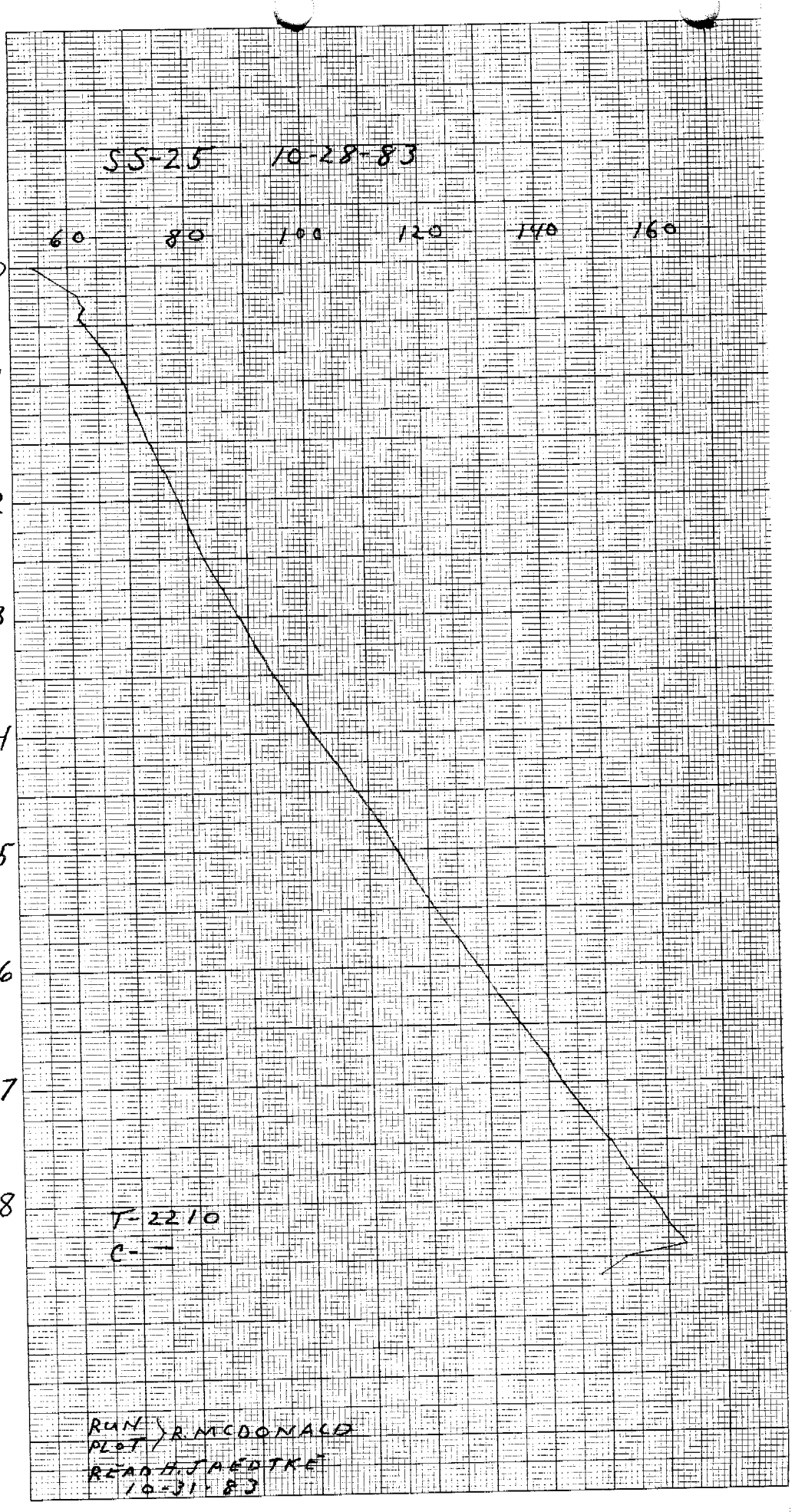
Tubing Press. 1990 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. N/A Pick-Up _____ Operator RM 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

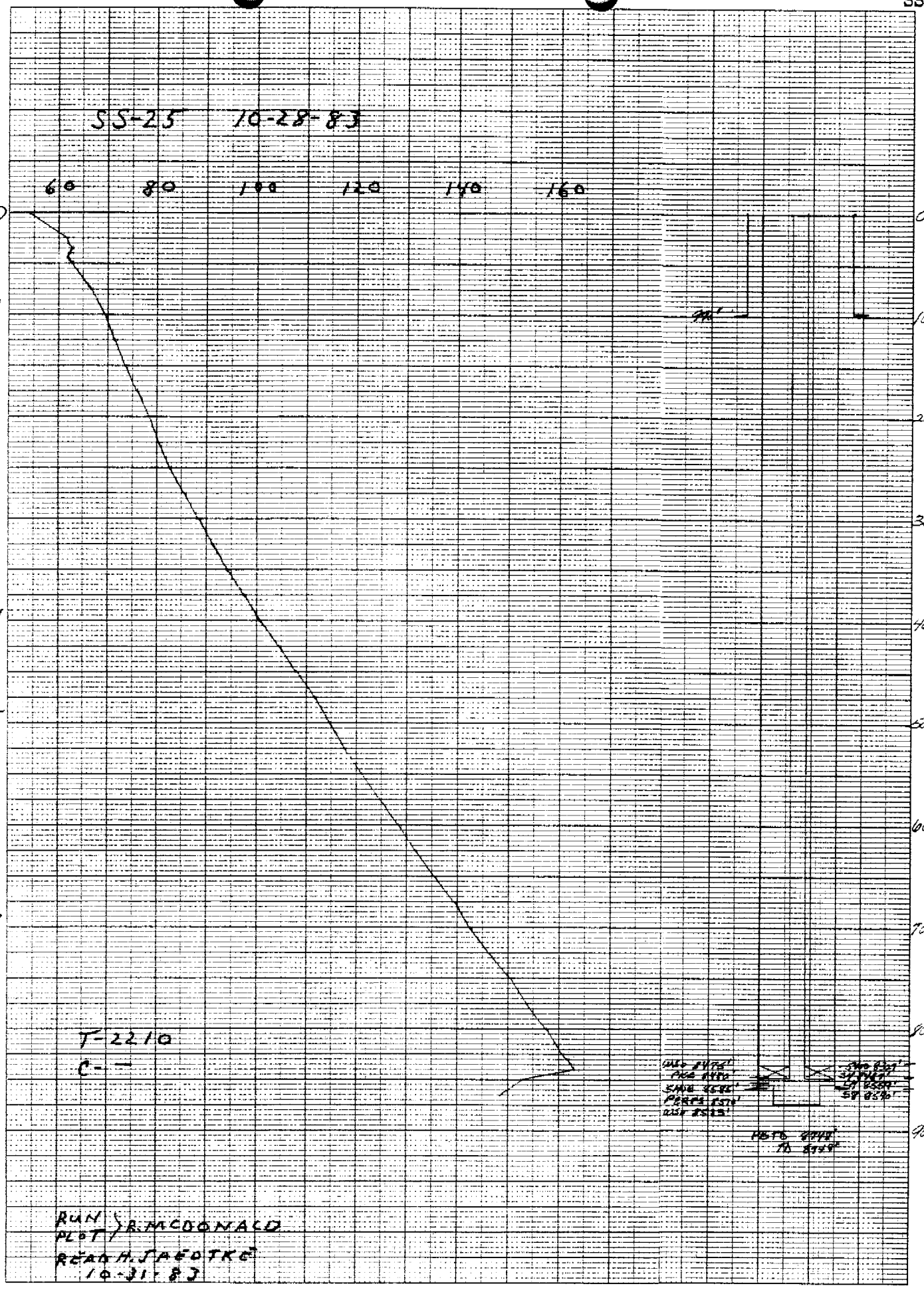
Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5'	.055	51.3	5000	55.0	.396	118.6
250	7.5	.121	69.8	5250	57.5	.417	121.4
500	10.0	.128	71.5	5500	60.0	.442	124.7
750	12.5	.143	75.2	5750	62.5	.471	128.3
1000	15.0	.155	77.9	6000	65.0	.499	131.7
1250	17.5	.166	80.2	6250	67.5	.528	135.0
1500	20.0	.173	81.6	6500	70.0	.554	138.0
1750	22.5	.182	83.5	6750	72.5	.590	142.1
2000	25.0	.194	86.0	7000	75.0	.619	145.3
2250	27.5	.205	88.1	7250	77.5	.651	148.9
2500	30.0	.216	90.2	7500	80.0	.685	152.4
2750	32.5	.230	92.8	7750	82.5	.718	155.7
3000	35.0	.242	95.1	8000	85.0	.748	158.8
3250	37.5	.256	97.6	8250	87.5	OVER .778	161.7
3500	40.0	.274	100.5	8500	90.0	.681	152.0
3750	42.5	.290	103.2	8600	91.0	.636	147.2
4000	45.0	.310	106.3				
4250	47.5	.329	109.1	UP	94.0		
4500	50.0	.352	112.5				
4750	52.5	.375	115.7				

8350	88.5	.794	163.3
8400	89.0	.795	163.4
8450	89.5	.758	159.8
8550	90.5	.647	148.5



46 1512

KEUFFEL & ESSER CO. MADE IN U.S.A. 10 X 10 TO THE CENTIMETER 18 X 25 CM



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 10-28-83 Element No. 39138 Clock Hours _____

Tubing Press. 2210 Status S/IN Time Clock Started _____ Time Clock Off _____

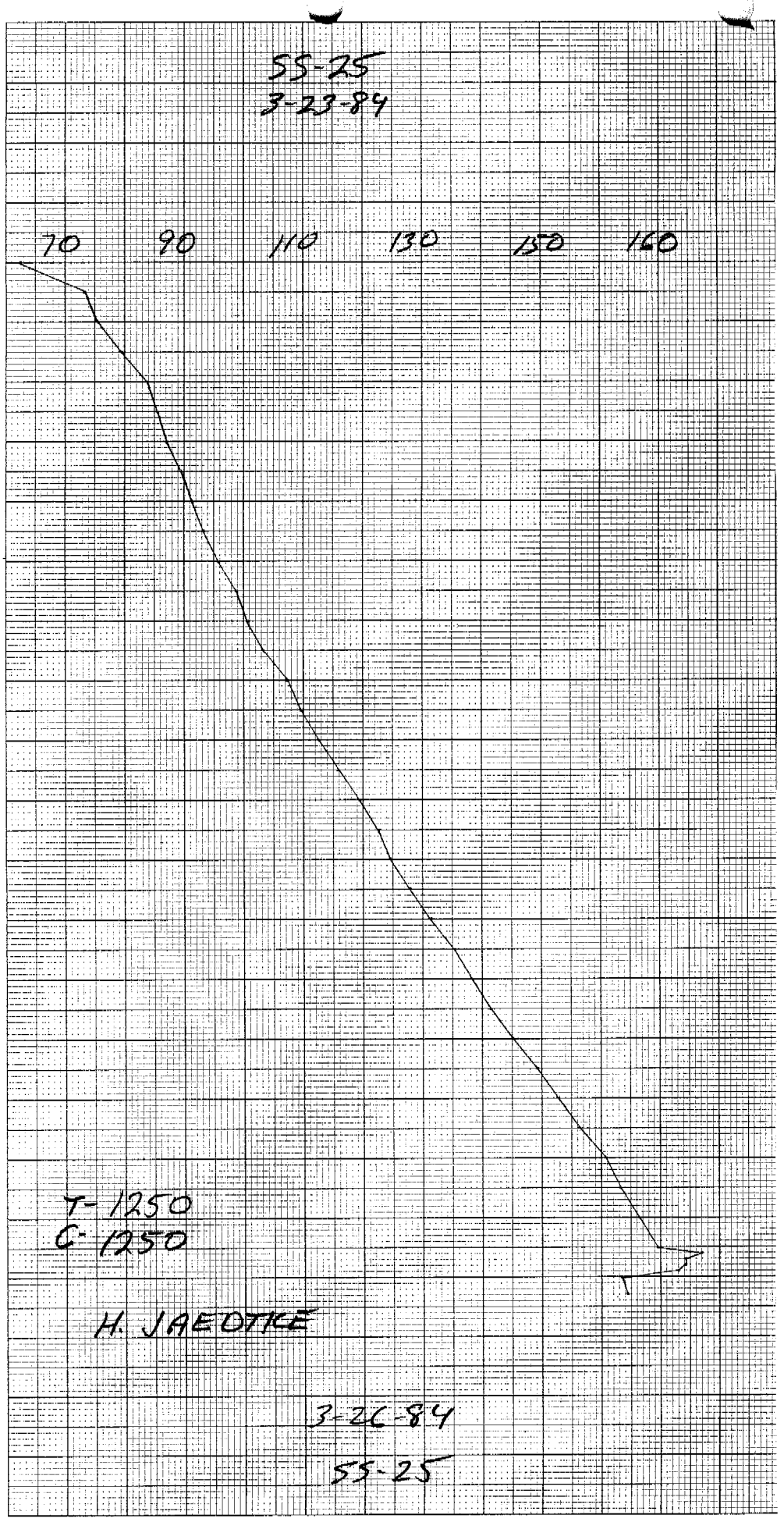
Casing Press. — Pick-Up _____ Operator RM 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.063	53.7	5000 ✓	55.0	.368	114.7
250	7.5	OVER .090	61.7	5250	57.5	.388	117.5
500	10.0	.093	62.6	5500	60.0	.414	121.0
750	12.5	.108	66.7	5750	62.5	.444	124.9
1000 ✓	15.0	.118	69.1	6000 ✓	65.0	.473	128.5
1250	17.5	.127	71.3	6250	67.5	.500	131.8
1500	20.0	.135	73.5	6500	70.0	.531	135.4
1750	22.5	.146	75.9	6750	72.5	.566	139.4
2000 ✓	25.0	.157	78.3	7000 ✓	75.0	.596	142.8
2250	27.5	.166	80.2	7250	77.5	.629	146.4
2500	30.0	.178	82.7	7500	80.0	.669	150.7
2750	32.5	.193	85.8	7750	82.5	.700	153.9
3000 ✓	35.0	.206	88.3	8000 ✓	85.0	.737	157.7
3250	37.5	.221	91.1	8250	87.5	OVER .769	160.9
3500	40.0	.236	94.0	8500	90.0	.682	152.1
3750	42.5	.255	97.4	8650	91.5	.649	148.7
4000 ✓	45.0	.274	100.5				
4250	47.5	.298	104.5	up	93.5		
4500	50.0	.321	107.9				
4750	52.5	.345	111.5				

300	8.0	.091 –	62.0
350	8.5	.093 –	62.6
400	9.0	.091 –	62.0
450	9.5	.090 –	61.7

8300	88.0	.778 –	161.7
8350	88.5	.788 –	162.7
8400	89.0	.791 –	163.0
8450	89.5	.741 –	158.1



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

55-25
3-23-84

70 90 110 130 150 160

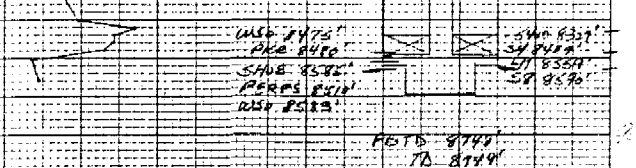
0
1
2
3
4
5
6
7
8
9

T-1250
C-1250

H. JAEOTICE

3-26-84

55-25



46 1512

KEUFFEL & ESSER CO. 10 X 10 TO THE CENTIMETER 18 X 25 CM

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 3-23-84 Element No. 39139 Clock Hours _____

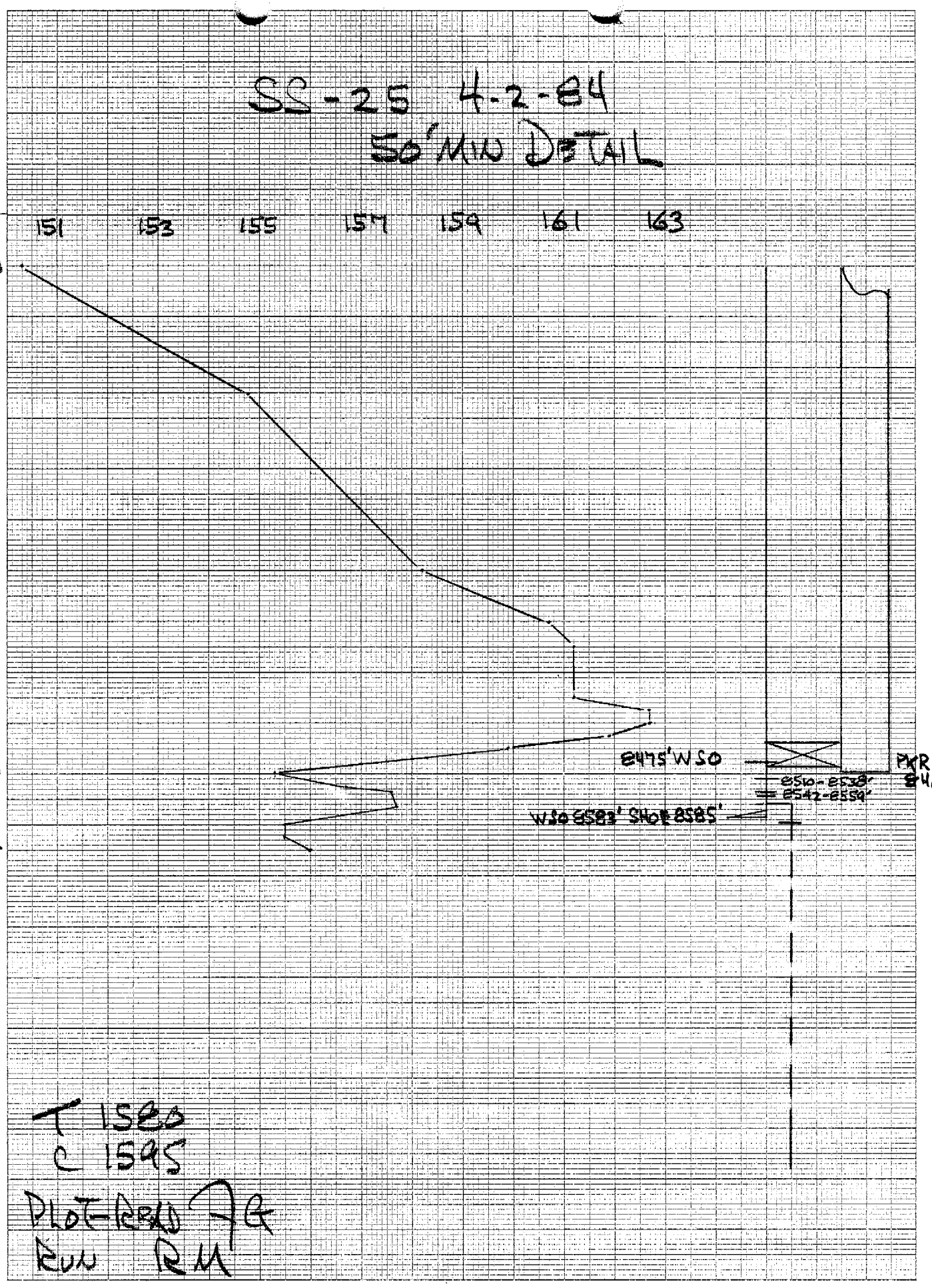
Tubing Press. 1250 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 1250 Pick-Up _____ Operator HFJ 100 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5—	.090	62.7	5000 ✓	55.0	.409	124.8
250	7.5	.130	73.2	5250	57.5	.432	128.0
500	10.0	.138	75.2	5500	60.0	.458	131.5
750	12.5	.156	79.5	5750	62.5	.487	135.3
1000 ✓	15.0	.176	83.9	6000 ✓	65.0	.511	138.3
1250	17.5	.183	85.5	6250	67.5	.537	141.5
1500	20.0	.190	87.0	6500	70.0	.567	145.1
1750	22.5	.201	89.4	6750	72.5	.602	149.2
2000 ✓	25.0	.211	91.4	7000 ✓	75.0	.632	152.6
2250	27.5	.221	93.4	7250	77.5	.663	156.1
2500	30.0	.233	95.8	7500	80.0	.709	160.9
2750	32.5	.248	98.8	7750	82.5	.733	163.3
3000 ✓	35.0	.259	100.8	8000 ✓	85.0	.767	166.7
3250	37.5	.272	103.1	8250	87.5	.795	169.5
3500	40.0	.295	107.1	8500	90.0	OVER .734	163.4
3750	42.5	.310	109.6	8650	91.5	.743	164.3
4000 ✓	45.0	.328	112.5				
4250	47.5	.349	115.9				
4500	50.0	.372	119.4	UP	95—		
4750	52.5	.393	122.6				

8300	88.0	.770	— 167.0
8350	88.5	.741	— 164.1
8400	89.0	.742	— 164.2
8450	89.5	.730	— 163.0



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 4-2-84 Element No. 39138 Clock Hours _____

Tubing Press. 1580 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 1595 Pick-Up _____ Operator RM 50 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5			5000			
250				5250			
500				5500			
750				5750			
1000				6000			
1250				6250			
1500				6500			
1750				6750			
2000				7000			
2250				7250	STOP 15.72		
2500				* 7500	20.0	.665	150.3
2750				7750	25.0	.709	154.8
3000				8000 ✓	30.0	.742	158.2
3250				8250	35.0 OVER	.772	161.2
3500				8500 ✓	40.0	.714	155.3
3750				8650	43.0	.721	156.0
4000							
4250				UP	46.0		
4500							
4750							

E200'	34.0	.767	160.7
E350'	37.0	.772	161.2
E375'	37.5	.778	162.7
E400'	38.0	.778	162.7
E425	38.5	.780	161.9
E450	39.0	.759	159.9
E525'	40.5	.727	156.7
E537'	40.75	.736	157.6
E562	41.25	.737	157.7
E600	42.0	.716	155.5
E625	42.5	.716	155.5

PERMANENT DATUM	61' K.B.	ELEVATION	2927'
LOG MEASURED FROM	61' B.D.	CONNECTED TO	TUBING & ANNULUS
TOTAL DEPTH	8748'	OBSERVED DEPTH (Driller)	8709
TOP OF LOGGED INTERVAL	200	BOTTOM LOGGED INTERVAL	8709
TYPE OF FLUID IN HOLE	GAS	FLUID LEVEL	0
LOG RECORDED BY	CLARK & HELMS	WITNESSED BY	BRET LANE

CASING AND TUBING RECORD

	Size	Weight	From	To
	11-3/4"	42	0	990
	7	23	0	8585
	5-1/2	20	8559	8748
TUBING SIZE	2-7/8	DEPTH		8496
PACKER(S)				8491
MANDREL(S)				8405
PERFORATIONS	8510-38, 8542-8559'			
	8592-8748'			

WELL STATUS	SHUT-IN GAS STORAGE			
	Pressure	Flowing	Injecting	Shut-in
	TBG			1595
	CSG			1595
INJ. RATE		TYPE		
OBS. RATE				
PRODUCTION Oil		Gravity		API
Water				
Gas				
BOTTOM TEMPERATURE				

LOGGING UNIT	711	LINE SIZE	3/16"
TOOLS USED	5' BAR 5' BAR 5' BAR CCL TEMP NOISE	LINE LENGTH	20,000'
TOOL NUMBERS			4030
DIAMETER	1-3/8"		

RESULTS AND REMARKS: POSSIBLE SLIGHT SHOE LEAKAGE MIGRATING HIGHER THAN 8440' (NOTE TEMPERATURE BREAK AROUND 6800').

COMPANY SOUTHERN CALIFORNIA GAS
WELL NO. STANDARD SESSION No. 25
FIELD ALISO CANYON
COUNTY LOS ANGELES STATE CAL.
DATE 4-11-84

PURPOSE OF SURVEY: CHECK FOR SHOE LEAK.

FLO-LOG INC.

NOISE AND TEMPERATURE SURVEY

FLO-LOG INC.
NOISE LOG

S.S. No. 25
4-11-84

200 Hz 1000 600 200 Hz

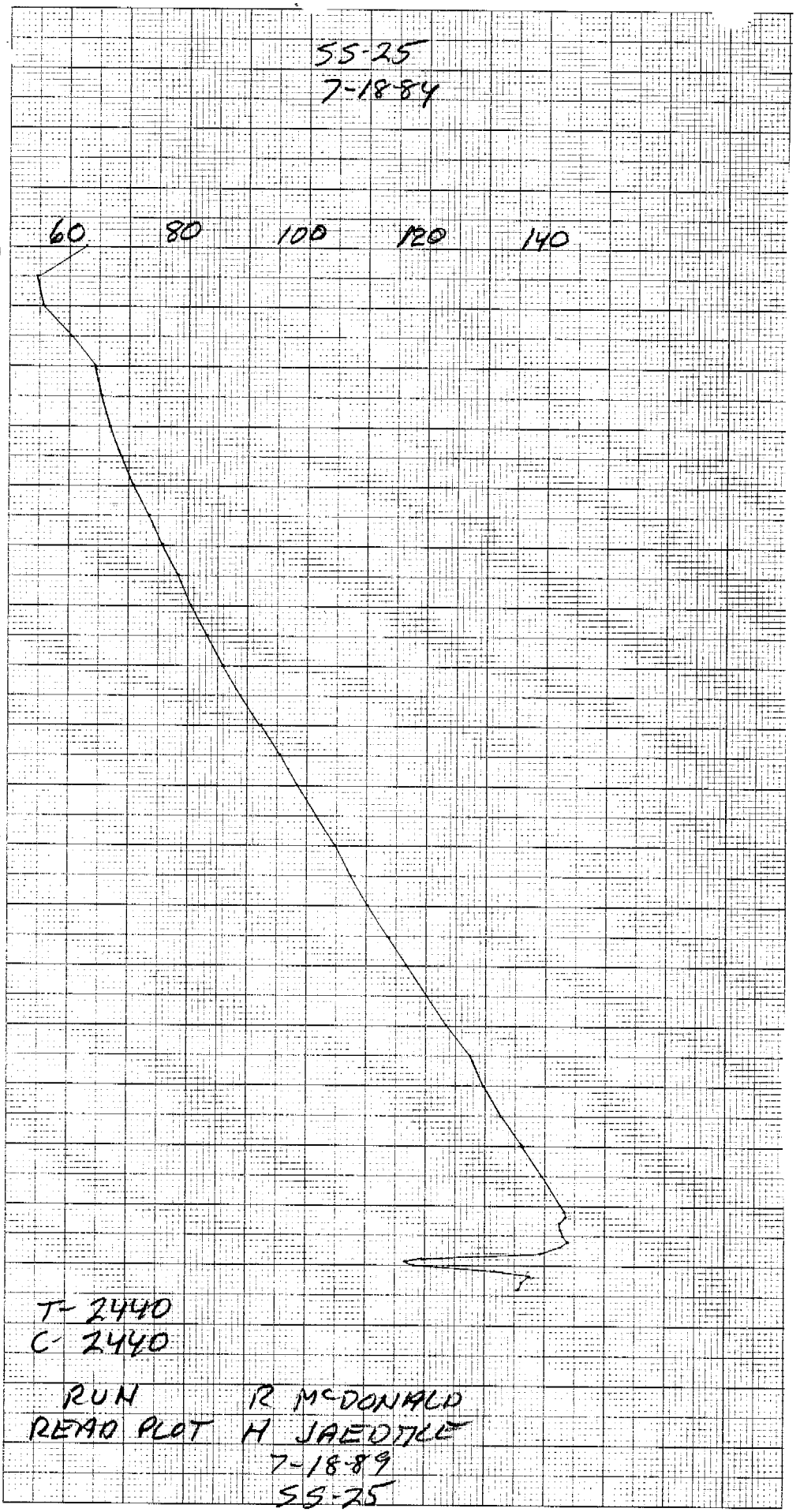
1-3/8" @ 8496'

TEMPERATURE

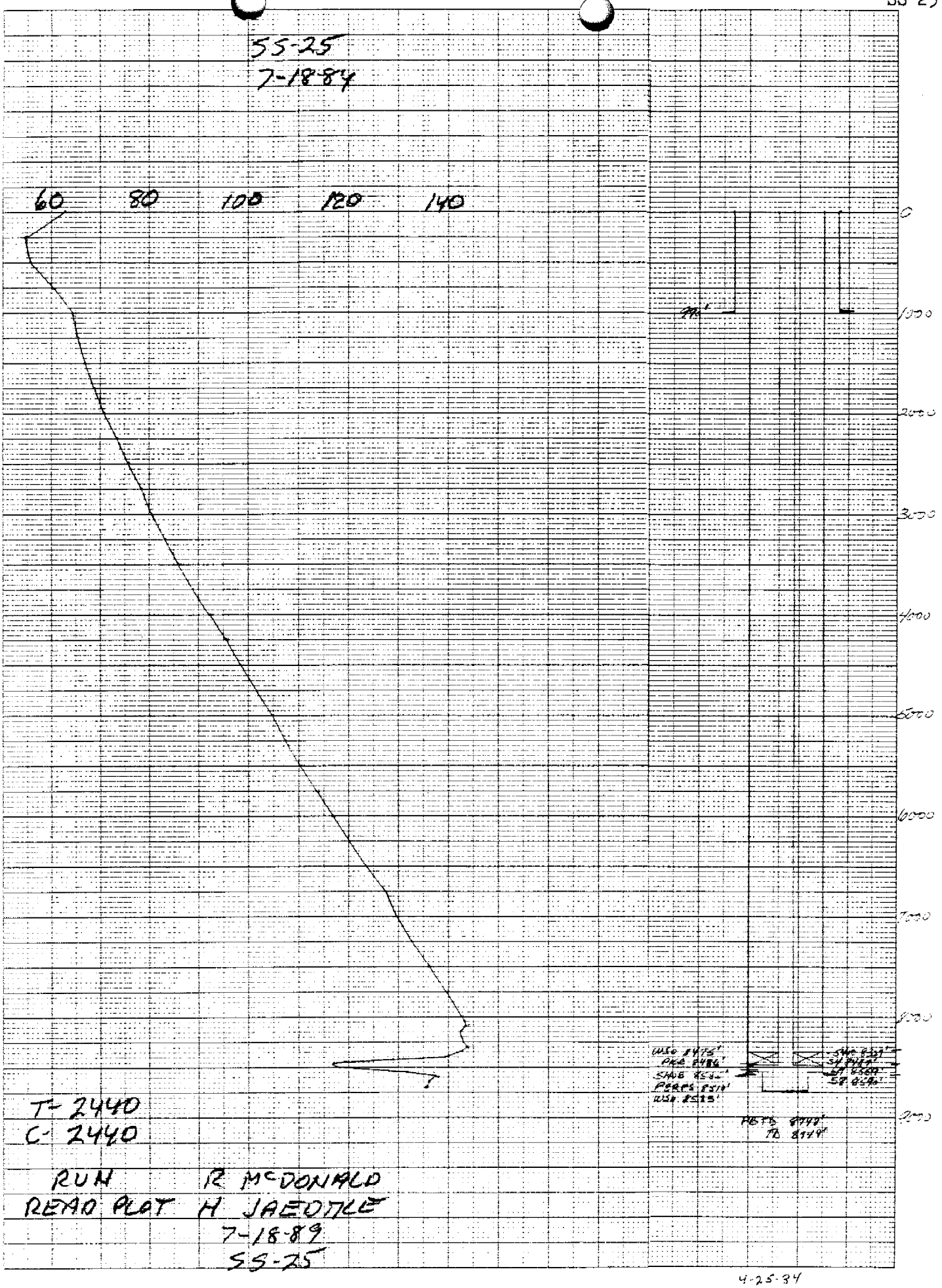
75° 80° 200'
90° 100° 110° 120° 800'
140° 150° 160° 5200'
6000'
6400'
6800'
7000'
7200'
7400'
7600'
7800'
8000'
8200'
8400'
8600'

WEIGHT

8405'
8491'
8496'
8542-8559'
8592-8748'



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512
10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 7-18-84 Element No. 39138 Clock Hours _____

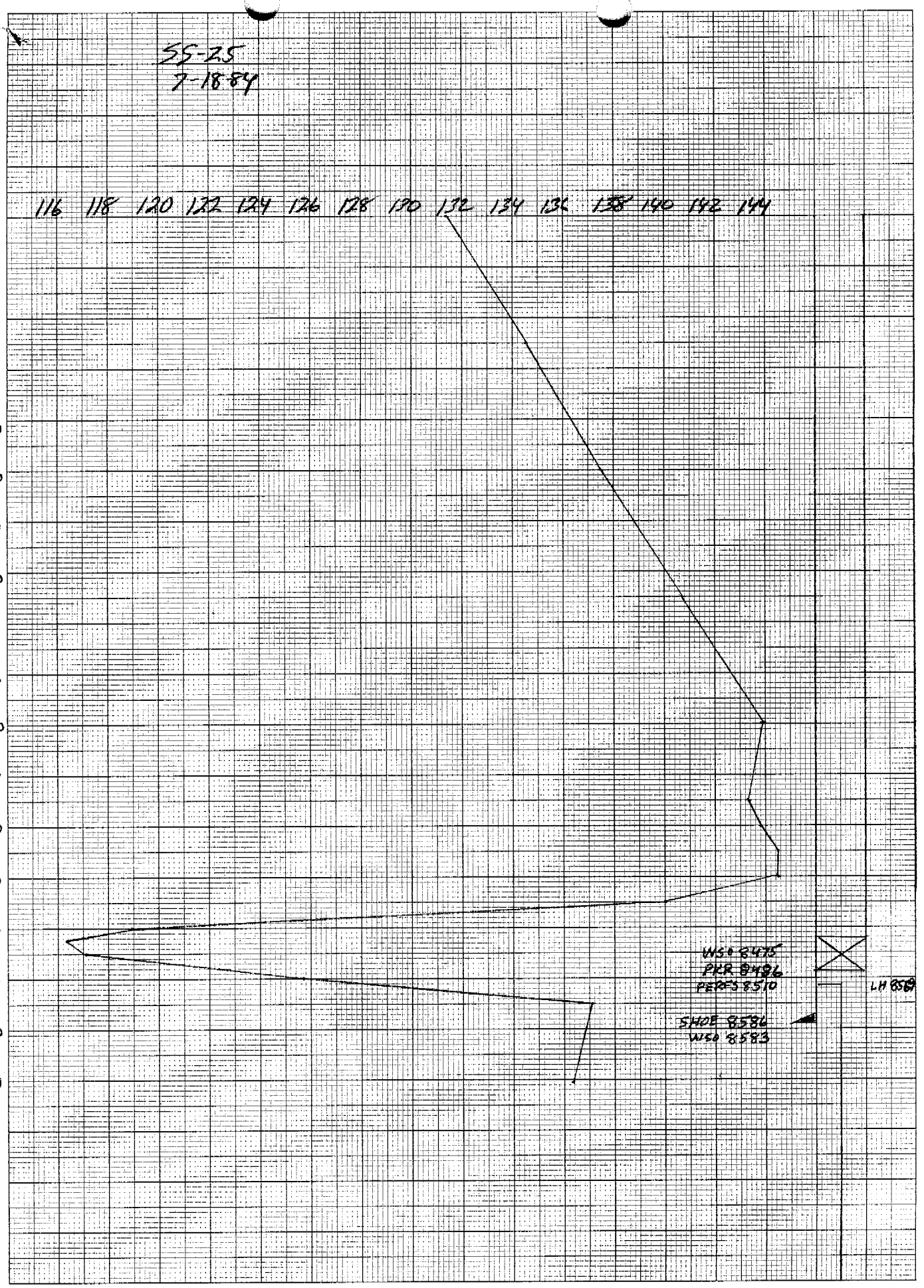
Tubing Press. 2440 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 2440 Pick-Up _____ Operator RON 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5'	.094	62.9	5000	55.0	.301	104.9
250	7.5	.066	54.6	5250	57.5	.316	107.2
500	10.0	.069	55.5	5500	60.0	.336	110.1
750	12.5'	.085	60.2	5750	62.5'	.361	113.7
1000	15.0	.098	64.1	6000	65.0	.383	116.8
1250	17.5'	.103	65.4	6250	67.5	.406	120.0
1500	20.0	.109	66.9	6500	70.0	.431	123.2
1750	22.5	.117	68.8	6750	72.5'	.463	127.3
2000	25 0	.125	70.8	7000	75.0	.482	129.6
2250	27.5'	.135	73.2	7250	77.5	.507	132.6
2500	30.0	.145	75.7	7500	80.0	.536	136.0
2750	32.5'	.157	78.3	7750	82.5	.566	139.4
3000	35.0	.167	80.4	8000	85.0	OVER .594	142.5
3250	37.5'	.180	83.1	8250	87.5	OVER .598	143.0
3500	40.0	.194	86.0	8500	90.0.	OVER .392	118.1
3750	42.5'	.209	88.9	8705	T.P. 92.05	.534	135.7
4000	45.0	.226	92.1				
4250	47.5'	.243	95.3	UP	99.0		
4500	50.0	.260	98.2				
4750	52.5'	.281	101.7				

8050	85.5	.600 – 143.2
8100	86.0	.601 – 143.3
8150	86.5	.593 – 142.4
8200	87.0	.595 – 142.6
8300	88.0	.606 – 143.9
8350	88.5	.596 – 142.8
8400	89.0	.564 – 139.2
8450	89.5	.402 – 119.5
8475	89.75	.383 – 116.8
8550	90.5	.457 – 126.6
8600	91.0	.546 – 137.1
8650	91.5	.536 – 136.0



46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 7-18-84 Element No. 39138 Clock Hours _____

Tubing Press. 2440 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 2440 Pick-Up _____ Operator RON 50' per Minute

Time Press. on _____ Time Start Down _____ Zero Point _____

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0				5000			
250				5250			
500				5500			
750				5750			
1000				6000			
1250				6250			
1500				6500			
1750				6750			
2000				7000	STOP 102.58 SNAP-105 START 110.0	.497	131.4
2250				7250	115.0	.523	134.5
2500				7500	120.0	.549	137.5
2750				7750	125.0	.578	140.7
3000				8000	130.0	OVER .607	144.0
3250				8250	135.0	OVER .612	144.5
3500				8500	140.0	OVER .450	125.7
3750				8705	144.08	.539	136.3
4000							
4250				UP-	148.0		
4500							
4750							

8100	132	.600	143.2
8150	133	.601	143.3
8200	134	.605	143.8
8300	136	.612	144.5
8350	137	.571	140.0
F400	138	.398	118.9
F425	138.5	.379	116.3
8450	139	.385	117.1
8550	141	.552	137.8

FLO-LOG

PRODUCTION LOGGING SURVEY DATA SHEET

COMPANY So. Calif. Gas Co. DATE 7-29-84

WELL NO. Standard Sesnon 25 FIELD Aliso Canyon

COUNTY Los Angeles STATE CA

REPRESENTATIVE Joe Bret Lane SURVEY CREW Findlay & Sturgess

TYPE OF SURVEY R/A - Tracer

PURPOSE OF SURVEY Check for leakage at or above the shoe

CASING AND TUBING RECORD

SIZE	WEIGHT	FROM	TO
7"	23, 26, 29	0	8585
5½"	20	8559	8748

Effective Depth 8748

Perforations 8592-8748
8510-8542

W.S.O. _____ C.P. _____

Tubing Size 2-7/8 Depth 8496

Packer(s) _____

Mandrel(s) 8405

Measurement Datum _____

Reference Point _____

WELL STATUS Shut-in Gas Storage

Meter Rate _____ BWPD Oil Rate _____ b/d

Flow Loss _____ BWPD Oil Gravity _____ °

Obs. Rate _____ BWPD Gas Rate _____ Mcf/d

Reported Tbg Press. 2300 psi Obs. _____

Reported Csg Press. _____ psi Obs. _____

Pickup 8692 Fill _____

Bottom Temp. _____ °F Fluid Level 8654 (capacit)

SPINNER STATS

Depth	Counts	Rate	Depth	Counts	Rate

Reset Depth (from) _____ (to) _____

Depth Corrected to Liner Top

Logging Unit 712 Line Size 3/16" Line Length 25,000'

Tools Used 3-5' Bars Gamma Collar Locator Capacitance (Injector)

Tool Numbers _____

Tool Diameter 1-3/8"

Time Arrived on Location 7:30 Off Location 5:30 Total Hours 10

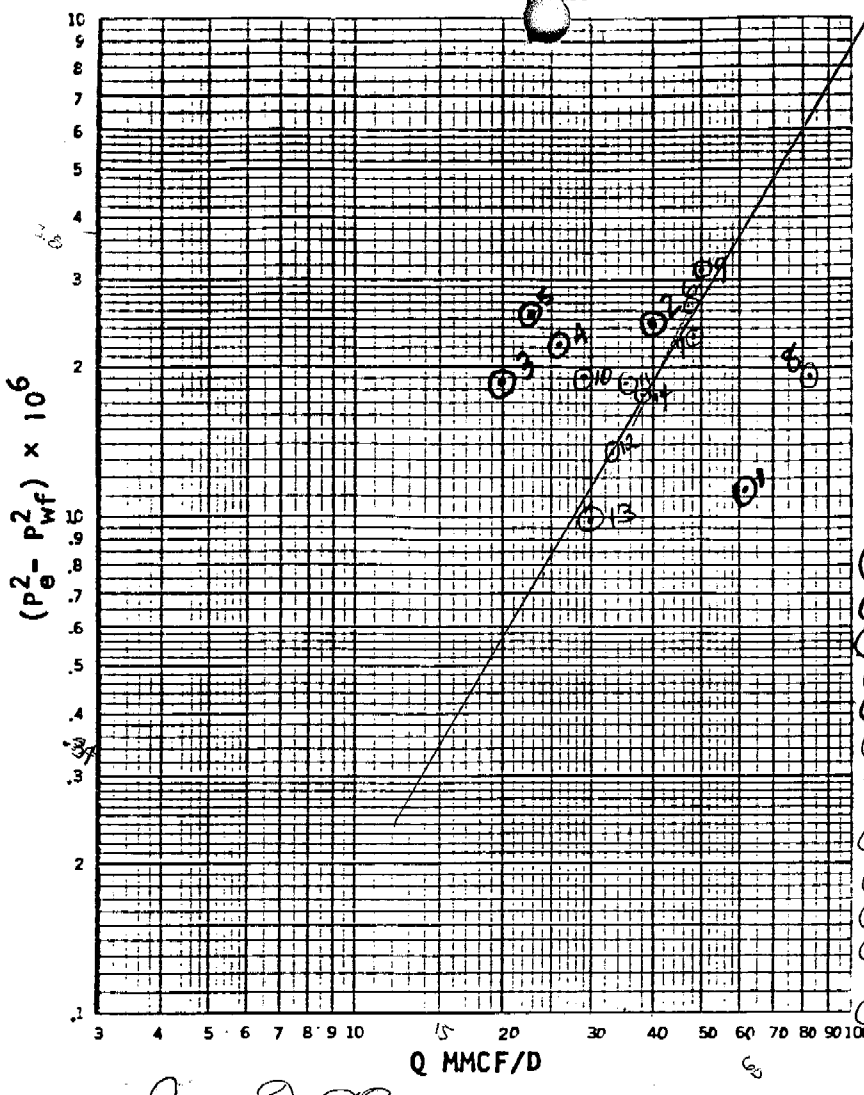
Time of Run	Run No.	Type of Survey	Survey Calib.	Line Speed	Direction	Logged Interval (from)	(to)
9:30	1	Capacitance	100 cpi	90	UP	8690	8400
9:50	2	Gamma Backgrnd		90	UP	8690	7300'
Pull out - load injector tool w/ 100mc I-131 Gas Tracer							
11:50	3	Shoot Tracer - pull out to remove injector tool.					
1:05 pm	3b	resume tracer logging					

REMARKS: Possible slight leakage behind pipe from Top Perf at 8510' up to around 8430' and 8190'.

KING PRINTING CO., 2684 DAWSON AVE., LONG BEACH, CA 90806, (213) 595-6565, FORM 13938, REV. 5/83

WELL: SS-25

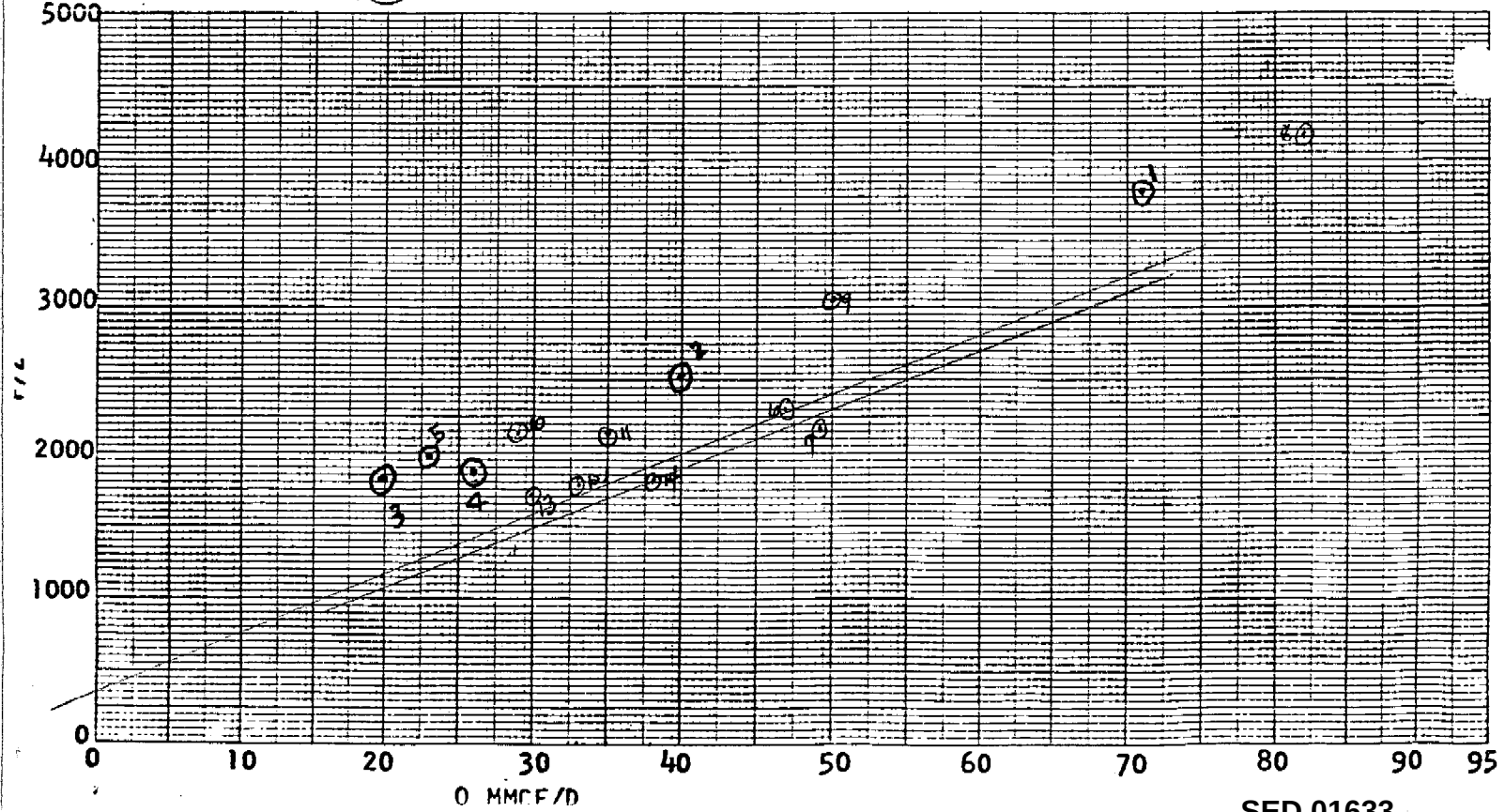
MARKER	TO	LENGTH	D	CSG ID	TBG OD
7" 23#	6308	6308	"	6.366"	2.875"
7" 26#	8274	1874	"	6.276"	2.875"
7" 29#	8450	168	D=5.126"	6.184"	2.875"
			"	"	"
			"	"	"
SSSV	8450	0	2.313"		
TBG Pt 1	8470	20	2.441"		
TBG Pt 2			"		
TBG Pt 3			"		
BHC	8470	0	2.205"		
TBG TAIL	8491	21	2.441"		
CSG Pt 1			"		
CSG Pt 2			"		
LNR TOP	8559	67	6.184"		
S8 / MPP	8590	31	4.778"		



	DATE	SIWHP	Q	ΔP^2	$\frac{P}{Z}$
1	12-8-81	2600	71000	1.12	3791
2	1-13-82	1780	40000	2.49	2533
3	1-29-82	1360	20000	1.88	1834
4	2-5-82	1380	26000	2.22	1869
5	2-8-82	1430	23000	2.52	1988
6	3-3-82	1610	47000	2.67	2254
7	3-17-82	1580	48000	2.35	2218
8	10-15-82	2300	82000	1.99	4154
9	1-4-84	2200	50000	2.07	3033
10	1-24-84	1530	29000	1.90	2131
11	2-9-84	1530	35000	1.87	2136
12	2-17-84	1320	23000	1.34	1798
13	2-1-85	1300	30000	9.81	1719
14	2-26-85	1340	38000	1.77	1825

C = 9.985

n = .5743



WELL: SS-25

FLOW: CSG / TBG

	TVD'
(1) SSSV:	8451'
(2) S8/MPP:	8590'
(3) -5400:	8327'
(12) Gas Gr:	0.63
(6) T_{avg}:	115 °F
(5) T_{bh}:	159 °F

MD S8: 8590'

TVD' MARKER LLLL', D.DDD"		
(20)	0.0	
(21)	0.0	
(22)	8456.5126	
(23)	0.2313	
(24)	20.2441	
(25)	0.2205	
(26)	21.2441	
(27)	67.6184	
(28)	31.4778	
(29)	0.0	

DATE: 2-9-84	ANALYZE	DESIGN
TEST: 11		
P_{up}.T_{up}: 900 • 097		
SIWHP: 1530 psi		
SIBHP's		
SSSV: 1894 psi		
S8/MPP: 1901 psi		
-5400: 1888 psi		
P_{up}: 900 psi		
P_{dn}: 480 psi		
T_{up}: 097 °F		
S. Chk: 1.400"		
Q: 35000 MCF/D		
Erosion: 1.08 %		
Oil Prod: — B/D		
° API: —		
	900	
	1268	
	1281	
	1294	
	1309	
	1322	
	1324	
	1326	
ΔP^2:	1.81 X 10⁶	
Design Q:	MCF/D	
Dsgn ΔP^2:	X 10⁶	
Dsgn Chk:	"	
By:	Ao	Pz = 2136

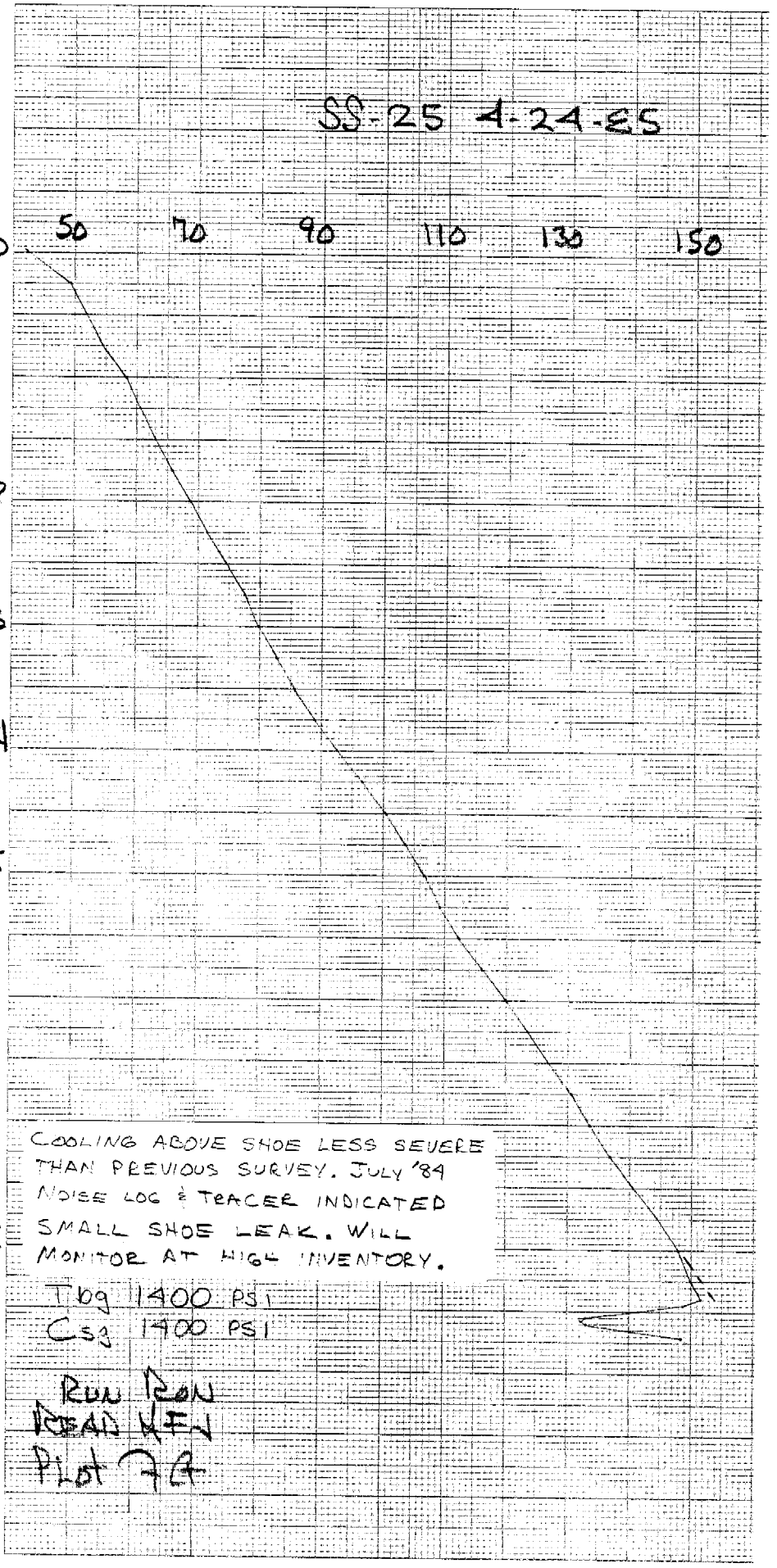
DATE: 2-17-84	ANALYZE	DESIGN
TEST: 12		
P_{up}.T_{up}: 750 • 104		
SIWHP: 1320 psi		
SIBHP's		
SSSV: 1628 psi		
S8/MPP: 1628 psi		
-5400: 1623 psi		
P_{up}: 750 psi		
P_{dn}: 540 psi		
T_{up}: 104 °F		
S. Chk: 1.500"		
Q: 33000 MCF/D		
Erosion: 1.12 %		
Oil Prod: — B/D		
° API: —		
	750	
	1091	
	1104	
	1118	
	1133	
	1147	
	1149	
	1150	
	1.34 X 10⁶	
	MCF/D	
	X 10⁶	
	"	
	Ao	Pz = 1798

DATE: 2-1-85	ANALYZE	DESIGN
TEST: 13		
P_{up}.T_{up}: 890 • 082		
SIWHP: 1300 psi		
SIBHP's		
SSSV: 1603 psi		
S8/MPP: 1603 psi		
-5400: 1596 psi		
P_{up}: 890 psi		
P_{dn}: 580 psi		
T_{up}: 082 °F		
S. Chk: 1.30"		
Q: 30000 MCF/D		
Erosion: 1.21 %		
Oil Prod: B/D		
° API:		
	890	
	1220	
	1230	
	1239	
	1251	
	1261	
	1263	
	1265	
	9.31 X 10⁶	
	MCF/D	
	X 10⁶	
	"	
	AG	P/2 = 1719

DATE: 2-26-85	ANALYZE	DESIGN
TEST: 14		
P_{up}.T_{up}: 490 • 84		
SIWHP: 1340 psi		
SIBHP's		
SSSV: 1653 psi		
S8/MPP: 1654 psi		
-5400: 1648 psi		
P_{up}: 490 psi		
P_{dn}: 490 psi		
T_{up}: 84 °F		
S. Chk: — "		
Q: 38000 MCF/D		
Erosion: 2.29 %		
Oil Prod: — B/D		
° API: —		
	490	
	906	
	927	
	947	
	971	
	991	
	993	
	994	
	1.77 X 10⁶	
	MCF/D	
	X 10⁶	
	Pz = 1825	

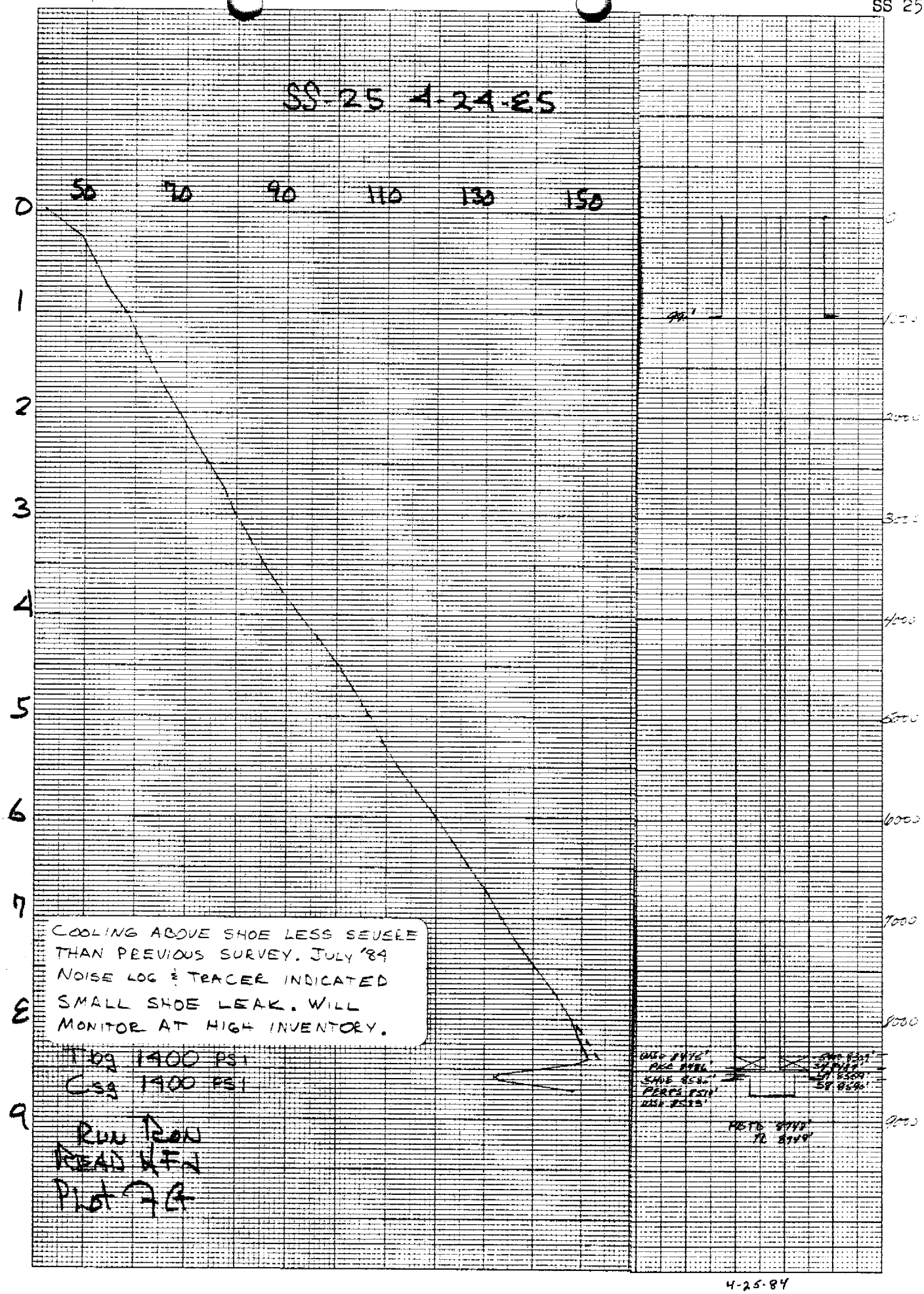
DATE:	ANALYZE	DESIGN
TEST:		
P_{up}.T_{up}: •		
SIWHP: psi		
SIBHP's		
SSSV: psi		
S8/MPP: psi		
-5400: psi		
P_{up}: psi		
P_{dn}: psi		
T_{up}: °F		
S. Chk: "		
Q: MCF/D		
Erosion: %		
Oil Prod: B/D		
° API:		
	X 10⁶	
	MCF/D	
	X 10⁶	
	"	

SED 01634 AC_CPUC_0000675



46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.



4-25-84

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM. KEUFFEL & ESSER CO. MADE IN U.S.A.
46 1512

.02835-

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 4-24-85 Element No. 39138 Clock Hours _____

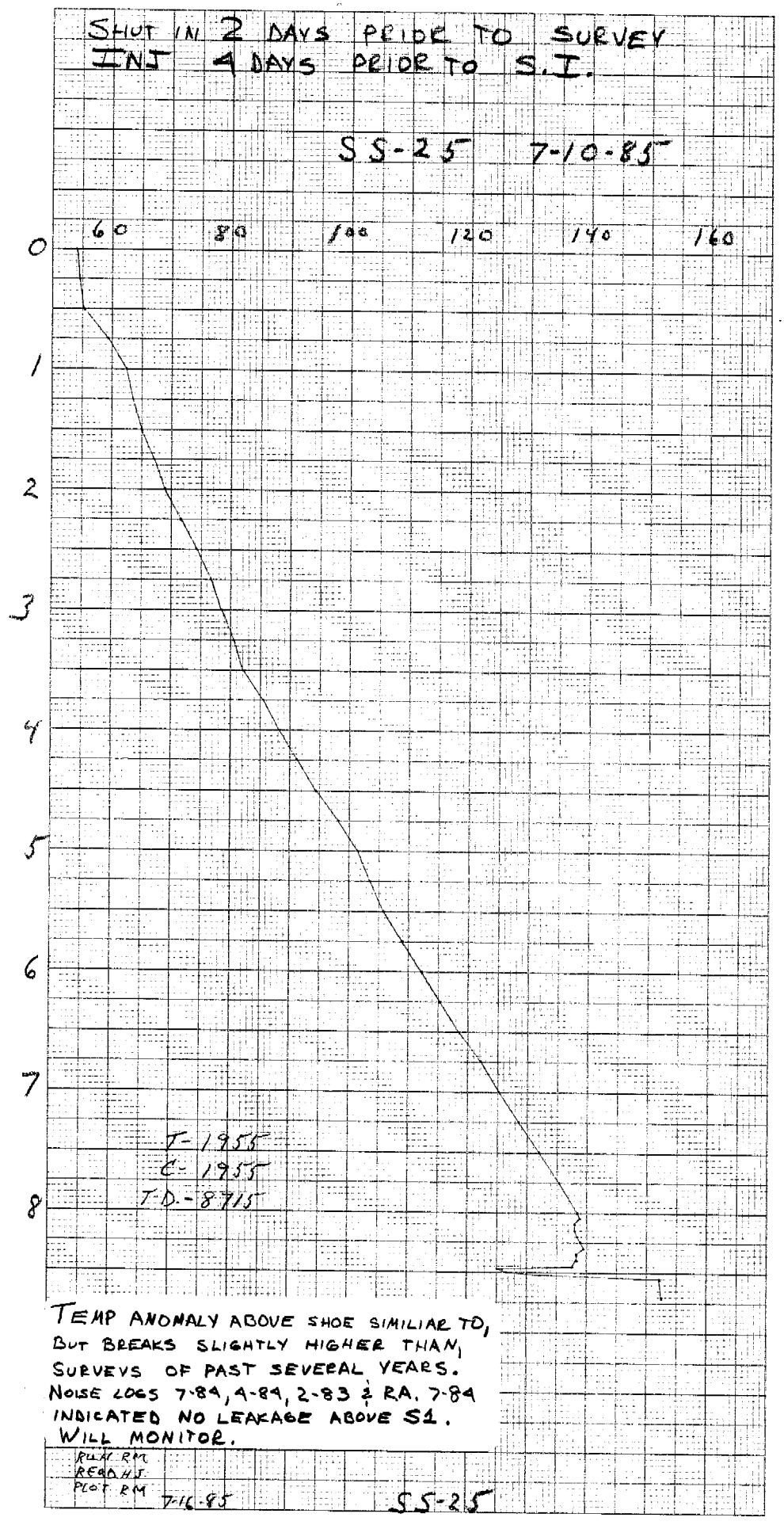
Tubing Press. 1400 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 1400 Pick-Up _____ Operator RM 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

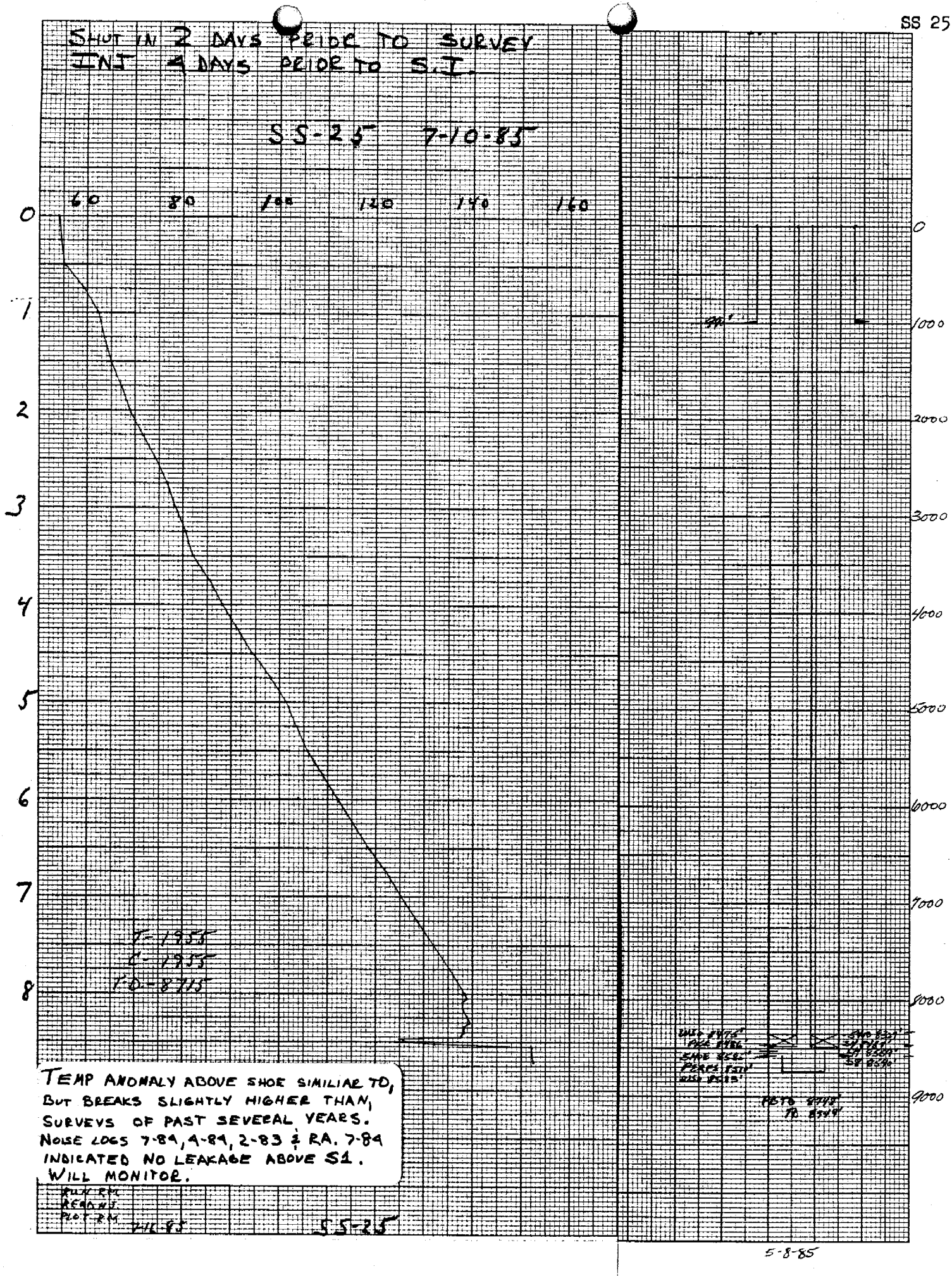
Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.029	42.2	5000	55.0	.317	106.6
250	7.5	.049	49.3	5250	57.5	.335	109.2
500	10.0	.058	51.9	5500	60.0	.356	112.3
750	12.5	.068	54.6	5750	62.5	.382	116.0
1000	15.0	.082	58.4	6000	65.0	.409	119.9
1250	17.5	.090	60.6	6250	67.5	.433	123.4
1500	20.0	.099	63.0	6500	70.0	.460	126.8
1750	22.5	.109	65.8	6750	72.5	.493	130.6
2000	25.0	.120	68.7	7000	75.0	.519	133.6
2250	27.5	.130	71.5	7250	77.5	.547	136.8
2500	30.0	.142	74.7	7500	80.0	.580	140.6
2750	32.5	.156	77.5	7750	82.5	.613	144.4
3000	35.0	.168	79.9	8000	85.0	.644	147.9
3250	37.5	.183	82.8	8250	87.5	.662 OVER	150.0
3500	40.0	.198	85.7	8500	90.0	.588 OVER	141.5
3750	42.5	.214	88.9	8707	TD 92.07	.647	148.3
4000	45.0	.233	92.6				
4250	47.5	.254	96.7		96.0		
4500	50.0	.273	100.3				
4750	52.5	.296	103.6				

8300	88.0	.6	– 150.5
8350	88.5	.673	– 151.1
8400	89.0	677	– 151.5
8450	89.5	.651	– 148.7
8550	90.5	.513	– 132.9
8575	90.75	.507	– 132.2
8600	91.0	.514	– 133.0



46 1512

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 7-10-85 Element No. 29138 Clock Hours _____

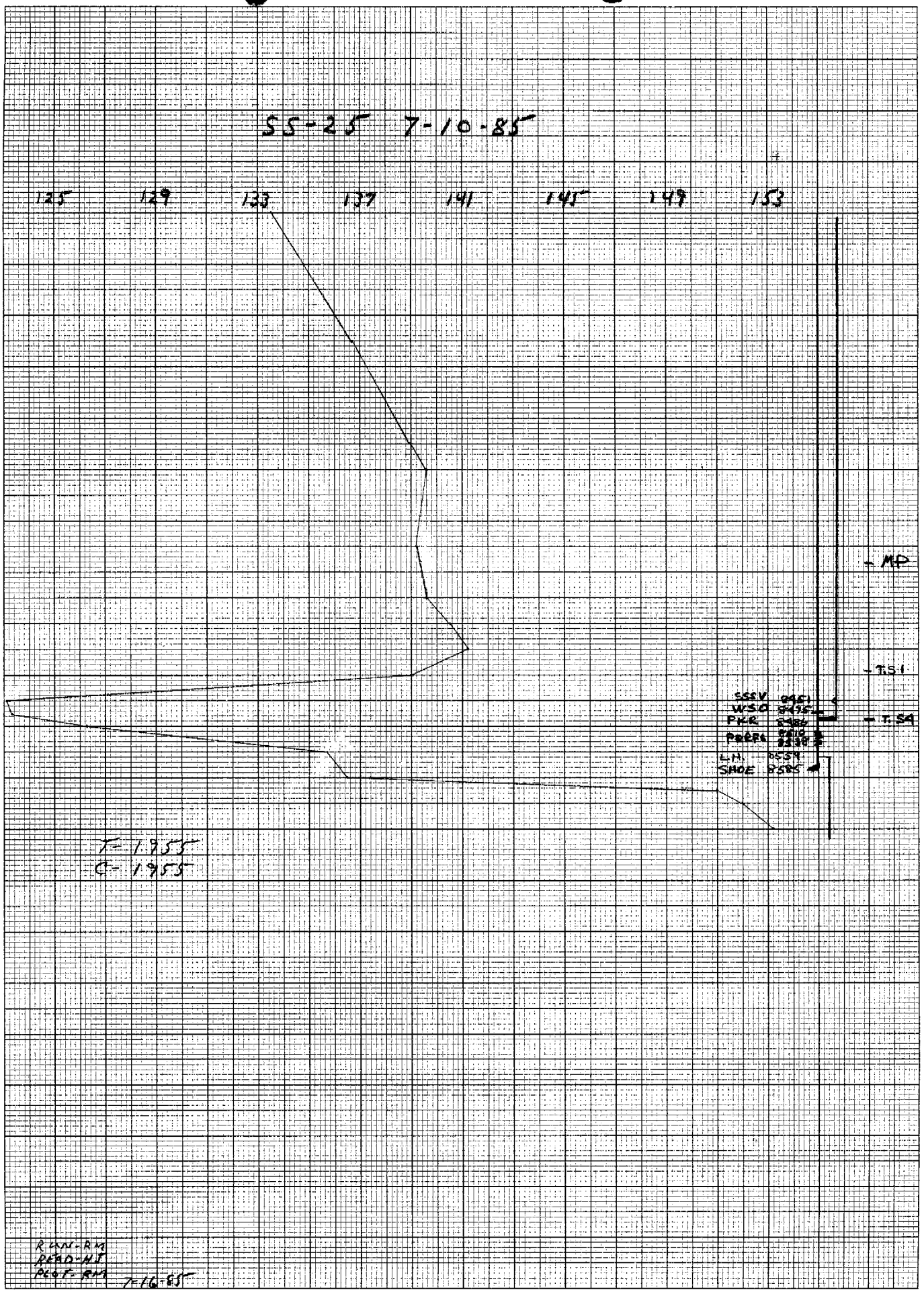
Tubing Press. 1955 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 1963 Pick-Up _____ Operator RM 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6' @ M/N

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.066	54.1	5000	55.0	.281	101.5
250	7.5	.068	54.6	5250	57.5	.295	103.5
500	10.0	.070	55.2	5500	60.0	.312	105.9
750	12.5	.085	59.2	5750	62.5	.333	109.0
1000	15.0	.097	62.5	6000	65.0	.356	112.3
1250	17.5	.101	63.6	6250	67.5	.376	115.2
1500	20.0	.106	65.0	6500	70.0	.400	118.6
1750	22.5	.114	67.1	6750	72.5	.425	122.3
2000	25.0	.121	69.0	7000	75.0	.447	125.3
2250	27.5	.130	71.5	7250	77.5	.475	128.6
2500	30.0	.140	74.2	7500	80.0	.505	132.0
2750	32.5	.152	76.8	7750	82.5	.535	135.4
3000	35.0	.161	78.5	8000	85.0	.562 OVER	138.5
3250	37.5	.171	80.5	8250	87.5	.566 OVER	139.0
3500	40.0	.183	82.8	8500	90.0	.458 OVER	126.6
3750	42.5	.197	85.6	8715	92.15	.689	152.6
4000	45.0	.211	88.3				
4250	47.5	.227	91.4	UP	96.0		
4500	50.0	.243	94.5				
4750	52.5	.262	98.2				

8050	85.5	.565 – 138.9
8100	86.0	.557 – 138.0
8150	86.5	.557 – 138.0
8200	87.0	.561 – 138.4
8300	88.0	.571 – 139.6
8350	88.5	.560 – 138.3
8400	89.0	.561 – 138.4
8450	89.5	.556 – 137.8
8475	89.75	.443 – 125.0
8525	90.25	.507 – 132.2
8550	90.5	.684 – 152.1
8700	92.0	.688 – 152.5



46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 7-10-85 Element No. 39138 Clock Hours _____

Tubing Press. 1955 Status S/IN Time Clock Started _____ Time Clock Off _____

Casing Press. 1955 Pick-Up _____ Operator RM 50 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6 ' @ M/N

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5			5000	55.0		
250	7.5			5250	57.5		
500	10.0			5500	60.0		
750	12.5			5750	62.5		
1000	15.0			6000	65.0		
1250	17.5			6250	67.5		
1500	20.0			6500	70.0		
1750	22.5			6750	72.5		
2000	25.0			7000	75.0		
2250	27.5			7250			
2500	30.0			7500	STOP 99.0 START 105.0	.517 .518	133.5
2750	32.5			7750	110.0	.546	136.7
3000	35.0			7950 8000	114.0 115.0	.566 OVER .571	139.0 139.6
3250	37.5			8250	120.0	.571 OVER	139.6
3500	40.0			8500	125.0	.455 OVER	126.3
3750	42.5			8700	129.0	.695	153.2
4000	45.0						
4250	47.5			4P	132.0		
4500	50.0						
4750	52.5						

8150	118.0	.568 — 139.2
8300	121.0	.579 — 140.5
8350	122.0	.585 — 141.2
8400	123.0	.566 — 139.0
8450	124.0	.431 — 123.1
8475	124.5	.432 — 123.3
8550	126.0	.537 — 135.7
8600	127.0	.644 — 136.5
8625	127.5	.672 — 151.0
8650	128.0	.683 — 152.0

SOUTHERN CALIFORNIA GAS COMPANY

Compiled KB Date 9.16.85

Checked ____ Checked ____

Approved ____ Job No. ____

WELL NAME: SS-25 workovers: 2.79 repl. SSSV

WELL TEST INFORMATION

low flow tests values unless noted erosion rates on 8" pipe

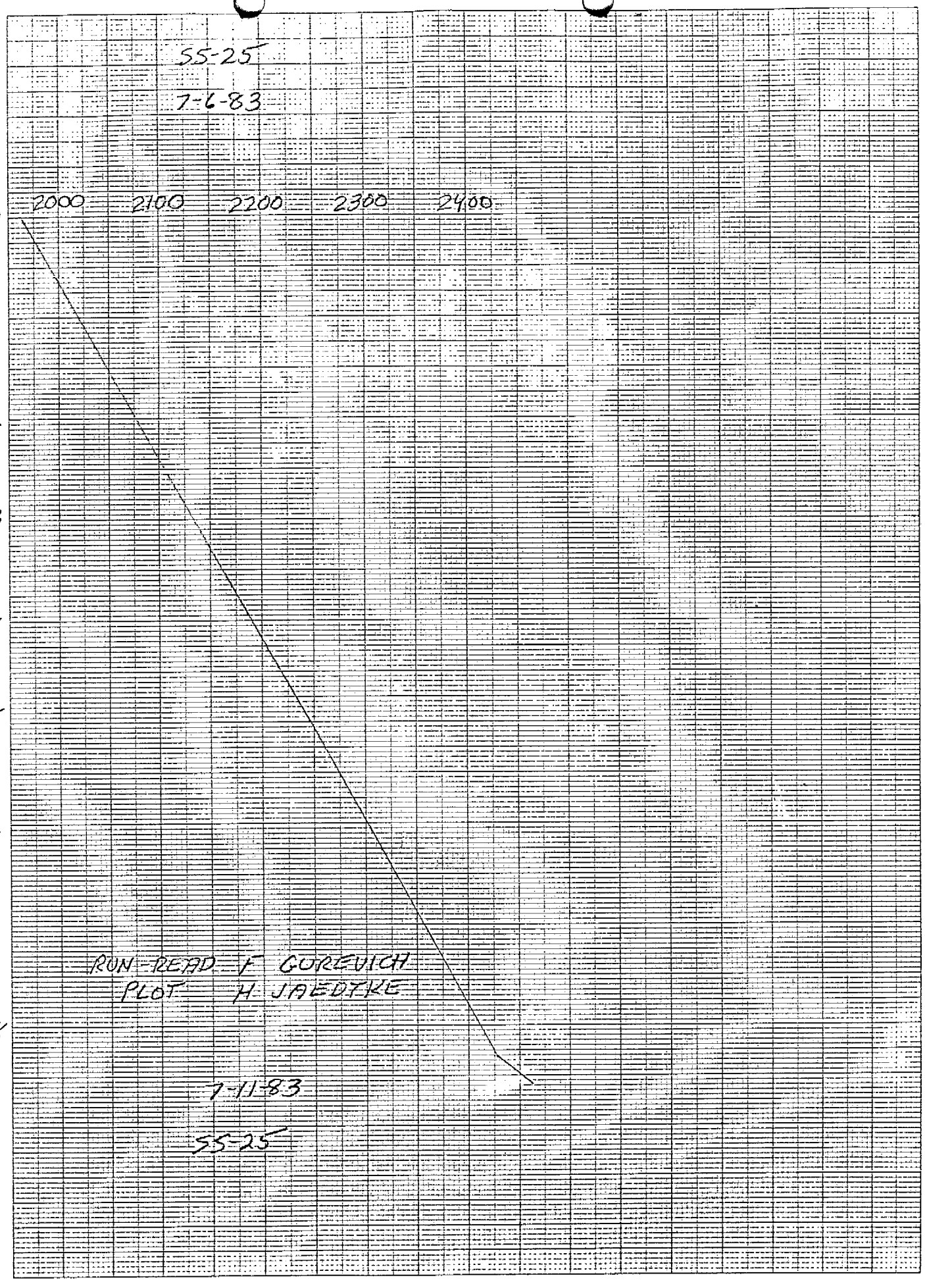
	DATE	SIWHP (psig)	FWHP (psig)	FW TEMP. (°F)	RATE (MMcf/d) calcul.	RATE (MMcf/d) meas	ΔP^2 (x 10^6 psia)	P/Z (psia)	CHOKE (in.)	INVENTORY (Bcf) liquids	P_{DS}/T_{DS} (psig/°F)	EROSION (%)	
1	9.8.78	2760	2720	86		11.2			0.40	0	490 2		1
2	9.19.78	2790	2630	84		24.7			0.62		490 0		2
3	9.22.78	2820	2605	94		28.2			0.63		525 8		3
4	9.26.78	2840	2635	95		33.0			0.715		500 10		4
5	9.29.78	2805	2520	94		37.3			0.785		505 11		5
6	10.2.78	2825	2445	88		43.6			0.857		525 8		6
7	10.7.78	2790	2295	88		52.7			0.95		540 16		7
8	10.13.78	2890?	2300	8hr test 92		62.9			1.05	⊖	575 20		8
9	10.21.78	2930	2105	82		73.6			1.168		510 14		9
10	10.28.78	3030	1890	74		82.1			1.303		565 18		10
11	1.13.82	1780	1075	84		40			1.25		550 70	6.73	11
12	1.29.82	1360	720	? 82	30.4	20			1.35		525 89 ?	5.65	12
13	2.5.82	1380	540	—		26			⊖		520 67	0.92	13
14	2.8.82	1430	530	90		23			⊖		—	3.23	14
15	3.3.82	1610	540	61		47			⊖		520 —	2.55	15
16	3.17.82	1580	600	77		48			⊖		555 —	5.39	16
17	10.15.82	2900	2300	93		82			1.25		500 23	3.80	17
18	1.4.84	2090	1320	76		50			1.25		490 68	0.95	18
19	1.24.84	1530	950	96		29			1.35		500 82	1.68	19
20	2.9.84	1530	900	97	35.	32			1.40		480 87	1.08	20
21	2.17.84	1320	750	104		33			1.50		560 92	0.99	21
22	2.1.85	1300	890	82		30			1.30		580 59	1.21	22
23	2.26.85	1340	490	84		38			⊖		—	2.29	23

SEP 01 1986
AC_CPUC_0000686

Report Date: 02/26/93

DAILY WELL ACTIVITIES SS 25

DATE	ACTIVITY/REMARKS
11/13/86	Set blanking plug because of rig work on IW 77
12/10/86	Attempted to pull blanking plug
12/11/86	Pulled blanking plug
12/15/86	Sand tested: SC Open, SIWHP 1520, ER 0.9%, Q 37 MMcf/d
03/19/87	Ran temperature survey, anomaly above S-1 similar to temp ran w/quiet noise log 4/84.
08/24/87	Ran temperature survey, OK
03/03/88	Ran temperature survey, anomaly above shoe similar to temp run w/quiet noise log 4/11/84, will monitor.
04/22/88	Ran pressure survey, FL 8430', P @ S-4 (8475') 2016 psi
10/18/88	Ran temperature survey, anomaly above shoe, plan detail
11/09/88	Ran detail (7500'-8650') temperature survey, OK
01/09/89	Sand tested: SIWHP 1475, FWHP 842, FWHT 88, SC 1.25", ER 1.1%, Q 31 MMcf/d. Well casing lateral X-ray, OK.
01/12/89	Removed 1.25" choke, installed 1.50" choke. Sand tested SIWHP 1400, FWHP 655, FWHT 76, SC 1.50", ER 0.9%, Q 22 MMcf/d
01/17/89	Removed 1.50" choke, installed Open choke. Sand tested SIWHP 1320, FWHP 480, FWHT 81, SC Open, ER 1.6%, Q 25 MMcf/d
04/06/89	Ran temperature survey, anomaly above shoe similar to temp on quiet noise log 4/11/84, will monitor.
04/07/89	Removed Open choke, installed 1.25 choke
09/06/89	Ran temperature survey, temperature breaks above S-1 similar to 4-11-84 noise log, will monitor
12/18/89	Sand test: SIWHP 1610, FWHP 1170, FWHT 97, SC 1.25, ER 2.4%, Q 47 MMcf/d
01/03/90	Removed 1.25 choke, installed 1.35 choke
01/04/90	Sand test: SIWHP 1560, FWHP 920, FWHT 95, SC 1.35, ER 2.1%, Q 36 MMcf/d
01/18/90	Removed 1.35 casing sc, installed 1.50 sc
01/19/90	Sand tested: SIWHP 1520, FWHP 770, FWHT 97, sc 1.50, ER 2.2%, Q 25 MMcf/d
02/08/90	Removed 1.50 casing choke, installed 1.75 choke
02/09/90	Sand tested: SIWHP 1560, FWHP 670, FWHT 93, SC 1.75, ER 2.6%, Q 34 MMcf/d
04/12/90	Ran temperature survey, same anomaly above shoe as seen in previous surveys, continue to monitor, PU - 8675'
09/20/90	Ran temperature survey, same as 4/12/90 survey, continue to monitor, PU - 8700'
02/07/91	Sand test: SIWHP 1690, FWHP 940, FWHT 98, SC 1.350, ER 2.1, Q 40 MMcf/d
04/23/91	Ran temperature survey, temp. gradient breaks @ 8250' OK, re-survey at high inventory, PU - 8700'
08/12/91	Ran temperature survey, straight line cooling from below S-1 to above M-P, PU - 8700', ran detail (8150'-8700'),saw repeat of straight-line cooling from 8150' 8550', plan N.L. (Inv - 60.3 BCF)



46 1512
10 X 10 TO THE CENTIMETER 16 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

FIELD _____ WELL SS 25 DATE 7-6-83

RECORDER NO. _____ RUN NO. _____ SHEET NO. _____ OF _____ RUN BY TG

CLOCK HOURS _____ TIME CLOCK STARTED _____ TIME RUN COMPLETED _____

WELL CONDITION DURING RUN, SHUT IN _____ FLOWING _____ INJECTION _____

HOURS WELL, SHUT-IN _____ FLOWING _____ INJECTION _____ BEFORE RUN _____

WELL HEAD PRESSURE

TUBING _____

CASING _____

FLOW RATE

GAS MCF/D _____

OIL BBL'S/D _____

WATER BBL'S/D _____

GOR _____

MAXIMUM TEMPERATURE _____

ZERO POINT KB 6'

PICK-UP _____

DATUM 8327

	SIZE	DEPTH
TBG		
CASING		
CASING SHOE		
LINER		
TOP		
BOTTOM		
PERFORATION		
TOP		
BOTTOM		

SURVEY DATA

DEPTH MEASURED	DEPTH VERTICAL	STYLUS DEFLECTION	PRESSURE	GRA PSI/
0	2	.1943	1962.66	
5000	2	1.079	2245.83	.0564
6000	2	1.106	2302.08	.0563
7000	2	1.132	2356.25	.0542
8327	2	1.166	2427.0	.0857
8590	2	1.184	2464.5	.1426
		AVE GRAD	.0791	

SPECIAL INSTRUCTIONS: TBG. 8496'
TD 8748

BY _____

REMARKS:

55-25

FIELD OPERATOR _____

CHART READ BY _____

SED 01649
AC_CPUC_0000460

PRUETT INDUSTRIES, INC.

8915 ROSEDALE HWY BAKERSFIELD, CA 93312

(805) 589-2768

13624

COMPANY SoCal Gas Co WELL NO. SS-25 DATE 12/10/86 12/11/86

ADDRESS FIELD Aliso Cyn

CUSTOMER ORDER NO.

DATE	SERVICE & RENTAL CHARGES	TOTAL UNITS	UNIT PRICE	AMOUNT
	FIELD Aliso Cyn			
	WELL NO. SS-25			
	SUBSURFACE PRESSURE, TEMPERATURE, (WIRE LINE) DYNO			
12/10/86	FIELD SERVICE CHARGES INCLUDES 1ST 3 HRS			200.00
12/10/86	3½ ADDITIONAL HOURS @ 60 PER HOUR			210.00
12/10/86	1½ Hydralic JARS			62.50
12/10/86	2½" GS Pulling TL			37.50
12/11/86	3 additional hrs 60 per hr.			180.00
	PICK-UP MILEAGE FROM MILES TO MILES			
12/10/86	UNIT MILEAGE FROM Shop MILES 50 TO MILES	50	1.30	65.00

PART NO. OR DATE	MATERIAL SOLD AND/OR DESCRIPTION OF OPERATION	QTY.	UNIT PRICE	AMOUNT
12/10/86	Rigged up, ran in hole JARRED on 2½" XN Plug for 6 hrs unable to pull, finally sheared off. Shut down for day W/L Trk STARTED running bad, @ Depth 8472'			
12/11/86	JARRED on 2½" XN Plug finally pulled Plug came out with sand on it.			

ACCT. NO. 99722 OK

ITEM 001 ELEMENT 3

AMOUNT $755

APPROVED Manager DATE 12/12/86

SUB	
TAX	
TOTAL	$755.00

OPERATOR: Dollahite Sundberg

HELPER:

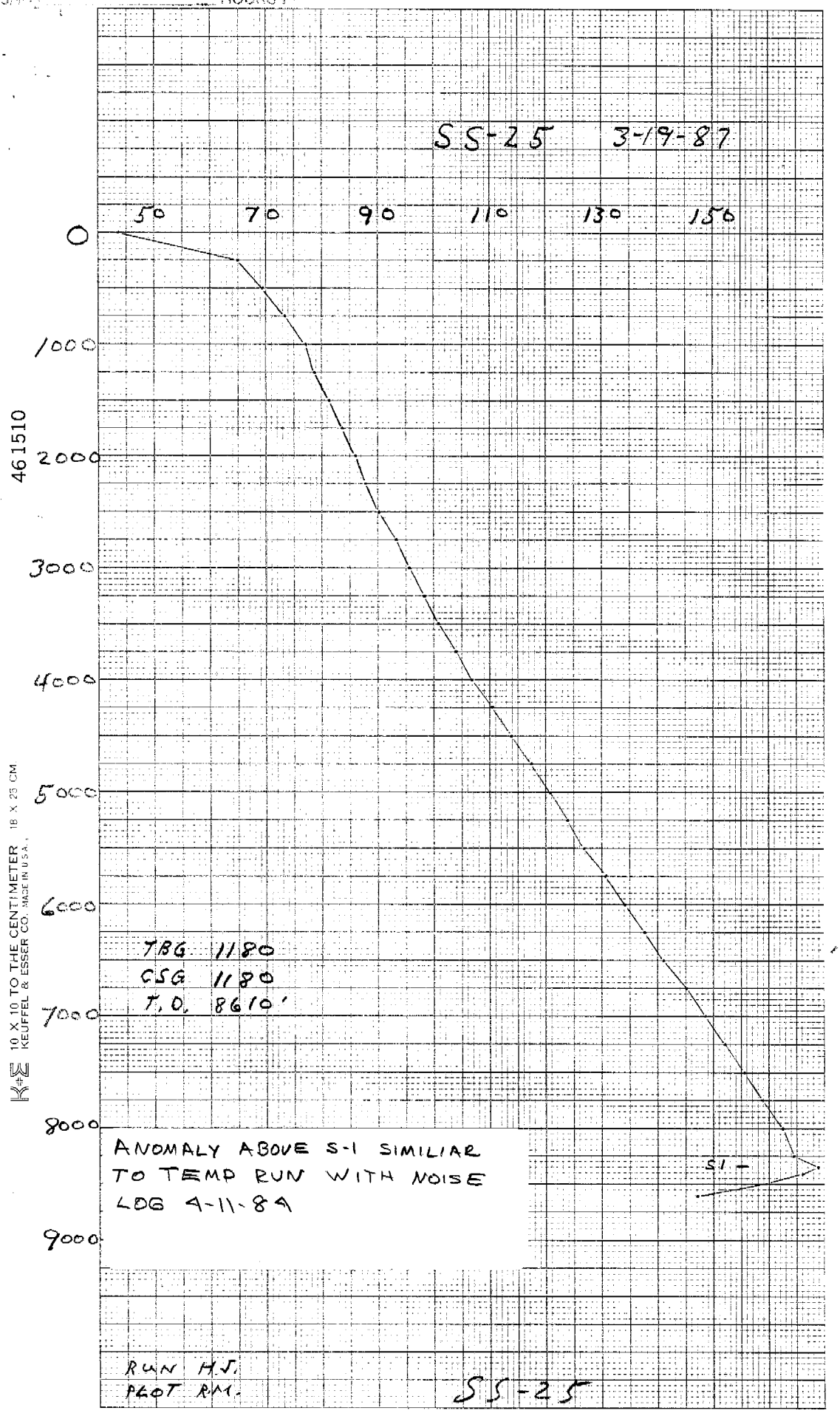
UNIT NO: APPROVED BY:

FIELD TICKET

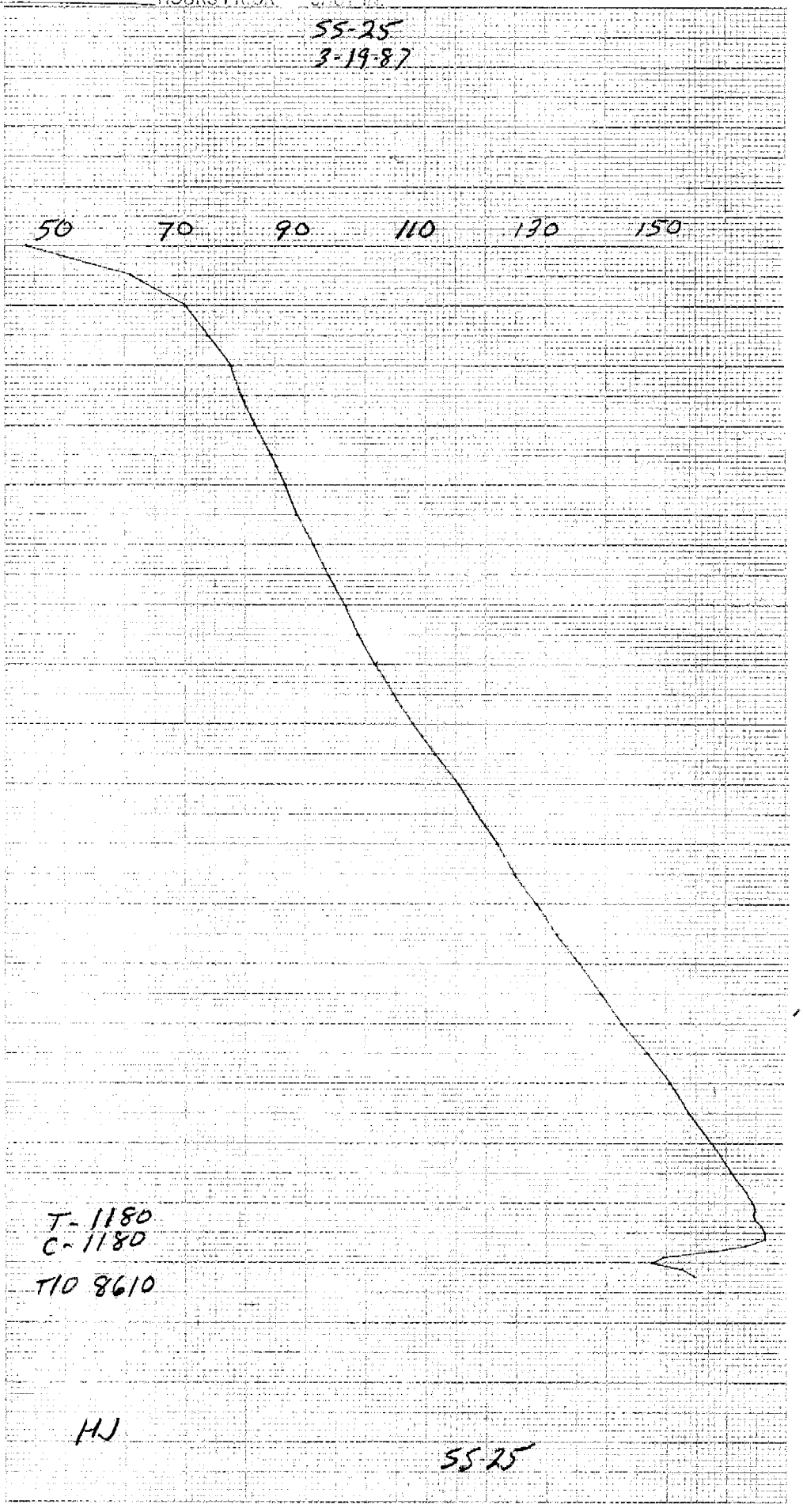
SED 01650

AC_CPUC_0000571

SHUT IN 23 days PRIOR TO SURVEY.
PUMPED HOURS PRIOR TO



SHUT IN 23 days PRIOR TO SURVEY.
INJ/WD. HOURS PRIOR SHUT IN

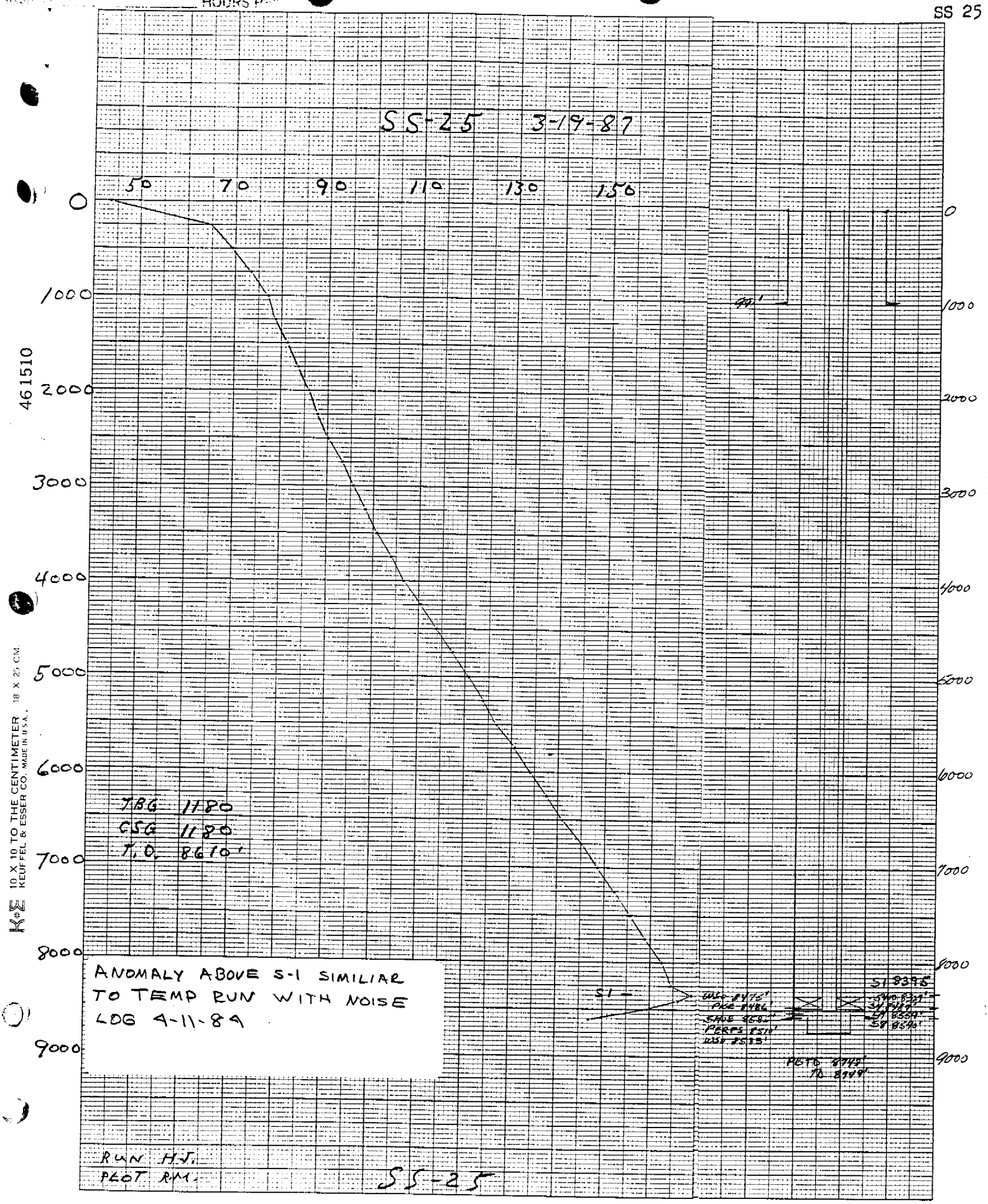


46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SHUT IN 23 days PRIOR TO SURVEY
HOURS PRIOR

SS 25



461510

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM. KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 3-19-87 Element No. 69452 Clock Hours 3

Tubing Press. 1180 Status S/I Time Clock Started _____ Time Clock Off _____

Casing Press. 1180 Pick-Up _____ Operator HFJ 100 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.030	43.4	5000 ✓	55.0	.345	122.0
250	7.5	.090	66.0	5250	57.5	.363	124.9
500	10.0	.102	70.0	5500	60.0	.384	128.1
750	12.5	.116	73.8	5750	62.5	.409	131.9
1000 ✓	15.0	.128	77.1	6000 ✓	65.0	.434	135.5
1250	17.5	.136	79.3	6250	67.5	.459	139.0
1500	20.0	.144	81.5	6500	70.0	.486	142.7
1750	22.5	.154	84.1	6750	72.5	.519	147.0
2000 ✓	25.0	.164	86.4	7000 ✓	75.0	.545	150.3
2250	27.5	.173	88.5	7250	77.5	.573	153.7
2500	30.0	.184	91.1	7500	80.0	.604	157.3
2750	32.5	.195	93.6	7750	82.5	.633	160.6
3000 ✓	35.0	.208	96.4	8000 ✓	85.0	OVER .667	164.3
3250	37.5	.219	98.7	8250	87.5	OVER .684	166.2
3500	40.0	.232	101.4	8500	90.0	OVER .522	147.4
3750	42.5	.247	104.5	8610 TD	91.10	.583	154.9
4000 ✓	45.0	.265	107.9				
4250	47.5	.283	111.2				
4500	50.0	.305	115.2	UP	95		
4750	52.5	.325	118.6				

8050	85.5	.674 – 164.8
8100	86.0	.669 – 164.6
8150	86.5	.670 – 164.7
8200	87.0	.680 – 165.7
8300	88.0	.684 – 166.2
8350	88.5	.656 – 163.1
8400	89.0	.603 – 157.2
8450	89.5	.537 – 149.3
8550	90.5	.564 – 152.6

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 3-19-87 Element No. 69452 Clock Hours 3

Tubing Press. 1180 Status S/I Time Clock Started _____ Time Clock Off _____

Casing Press. 1180 Pick-Up _____ Operator HFJ 100' per Minute

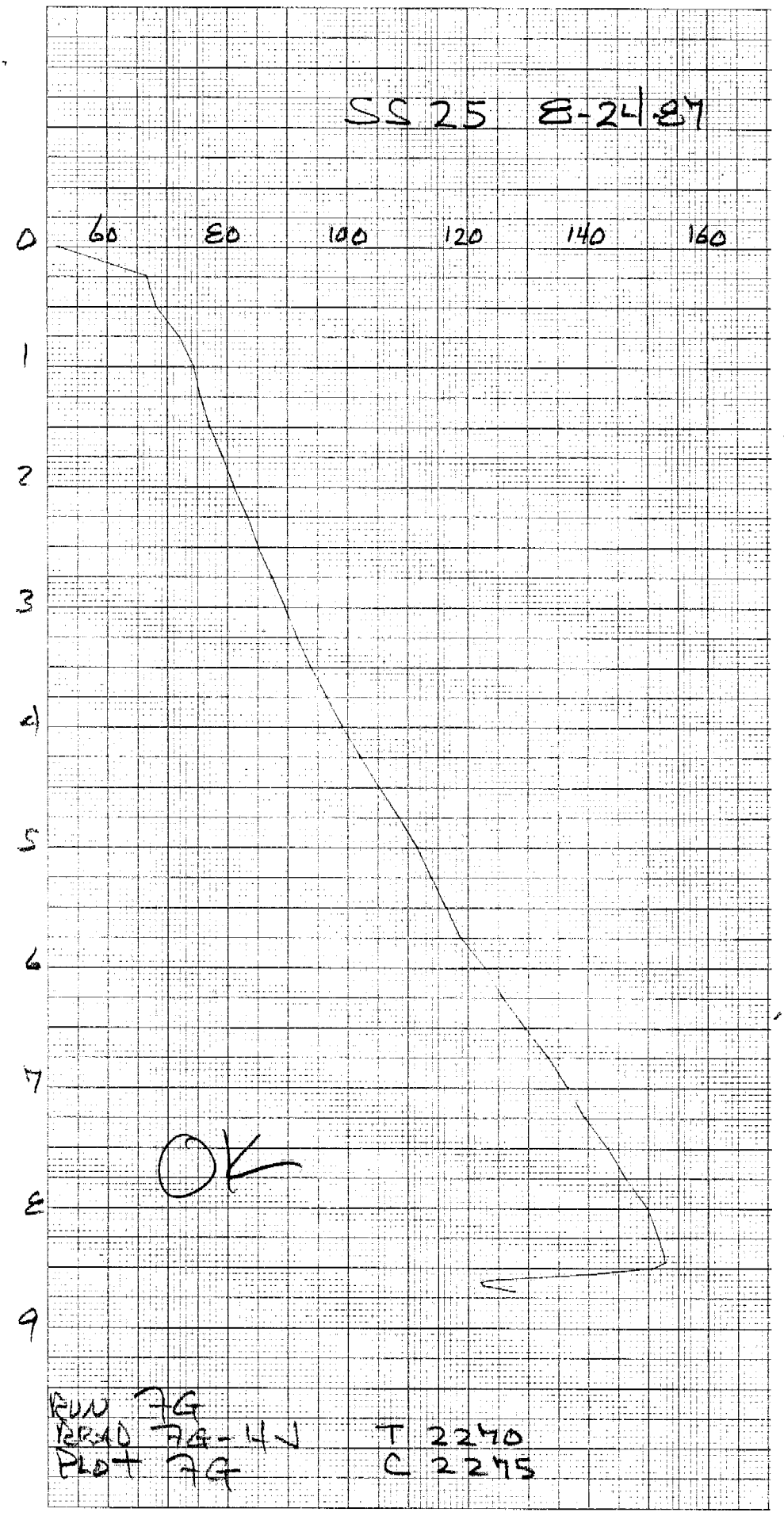
Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.030	43.4	5000 ✓	55.0	.338	120.8
250	7.5	.087	64.9	5250	57.5	.357	124.0
500	10.0	.100	69.4	5500	60.0	.376	126.9
750	12.5	.115	73.5	5750	62.5	.401	130.7
1000 ✓	15.0	.128	77.1	6000 ✓	65.0	.425	134.2
1250	17.5	.134	78.8	6250	67.5	.449	137.7
1500	20.0	.143	81.3	6500	70.0	.474	141.1
1750	22.5	.152	83.7	6750	72.5	.505	145.2
2000 ✓	25.0	.162	86.0	7000 ✓	75.0	.532	148.6
2250	27.5	.170	87.8	7250	77.5	.560	152.1
2500	30.0	.180	90.2	7500	80.0	.589	155.6
2750	32.5	.193	93.2	7750	82.5	.617	158.8
3000 ✓	35.0	.204	95.6	8000 ✓	85.0	.649	162.4
3250	37.5	.217	98.3	8250	87.5	.667	164.3
3500	40.0	.229	100.8	8500	90.0	.623	159.5
3750	42.5	.244	103.9	8610	91.10	.521	147.2
4000 ✓	45.0	.259	106.8	[illegible]	[illegible]		
4250	47.5	.278	110.3				
4500	50.0	.298	113.9				
4750	52.5	.318	117.4	UP	95-		

8100 - 86.0 - .664 - 164

8410 - 89.1 - .684 - 166.2

SHUT IN 7 DAYS PRIOR TO SURVEY.
INJ/WD INJ 200 HOURS PRIOR TO SHUT IN.

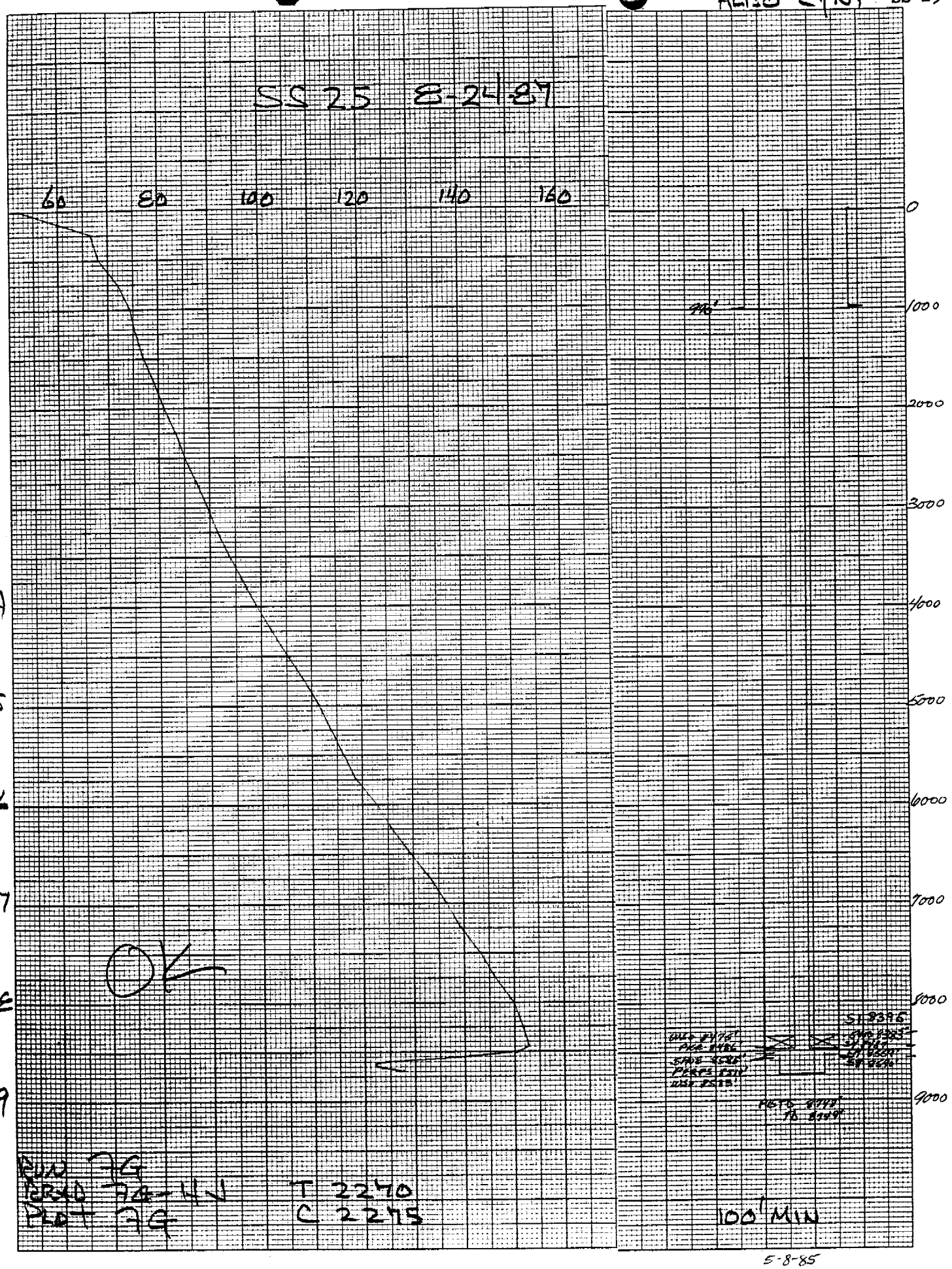


46 1512

K+E 10 X 10 TO THE CENTIMETER 10 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

SHUT IN 7 DAYS PRIOR TO SURVEY.
INJ/WD INJ 200 HOURS PRIOR TO SHUT IN.

ALISO CYN, SS 25



5-8-85

46 1512

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS25 Date 8-24-87 Element No. 68482 Clock Hours _____

Tubing Press. 2270 Status _____ Time Clock Started _____ Time Clock Off _____

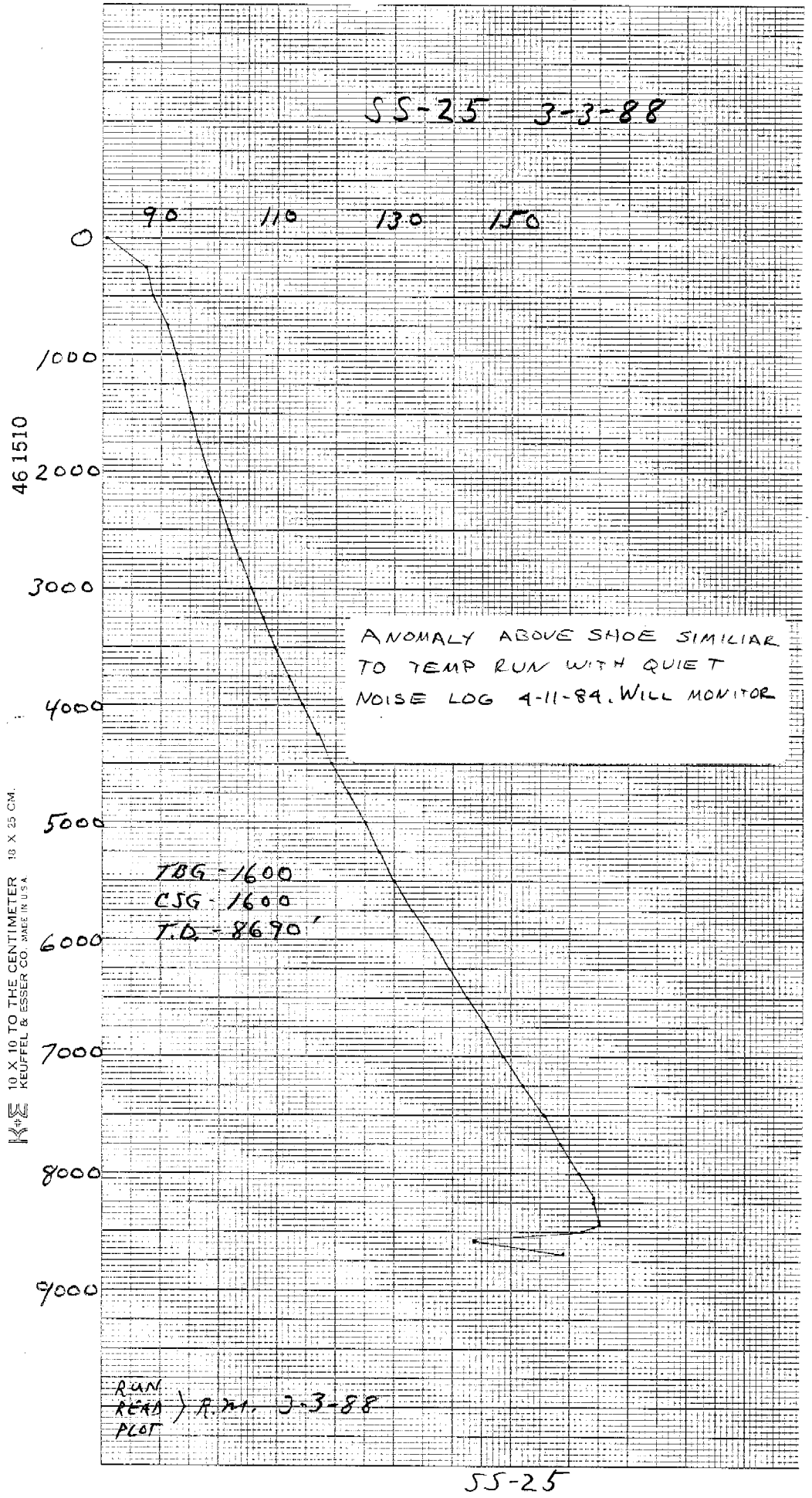
Casing Press. 2275 Pick-Up _____ Operator JG _____ per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.049	52.0	5000	55.	.287	111.5
250	7.5	.091	66.6	5250	57.5	.300	113.9
500	10.	.095	68.0	5500	60.	.315	116.4
750	12.5	.108	71.9	5750	62.5	.330	118.9
1000	15.	.117	74.3	6000 ✓	65.	.353	122.8
1250	17.5	.122	75.6	6250	67.5	.372	125.8
1500	20	.127	77.0	6500	70.	.395	129.5
1750	22.5	.135	79.1	6750	72.5	.420	133.3
2000 ✓	25.	.142	81.0	7000	75.	.441	136.5
2250	27.5	.150	83.2	7250	77.5	.462	139.5
2500	30	.158	85.0	7500	80.	.490	143.3
2750	32.5	.168	87.3	7750	82.5	.512	146.2
3000	35.	.178	89.6	8000 ✓	85.	.541	149.9
3250	37.5	.187	91.6	8250	87.5	.556 OVER	151.8
3500	40.	.197	93.9	8500	90.	.546	150.6
3750	42.5	.209	96.4 TD	8695	91.95	.384	127.7
4000 ✓	45	.222	99.	up	-96-		
4250	47.5	.236	101.9				
4500	50.	.252	105.1				
4750	52.5	.270	108.4				

8400	89.0	.56—	152.7
8450	89.5	.565—	152.9
8550	90.5	.471—	140.8
8600	91.0	.366—	124.9
8625	91.25	.349—	122.1
8650	91.5	.352—	122.6

SHUT IN 2-26-88 PRIOR TO SURVEY.
5.58 HRS PRIOR TO SHUT IN.



46 1510
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

55-25

SED 01662
AC_CPUC_0000349

SHUT IN 2-26-88 PRIOR TO SURVEY.

ROUTE 5.58 HRS PRIOR TO SHUT IN.

ALISO CYN, SS 25

SS-25 3-3-88

90 110 130 150

0 1000 2000 3000 4000 5000 6000 7000 8000 9000

ANOMALY ABOVE SHOE SIMILIAR TO TEMP RUN WITH QUIET NOISE LOG 4-11-84. WILL MONITOR

TBG - 1600
CSG - 1600
T.D. - 8690'

RUN
READ } R.M. 3-3-88
PLOT

100' MIN

SS-25

5-8-85

46 1510

10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

SED 01663
AC_CPUC_0000350

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 3-3-88 Element No. 39139 Clock Hours _____

Tubing Press. 1600 Status S/IN Time Clock Started _____ Time Clock Off ____

Casing Press. 1600 Pick-Up _____ Operator RM 100' per Minute @ M/N

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.236	80.7	5000 ✓	55.0	.524	125.0
250	7.5	.277	87.3	5250	57.5	.542	127.5
500	10.0	.285	88.6	5500	60.0	.560	130.0
750	12.5	.300	91.1	5750	62.5	.583	133.2
1000	15.0	.310	92.7	6000	65.0	.607	136.5
1250	17.5	.318	94.0	6250	67.5	.630	139.7
1500	20.0	.325	95.1	6500	70.0	.656	142.7
1750	22.5	.333	96.4	6750	72.5	.684	145.8
2000	25.0	.343	98.1	7000 ✓	75.0	.710	148.7
2250	27.5	.354	99.9	7250	77.5	.738	151.9
2500	30.0	.365	101.6	7500	80.0	.770	155.5
2750	32.5	.376	103.4	7750	82.5	.801	158.6
3000 ✓	35.0	.389	105.5	8000	85.0	.832	161.7
3250	37.5	.402	107.6	8250	87.5	.855	164.0
3500	40.0	.415	109.6	8500	90.0	.837	162.2
3750	42.5	.430	111.8	8690	91.9	.803	158.8
4000	45.0	.447	114.3				
4250	47.5	.465	116.8	UP	95.0		
4500	50.0	.483	119.3				
4750	52.5	.504	122.2				

8211 – 87.41 – .857 – 164.2

8411 – 89.11 – .865 – 165.0

8442 – 89.42 – .866 – 165.1

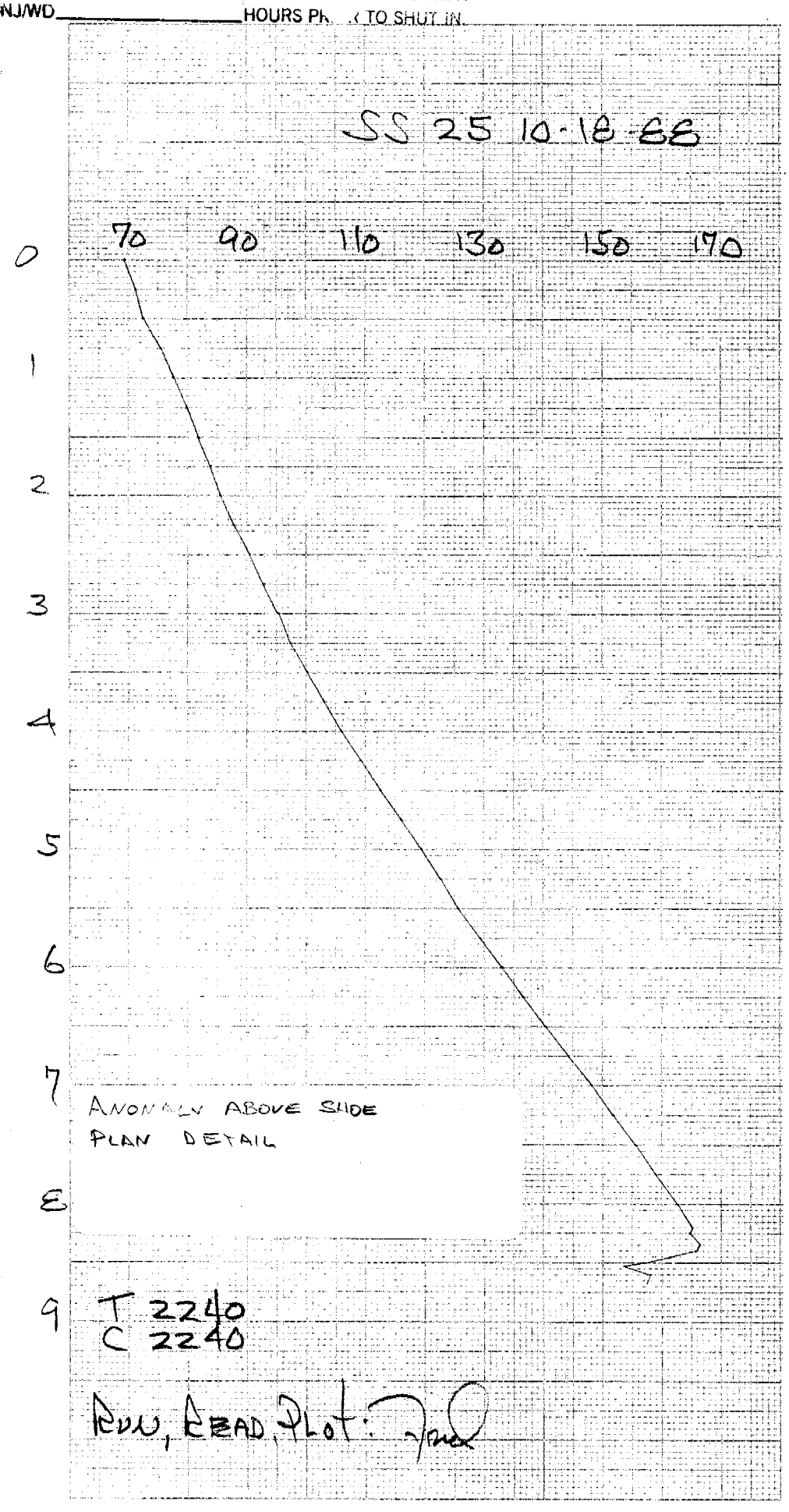
8464 – 89.64 – .857 – 164.2

8571 – 90.71 – .665 – 143.7

8596 – 90.96 – .664 – 143.6

SHUT IN 30+ DAY PRIOR TO SURVEY.

INJ/WD _____ HOURS PRIOR TO SHUT IN.

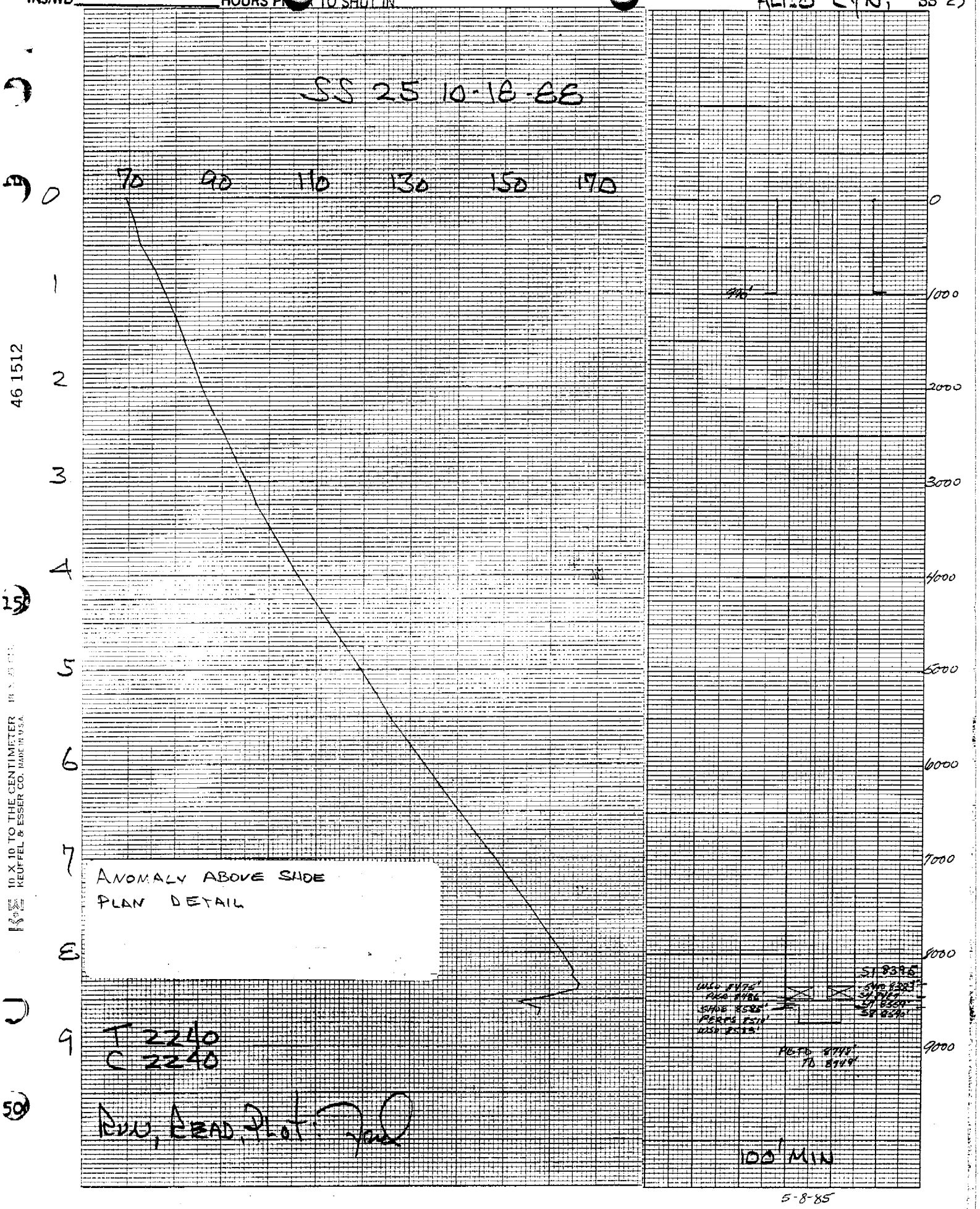


46 1512

KEUFFEL & ESSER CO. MADE IN U.S.A. 10 X 10 TO THE CENTIMETER 18 X 25 CM.

SHUT IN 30+ DAY PRIOR TO SURVEY.
INJ/WD _____ HOURS PRIOR TO SHUT IN.

ALISO CYN, SS 25



5-8-85

0278

Southern California Gas Company
Aliso Canyon

Well SS 25 Date 10-18-88 Element No 6945 2 Clock Hours _____

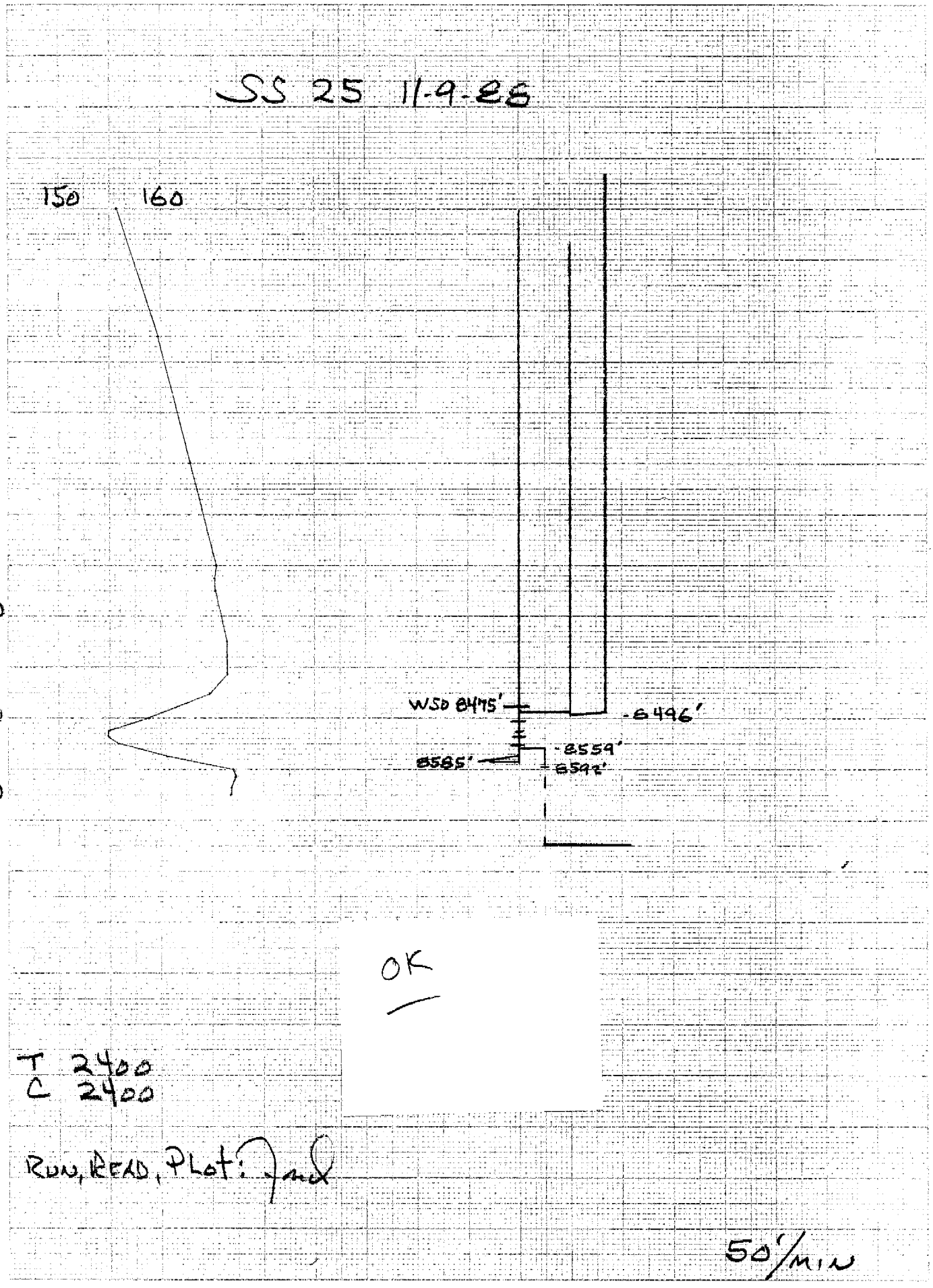
Tubing Press. 2240 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 2240 Pick-Up _____ Operator JG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.100	69.4	5000	55	331	119.6
250	7.5	.107	71.3	5250	57.5	349	122.7
500	10	.111	72.4	5500	60.	369	125.8
750	12.5	.122	75.5	5750	62.5	393	129.5
1000	15	.130	77.7	6000	65	418	133.2
1250	17.5	.138	79.9	6250	67.5	443	136.8
1500	20	.145	81.8	6500	70	469	140.4
1750	22.5	.153	83.9	6750	72.5	498	144.3
2000	25	160	85.5	7000	75	528	148.1
2250	27.5	170	87.8	7250	77.5	558	151.9
2500	30	181	90.4	7500	80	590	155.7
2750	32.5	192	92.9	7750	82.5	614	159.0
3000	35	203	95.4	8000	85	.652	162.7
3250	37.5	212	97.3	8250	87.5	.671	164.8
3500	40	226	100.2	8500	90.	.600	156.9
3750	42.5	240	103.0	~~8675~~	~~92.5~~	.605	157.5
4000	45	255	106.0	~~9000~~	95.		
4250	47.5	273	109.3				
4500	50	291	112.6				
4750	52.5	310	116.0				

8200'	87.	.674 -	165.1
8375'	88.75	.684 -	166.2
8400'	89.	.681 -	165.8
8450'	89.5	.640 -	161.4
8525'	90.25	.542 -	153.5
8600	91.	.610 -	158.0



46 1512
10 X 10 TO THE CENTIMETER 10 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS25 Date 11-9-22 Element No. 6452 Clock Hours _____

Tubing Press. 2400 Status _____ Time Clock Started _____ Time Clock Off _____

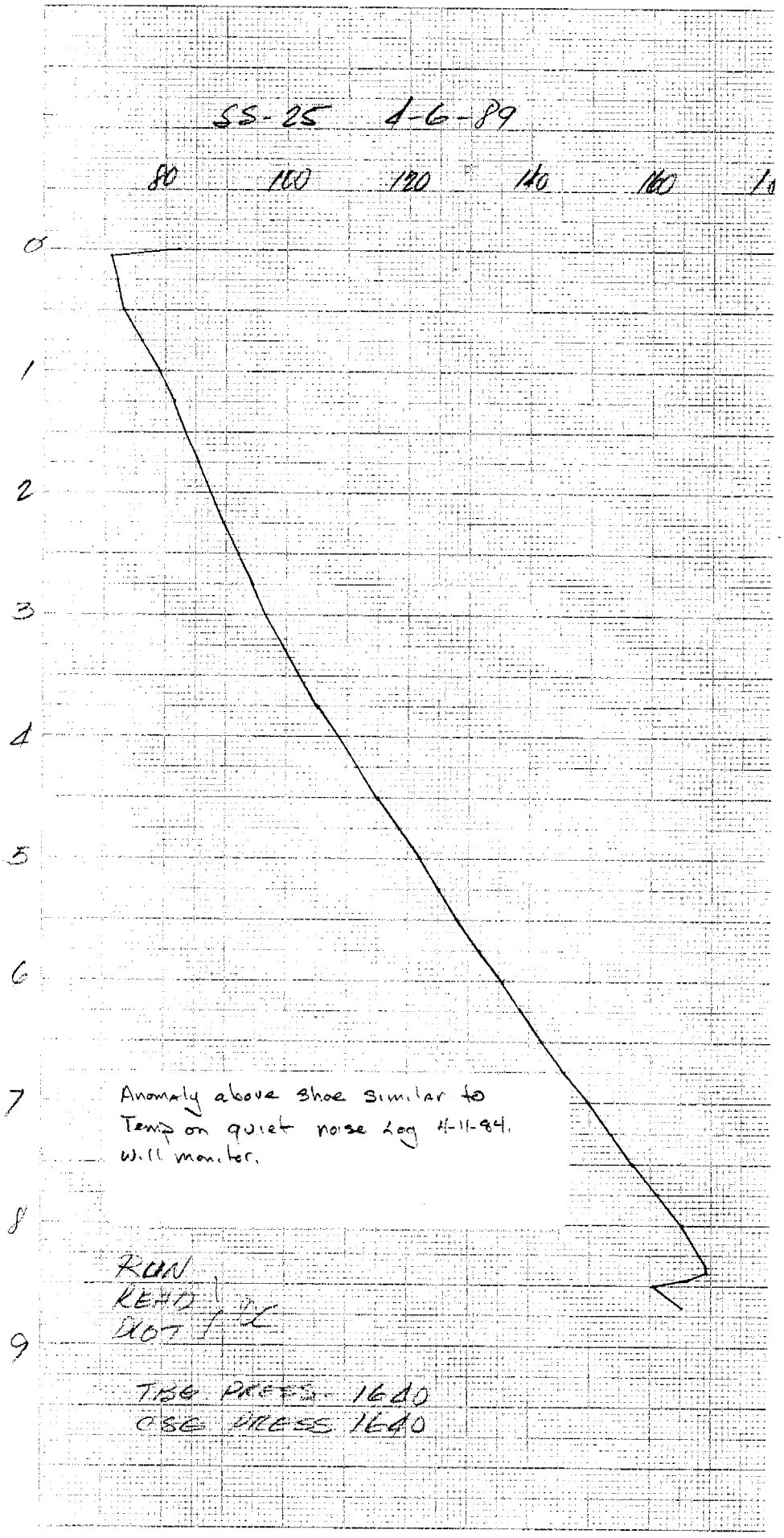
Casing Press. 2400 Pick-Up _____ Operator JG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5 3			5000	55		
250	7.5			5250	57.5		
500	10			5500	60.		
750	12.5			5750	62.5		
1000	15			6000	65		
1250	17.5			6250	67.5		
1500	20			6500	70		
1750	22.5			6750	72.5		
2000	25			7000 (2.0	75		
2250	27.5			~~7250~~	~~77.5~~		
2500	30			7500	20 80	.593	155.8
2750	32.5			7750	25 82.5	.628	159.7
3000	35			8000	30 85	.658	162.9
3250	37.5			~~8250~~	35 87.5	.681	165.3
3500	40			~~8500~~	40 90.	.620	158.8
3750	42.5			~~8650~~ ~~8750~~	43.0 ~~92.5~~	.647	161.8
4000	45			~~9000~~	~~95.~~		
4250	47.5						
4500	50						
4750	52.5						

E200'	34.	.682 –	165.4
E225'	34.5	.680 –	165.2
E250	37.	.693 –	166.5
E412'	38.25	.693 –	166.5
E450	39.	.676 –	164.8
E525'	40.5	.585 –	154.9
E537	40.75	.585 –	154.9
E550'	41.	.594 –	155.9
E575	41.5	.636 –	160.6
E600'	42.	.650 –	162.1
E612'	42.25	.652 –	162.3
E637	42.75	.648 –	161.9

SHUT IN 304 days PRIOR TO SURVEY.
INJ/WD _____ HOURS PRIOR SHUT IN.



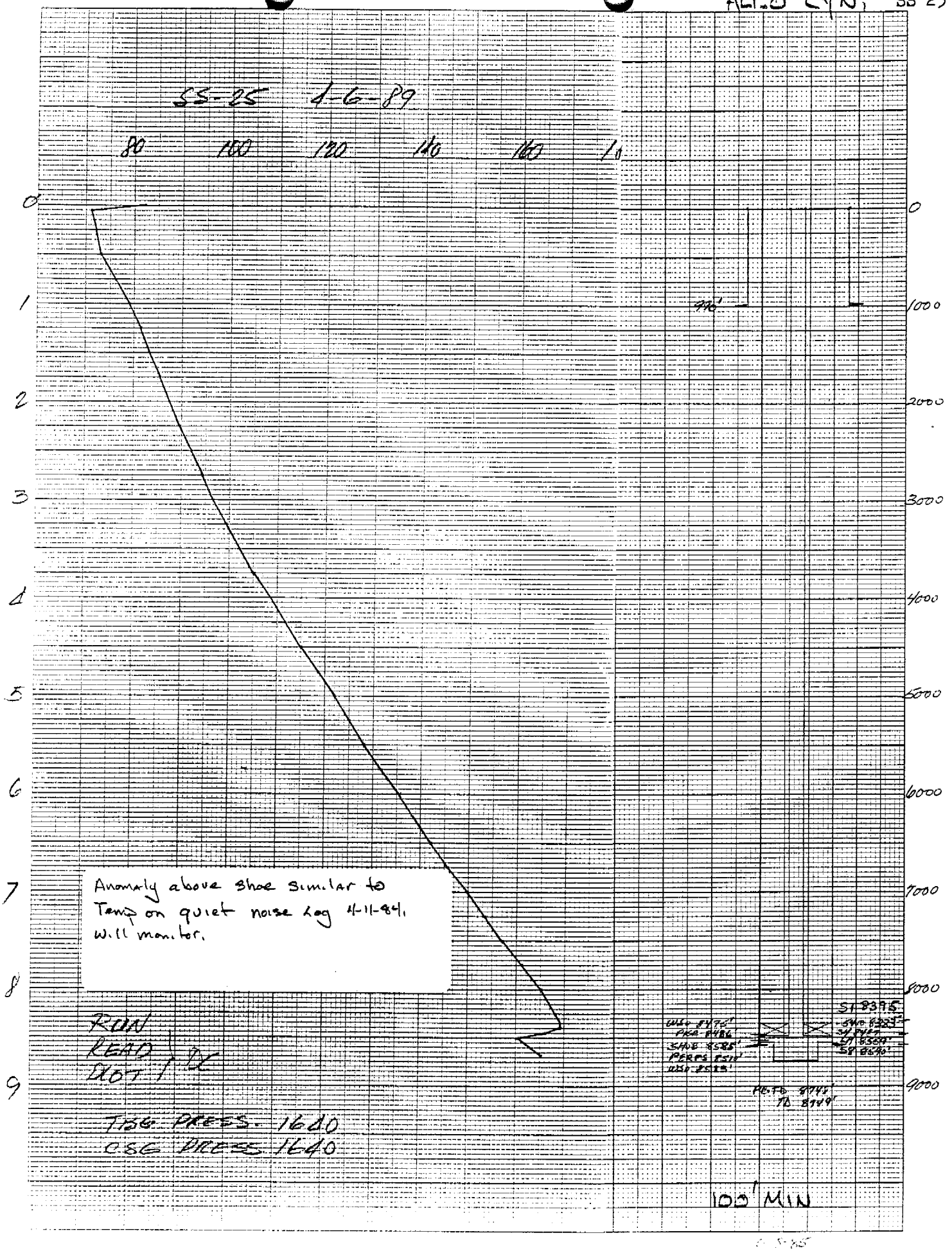
TBG PRESS. 1640
CSG PRESS 1640

46 1512

KEUFFEL & ESSER CO. MADE IN U.S.A. 10 X 10 TO THE CENTIMETER 25 X 25 CM.

SHUT IN 30 + day PRIOR TO SURVEY.
INJ/WD _____ HOURS PRIOR TO SHUT IN.

ALICO CYN, SS 25



46 1512

10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

.02794
.0699

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 4/6/89 Element No. 3929 Clock Hours 3

Tubing Press. 1640 Status _____ Time Clock Started 10:41 Time Clock Off ___

Casing Press. 1640 Pick-Up _____ Operator DE 10 " per Minute

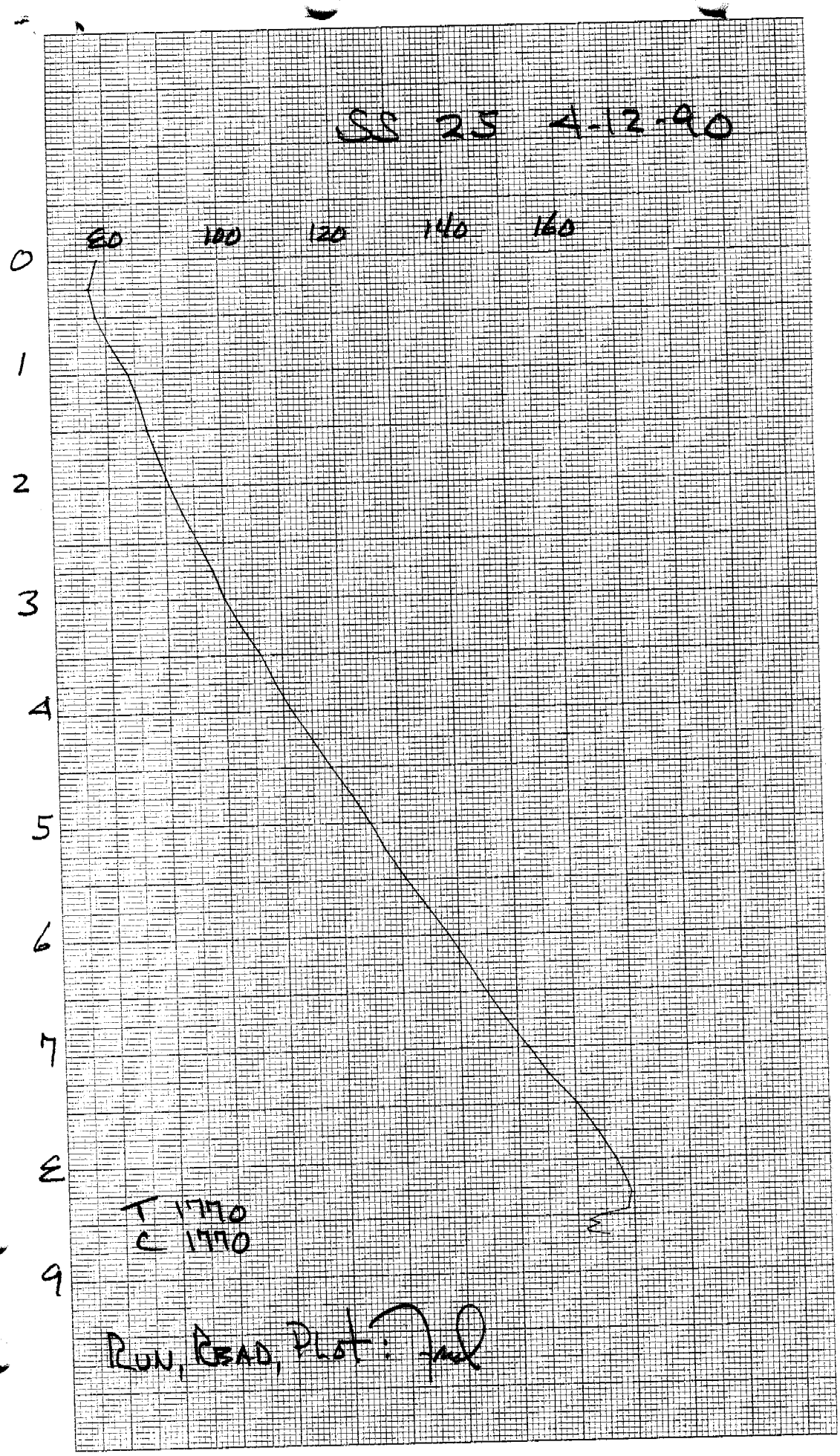
Time Press. on 10:46 (36) 87.88 Time Start Down 12'7 Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.186	82.58	5000	55.0 ✓	.460 1.398	122.0
250	7.5	.143	72.09	5250	57.5	.422	125.15
500	10.0	.147	73.07	5500	60.0	.444	128.29
750	12.5	.160	76.24	5750	62.5	.469	131.87
1000	15.0 ✓	.172	79.17	6000	65.0	.496	135.73
1250	17.5	.181	81.36	6250	67.5	.519	138.7
1500	20.0	.188	83.07	6500	70.0	.547	142.27
1750	22.5	.198	85.51	6750	72.5	.576	145.91
2000	25.0	.208	87.57	7000	75.0 ✓	.608 1.9572	149.92
2250	27.5	.219	89.72	7250	77.5	.639	103.49
2500	30.0	.231	92.08	7500	80	.672	157.28
2750	32.5	.244	94.62	7750	82.5	.706	161.12
3000	35.0 ✓	.255 1.8348	96.78	8000	85 ✓	.746 2.2368	165.28
3250	37.5	.269	99.52	8250	87.5	.773	168.09
3500	40.0	.283	102	8500	90	.699	160.39
3750	42.5	.300	105.6	[illegible]	[illegible]		
4000	45.0	.319	108.72	[illegible]	[illegible]		
4250	47.5	.338	111.83	8689	91.99	.748	165.49
4500	50.0	.358	115.11	TD			
4750	52.5	.380	118.72				

.01398

50 - .139 - 71.12

8350 — .784 — 169.26
8400 — 786 — 169.46
8450 — 757 — 166.43
2.3766v 8500 — 699 — 160.39
8550 — 711 — 161.66
8600 723 — 162.89
2.4185v 8650 — 705 — 160.15
8700 — 748 — 165.09



46 1512
K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

ALISO CYN. SS

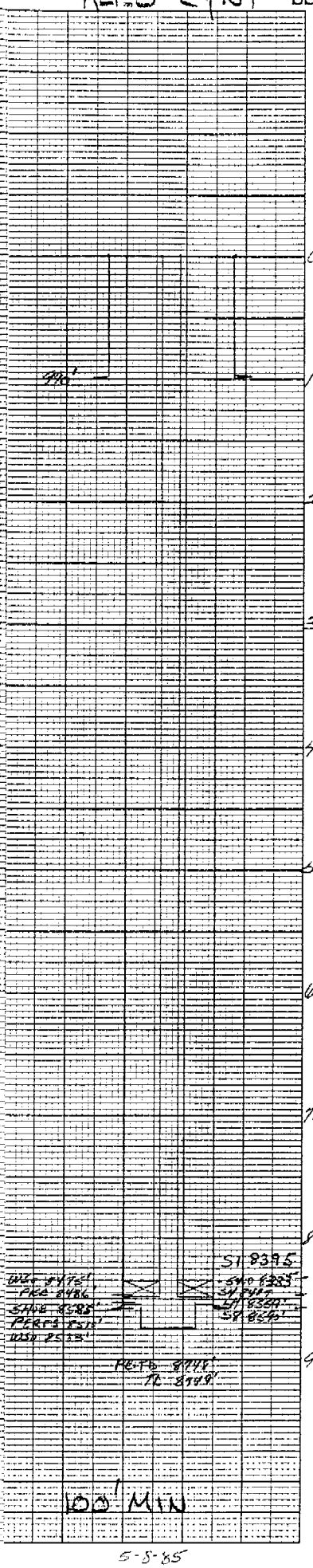
SS 25 4-12-90

60 100 120 140 160

0 1 2 3 4 5 6 7 8 9

T 1770
C 1770

RUN, READ, PLOT: JMQ



5-5-85

46 1512

10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.

.028

Southern California Gas Company
Aliso Canyon

Well SS25 Date 4-12-90 Element No. 69212 Clock Hours _____

Tubing Press. 1770 Status _____ Time Clock Started _____ Time Clock Off _____

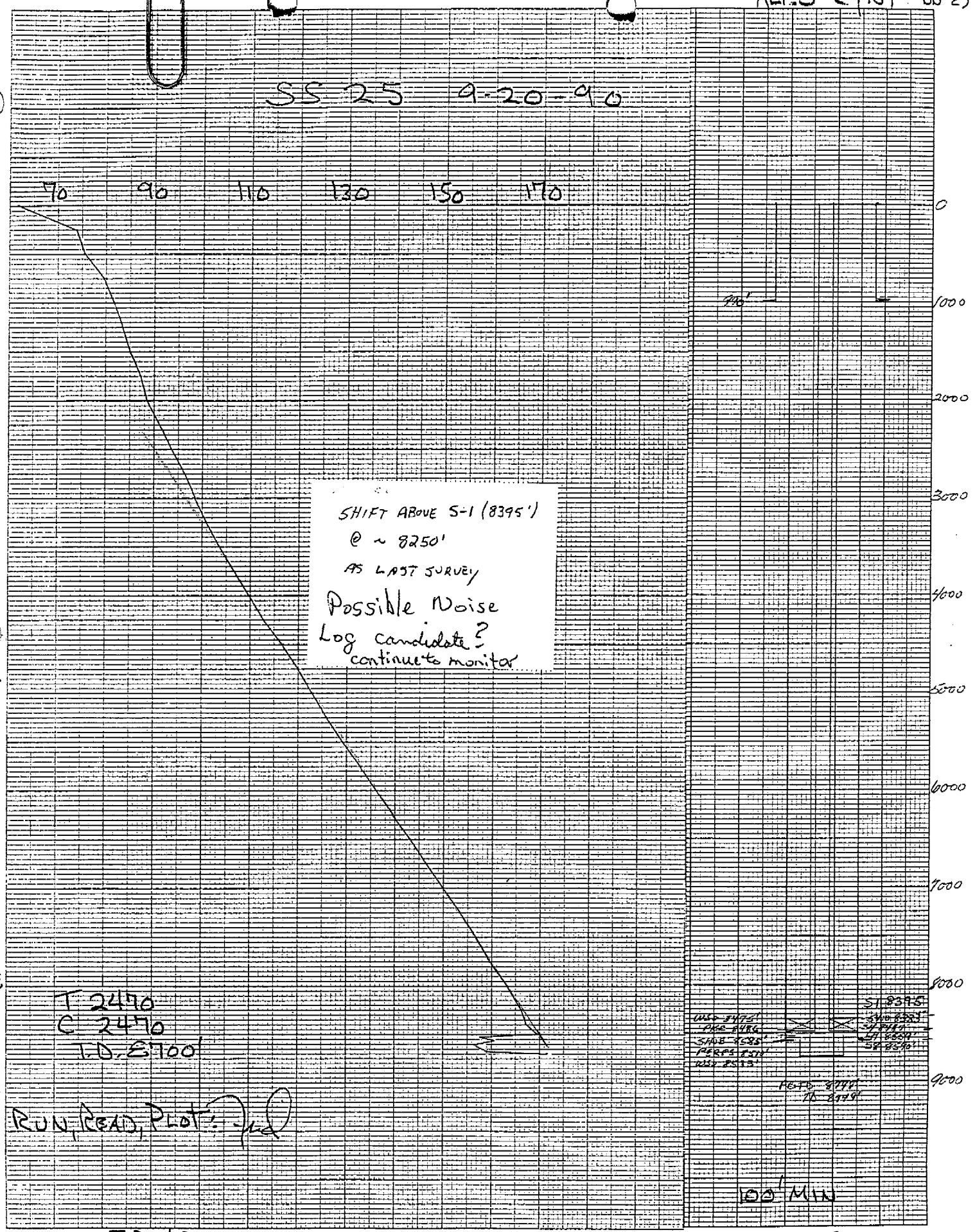
Casing Press. 1770 Pick-Up _____ Operator JG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	130	78.7	5000	55	349	124.9
250	7.5	124	77.0	5250	57.5	366	127.7
500	10	128	78.1	5500	60.	386	130.9
750	12.5	132	80.7	5750	62.5	410	134.7
1000	15	150	83.8	6000 ✓	65	433	138.2
1250	17.5	157	85.5	6250	67.5	455	141.5
1500	20	163	86.9	6500	70	479	144.7
1750	22.5	171	88.9	6750	72.5	505	148.1
2000	25	179	90.8	7000	75	535	151.9
2250	27.5	188	93.0	7250	77.5	562	155.4
2500	30	198	95.4	7500	80	602	160.2
2750	32.5	210	98.1	7750	82.5	633	163.8
3000	35	219	100.0	8000	85	662	167.0
3250	37.5	232	102.8	8250	87.5	681	169.0
3500	40	247	106.1	8500	90.	637	164.2
3750	42.5	260	108.6	8675 8750	91.75 92.5	647	165.4
4000 ✓	45	275	111.5	9000	95.		
4250	47.5	293	115.0				
4500	50	311	118.2				
4750	52.5	331	121.8				

E300'	88.0	.684 -	169.4
E400'	89.0	.681 -	169.0
E450'	89.5	.678 -	168.7
E550'	90.5	.618 -	162.1
E575'	90.75	.632 -	163.6
E625'	91.25'	.614 -	161.6
E650'	91.50	.618 -	162.1

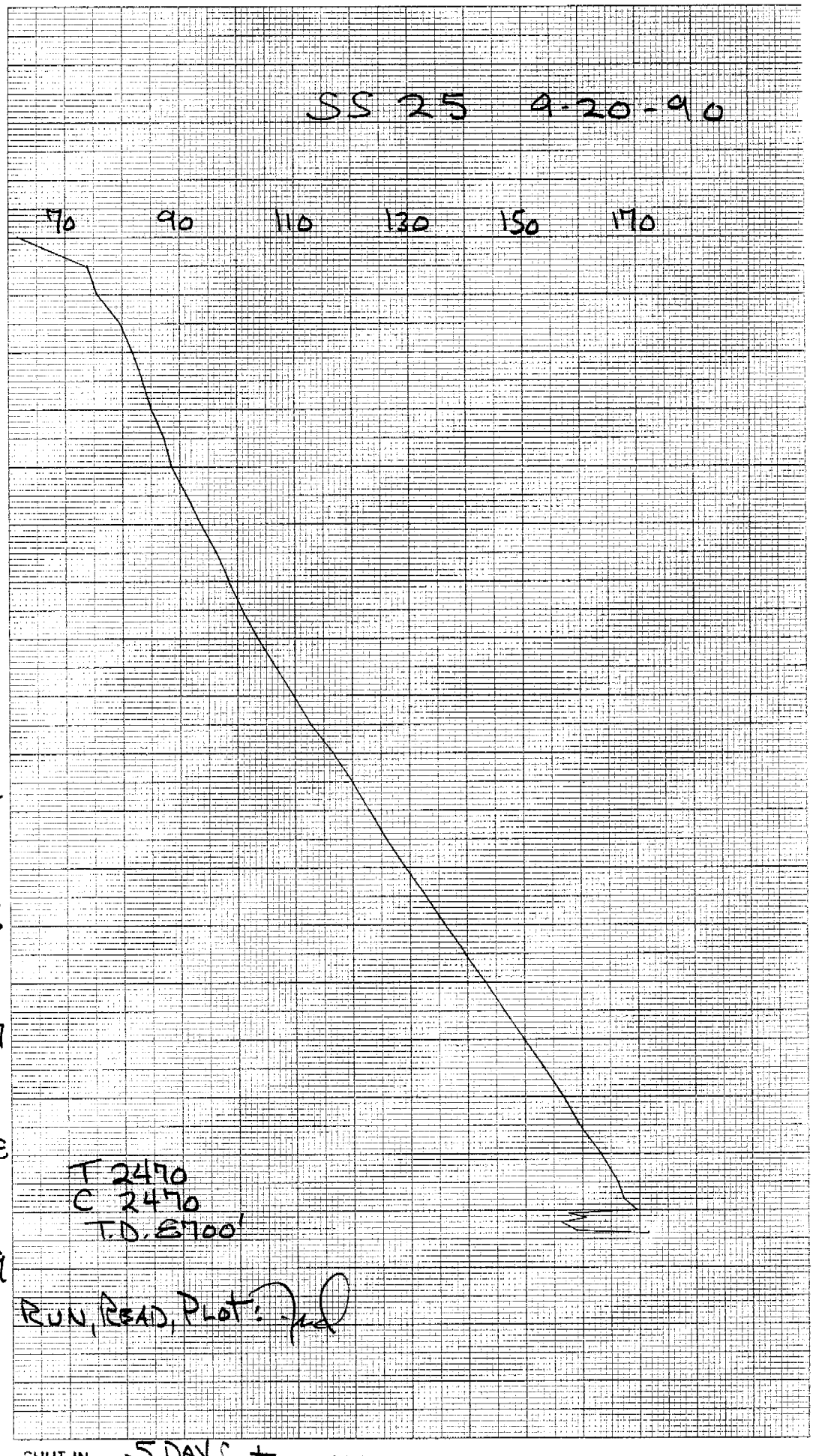
ALICO CYN, SS 25



5-8-85

SHUT IN 5 DAYS + PRIOR TO SURVEY.

INJ/WD _____ HOURS PRIOR TO SHUT IN



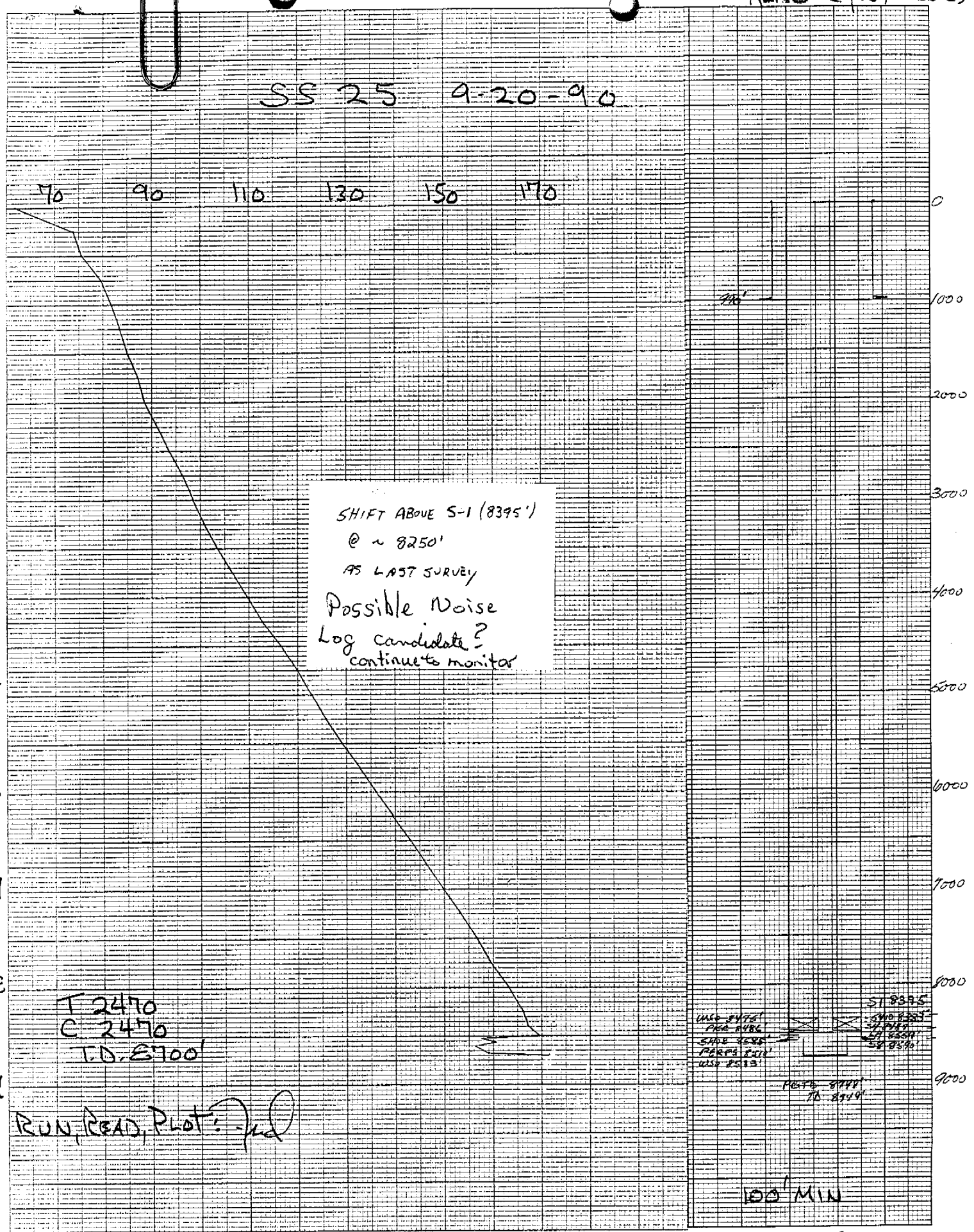
46 1512

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

SHUT IN 5 DAYS + PRIOR TO SURVEY.

INJ/WD _____ HOURS PRIOR TO SHUT IN

ALICO CYN, SS 25



5-8-85

SHUT IN 5 DAYS + PRIOR TO SURVEY.
INJ/WD _____ HOURS PRIOR TO SHUT IN

0213

Southern California Gas Company
Aliso Canyon

Well SS25 Date 9-20-90 Element No. 69E12 Clock Hours _____

Tubing Press. 2470 Status _____ Time Clock Started _____ Time Clock Off _____

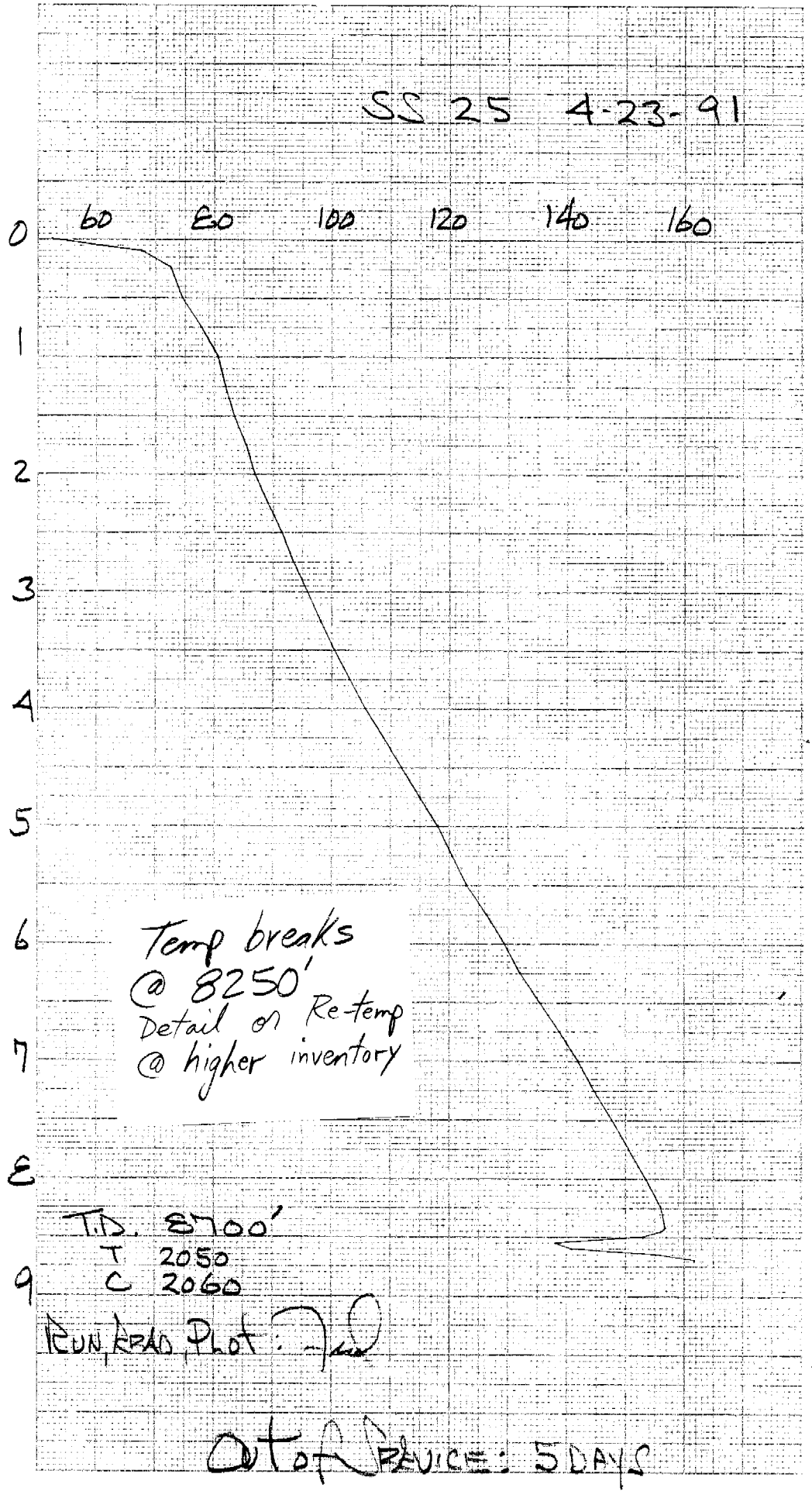
Casing Press. 2470 Pick-Up _____ Operator TG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.074	61.8	5000	55	338	123.0
250	7.5	.113	73.9	5250	57.5	355	125.9
500	10	.119	75.6	5500	60.	375	129.2
750	12.5	.134	79.9	5750	62.5	398	132.9
1000	15	.142	81.8	6000 ✓	65	420	136.2
1250	17.5	.149	83.5	6250	67.5	441	139.4
1500	20	.155	85.0	6500	70	467	143.1
1750	22.5	.164	87.2	6750	72.5	492	146.4
2000	25	.171	88.9	7000	75	519	149.9
2250	27.5	.180	91.1	7250	77.5	545	153.3
2500	30	.191	93.7	7500	80	574	156.8
2750	32.5	.202	96.3	7750	82.5	597	159.6
3000	35	212	98.5	8000	85	628	163.2
3250	37.5	223	100.9	8250	87.5	.655	166.2
3500	40	236	103.7	8500	90.	OVER .596	159.5
3750 ✓	42.5	250	106.7	8700	92.0	.614	161.6
4000 ✓	45	266	109.8	8750	92.5		
4250	47.5	282	112.8	9000	95.		
4500	50	301	116.5	UP95			
4750	52.5	321	120.0				

TD 8700'

E400'	90.00	.664 -	167.2
E525'	90.25	.582 -	157.8
E560'	90.6	.603 -	160.3
E600'	91.0	.571 -	156.5
E675'	91.75	.592 -	159.0



46 1512
10 X 10 TO THE CENTIMETER 10 X 15 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

0283

Southern California Gas Company
Aliso Canyon

Well SS25 Date 4-23-91 Element No. 69812 Clock Hours _____

Tubing Press. 2050 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 2060 Pick-Up _____ Operator JB _____ ' per Minute

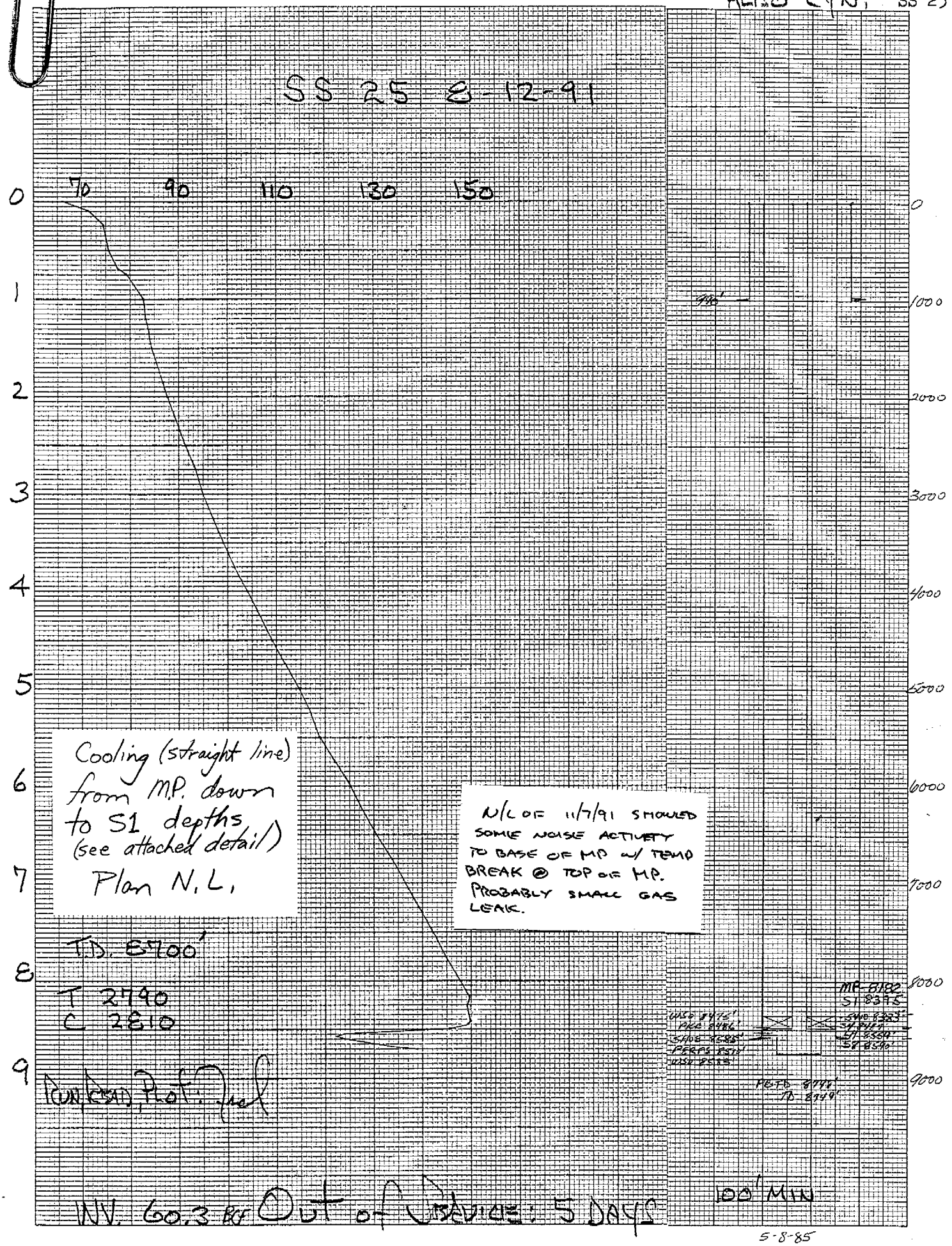
Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5 OVER	.048	52.6	5000	55	310	118.1
250	7.5	.109	72.7	5250	57.5	323	120.3
500	10	.115	74.4	5500	60.	338	123.0
750	12.5	127	77.8	5750	62.5	357	126.2
1000	15	137	80.5	6000	65	376	129.3
1250	17.5	143	82.0	6250	67.5	393	132.1
1500	20	148	83.3	6500	70	414	135.3
1750	22.5	156	85.3	6750	72.5	437	138.8
2000	25	163	86.9	7000	75	458	141.9
2250	27.5	172	89.1	7250	77.5	478	144.6
2500	30	181	91.3	7500	80	501	147.6
2750	32.5	190	93.5	7750	82.5	523	150.4
3000	35	200	95.9	8000	85	545	153.3
3250	37.5	210	98.1	8250	87.5	567	156.0
3500	40	221	100.4	8500	90. OVER	.543	153.0
3750	42.5	233	103.0	8700 8750	92.0 92.5	.616	161.8
4000	45	246	105.8	9000	95.		
4250	47.5	261	108.8				
4500	50	277	111.9				
4750	52.5	293	115.0				

TD 8700

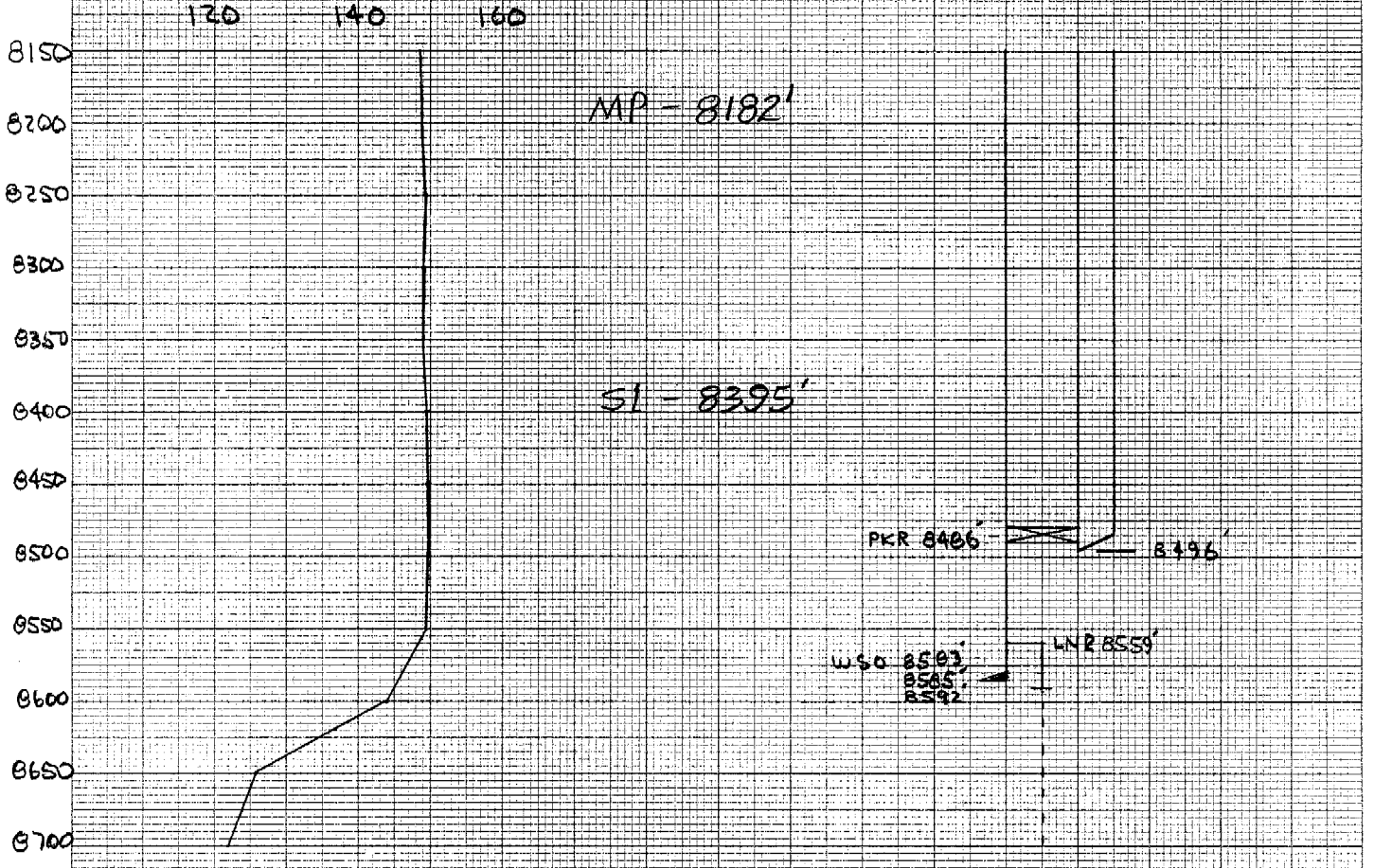
100'	6.0	.093 –	68.0
8425'	89.25	.572 –	156.6
8450'	89.5	.567 –	156.0
8550'	90.5	.432 –	138.1
8600'	91.	.450 –	140.8
8650'	91.5	.560 –	155.1

ALISO CYN, SS 25



K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM. KEUFFEL & ESSER CO. MADE IN U.S.A. 46 1512

SS-25 8-12-91
DETAIL 8150' - TD 8700'
ORIG. CHART



TBG 2790
CSG 2610
RUN F.G.
READ & PLOT DN

Straight line cooling above S1.
Plan N.L.

46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 8-12-91 Element No. 69812 Clock Hours _____

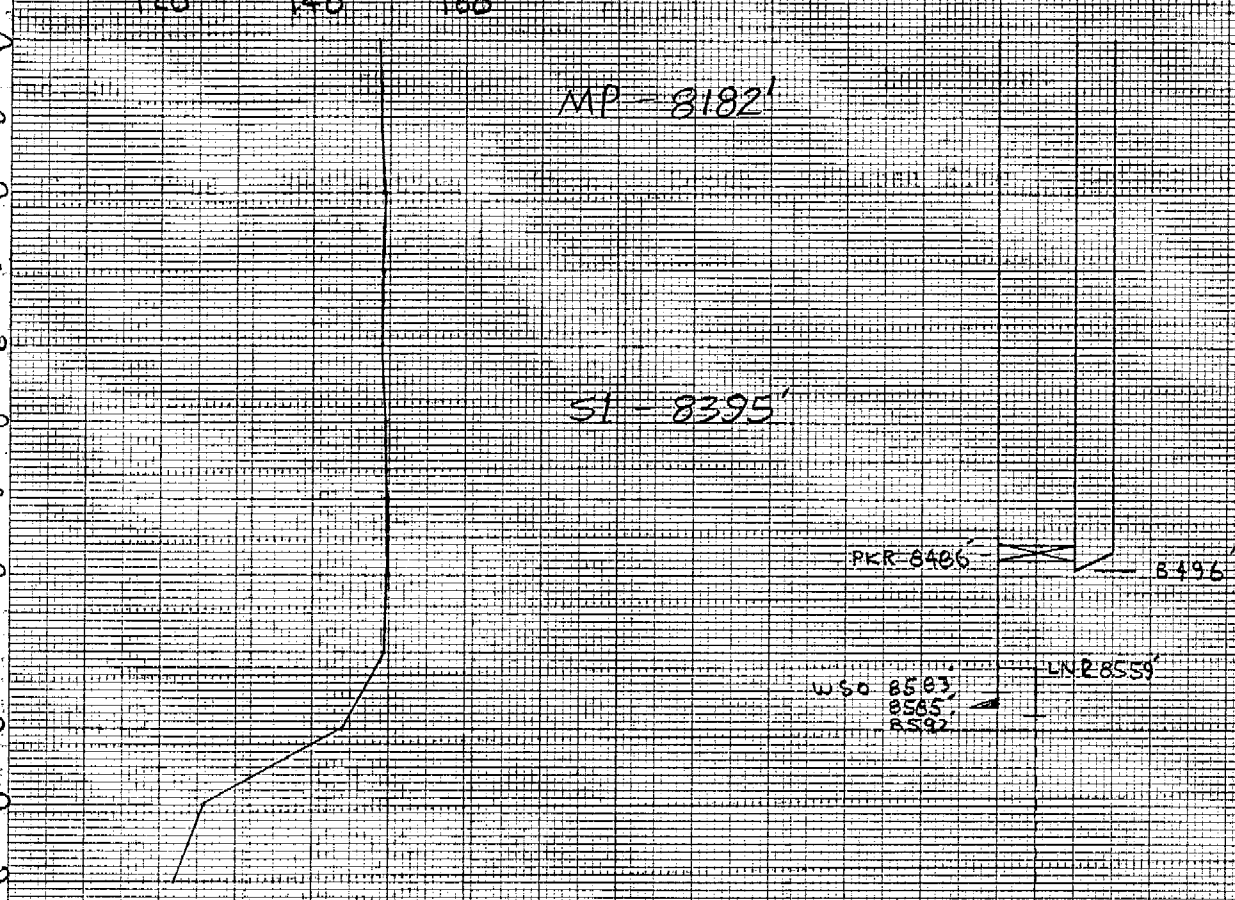
Tubing Press. 2790 Status S/I Time Clock Started _____ Time Clock Off _____

Casing Press. 2810 Pick-Up 8700 Operator F.G. 100 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6' @ MV

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
8150	86.5	.506	148.3				
8200	87.0	.511	148.9				
8250	87.5	.514	149.3				
8300	88.0	.513	149.2				
8350	88.5	.512	149.0				
8400	89.0	.514	149.3				
8450	89.5	.515	149.4				
8500	90.0	.518	149.8				
8550	90.5	.513	149.2				
8600	91.0	.474	144.0				
8650	91.5	.355	125.9				
8700	92.0	.332	121.9				

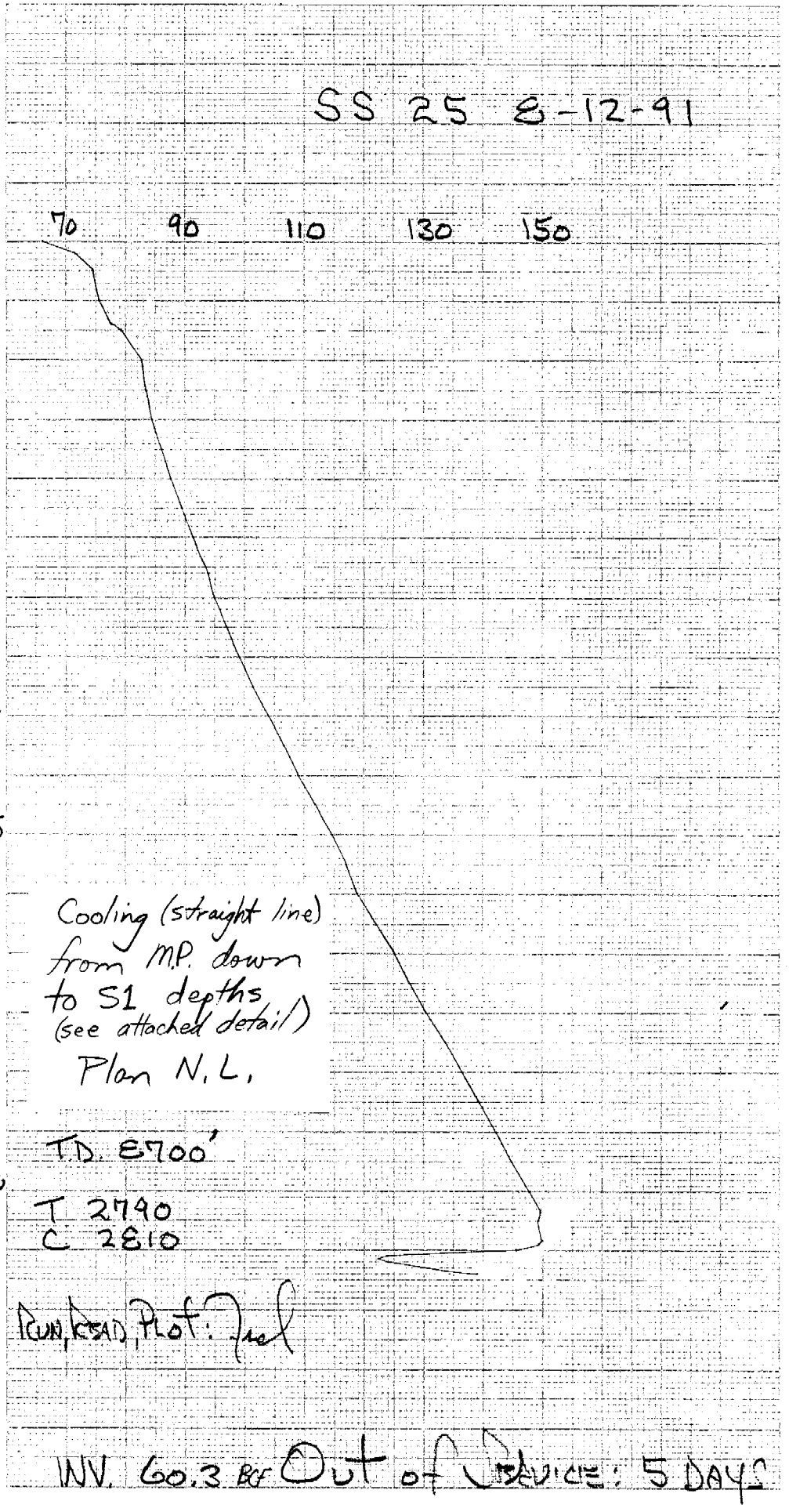
SS-25 8-12-91
DETAIL 8150' - TD 8700'
ORIG. CHART



TBG 2790
CSG 2610
RUN F.G.
READ & PLOT Vv

Straight line cooling above S1.
Plan N.L.

46 1512
10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



46 1512

KEUFFEL & ESSER CO. MADE IN U.S.A. 10 X 10 TO THE CENTIMETER 25 X 25 CM

Southern California Gas Company
Aliso Canyon

Well SS25 Date 8-12-91 Element No. 6981.2 Clock Hours _____

Tubing Press. 2790 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 2810 Pick-Up _____ Operator JG _____' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.087	66.1	5000	55	291	114.6
250	7.5	.116	74.7	5250	57.5	304	117.0
500	10	.120	75.2	5500	60.	315	118.9
750	12.5	.132	79.2	5750	62.5	332	121.9
1000	15	.146	82.8	6000	65	350	125.1
1250	17.5	149	83.5	6250	67.5	366	127.7
1500	20	153	84.5	6500	70	383	130.4
1750	22.5	159	86.0	6750	72.5	404	133.8
2000	25	166	87.7	7000	75	422	136.5
2250	27.5	173	89.4	7250	77.5	440	134.3
2500	30	181	91.3	7500	80	460	142.1
2750	32.5	190	93.5	7750	82.5	480	144.8
3000	35	196	94.9	8000	85	502	147.8
3250	37.5	205	97.0	8250	87.5	514	149.3
3500	40	215	99.1	8500	90.	484	145.4
3750	42.5	225	101.3	8700 8750	92.0 92.5	432	139.0
4000	45	237	103.9	9000	95		
4250	47.5	249	106.5				
4500	50	262	109.0				
4750	52.5	277	111.9				

TD 8700'

100' 6.0 .105 - 71.5

700' 12.0 .126 - 77.6

E175' E6.75 .518 - 149.E

E225' E7.25 .515 - 149.4

E425' E9.25 .519 - 149.9

E450' E9.5 .515 - 149.4

E550' 90.5 .343 - 123.9

E575' 90.75 .334 - 122.3

E600' 91, .344 - 124.0

E675' 91.75 .402 - 133.5

R 8-26-92

FLO-LOG INC.

NOISE AND TEMPERATURE SURVEY

COMPANY Southern Cal. Gas FIELD Aliso Canyon WELL NAME & NO. Standard Scenon 25

SURVEY DATA

DATE OF SURVEY	11-7-91
WELL STATUS	GAS STORAGE
TYPE OF FLUID	GAS WATER
FLUID RATE (S)	
EFFECTIVE DEPTH	8748'
LOGGERS DEPTH (PICKUP)	8700'
AMOUNT OF FILL	48'
LOG WITNESSED BY	B. HAZEL
LOG RECORDED BY	M. FINDLAY
REASON FOR SURVEY	CHECK FOR POTENTIAL LEAKAGE PAST SHOE AS HIGH AS 8150'
RESULTS AND REMARKS	FIELD INVENTORY WAS 56.478 Bcf. WELL AND FIELD SHUTIN 6 DAYS PRIOR TO SURVEY. HEARD DISTANT NOISE ABOVE 7200'. AT 500', BLED CASING KILL LINE ON WELL 25 A AND HEARD EVEN HIGHER ACTIVITY.

WELLBORE DATA

CASING AND TUBING RECORD

SIZE	WEIGHT	FROM	TO	PRESSURE	FLUID LEVEL
11-3/4"	42#	0'	990'		
7"	23,26,29#	0'	8585'	2460 PSI	
5-1/2"	20#	8559'	8748'		
2-7/8"	TUBING	0'	8496'	2600 PSI NONE OBS	

PACKER (S) 8486' MANDREL (S) MMG 8397', RSSV 8451'

PERFORATIONS 8510-8538', 8542-8545', JSPF 8592-8748', SLOTTED

LOGGING UNIT 712 LINE SIZE 3/16" LINE LENGTH 24,600 NOISE TOOL NO. 7107

DIAGRAM OF TOOLS USED

DIAMETER OF TOOLS 1-3/8"

3-60° BARS, COLLAR LOCATOR, TEMPERATURE, NOISE

MEASUREMENT DATUM 6' K.B.

DEPTH REFERENCE TUBING TAIL

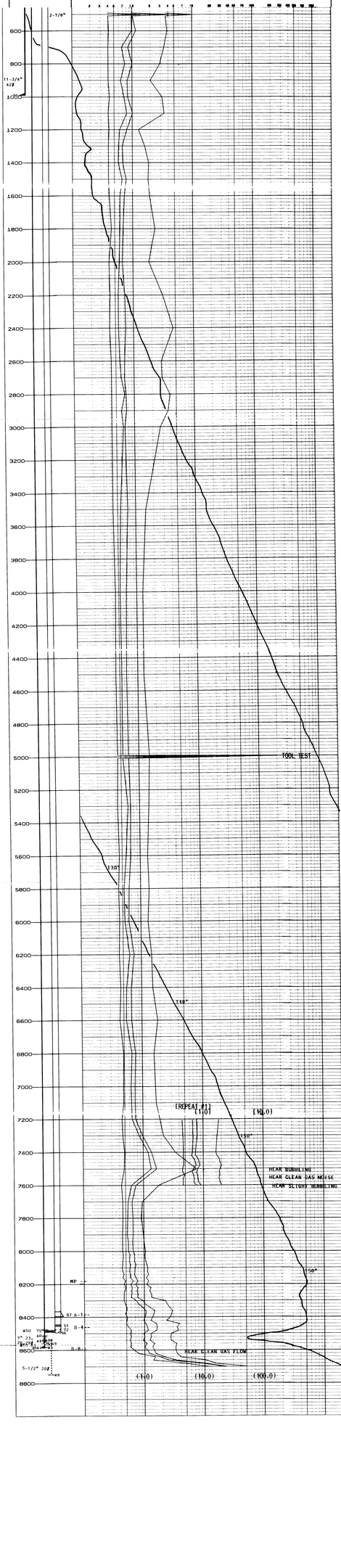
TEMPERATURE

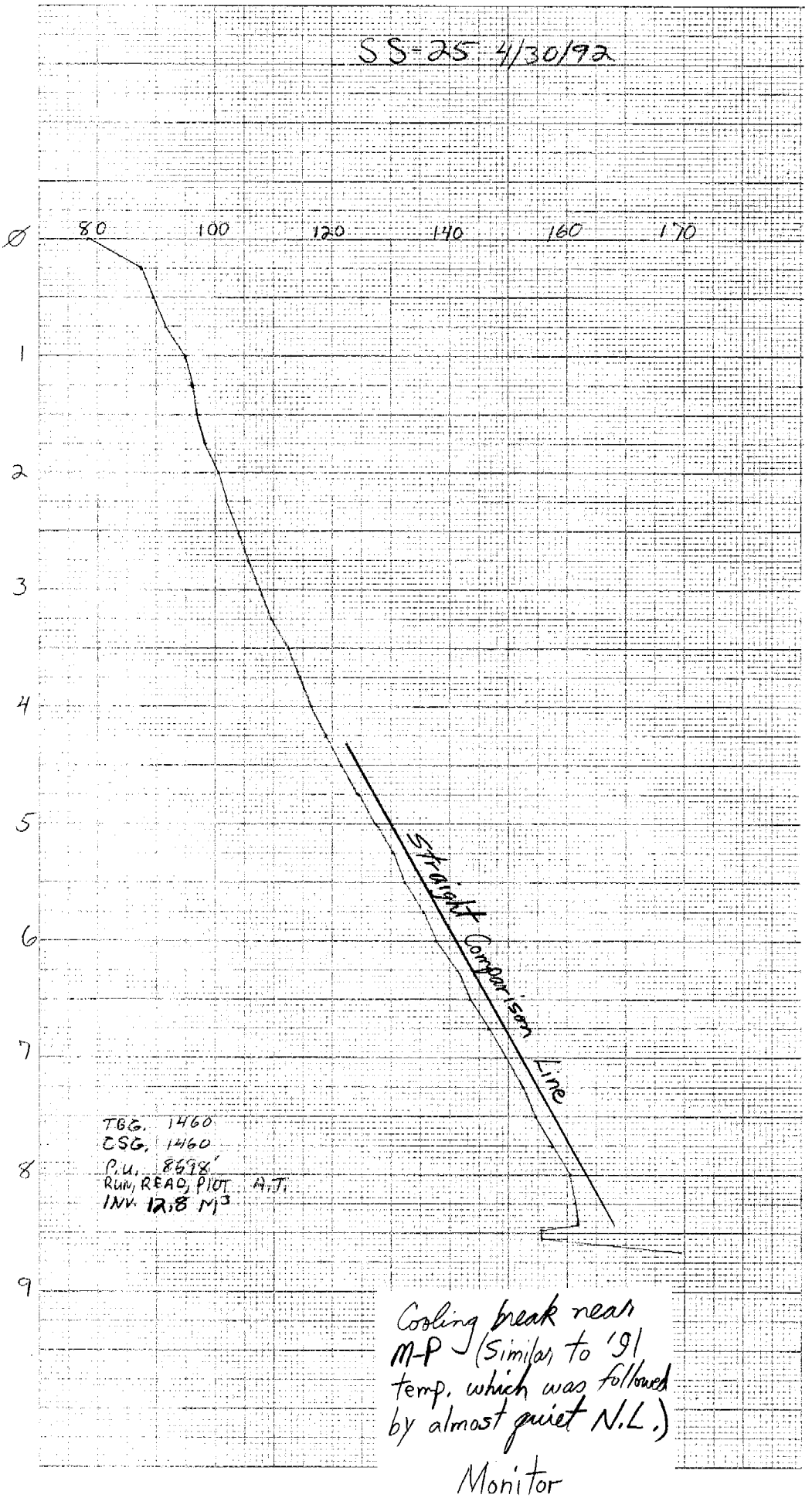
90° 95° 100° 105° 110° 115° 120°

FREQUENCY RESPONCE: (HI FREQUENCY) 2000 HERTZ 1000 HERTZ 600 HERTZ 200 HERTZ (LO FREQUENCY)

MILLIVOLTS

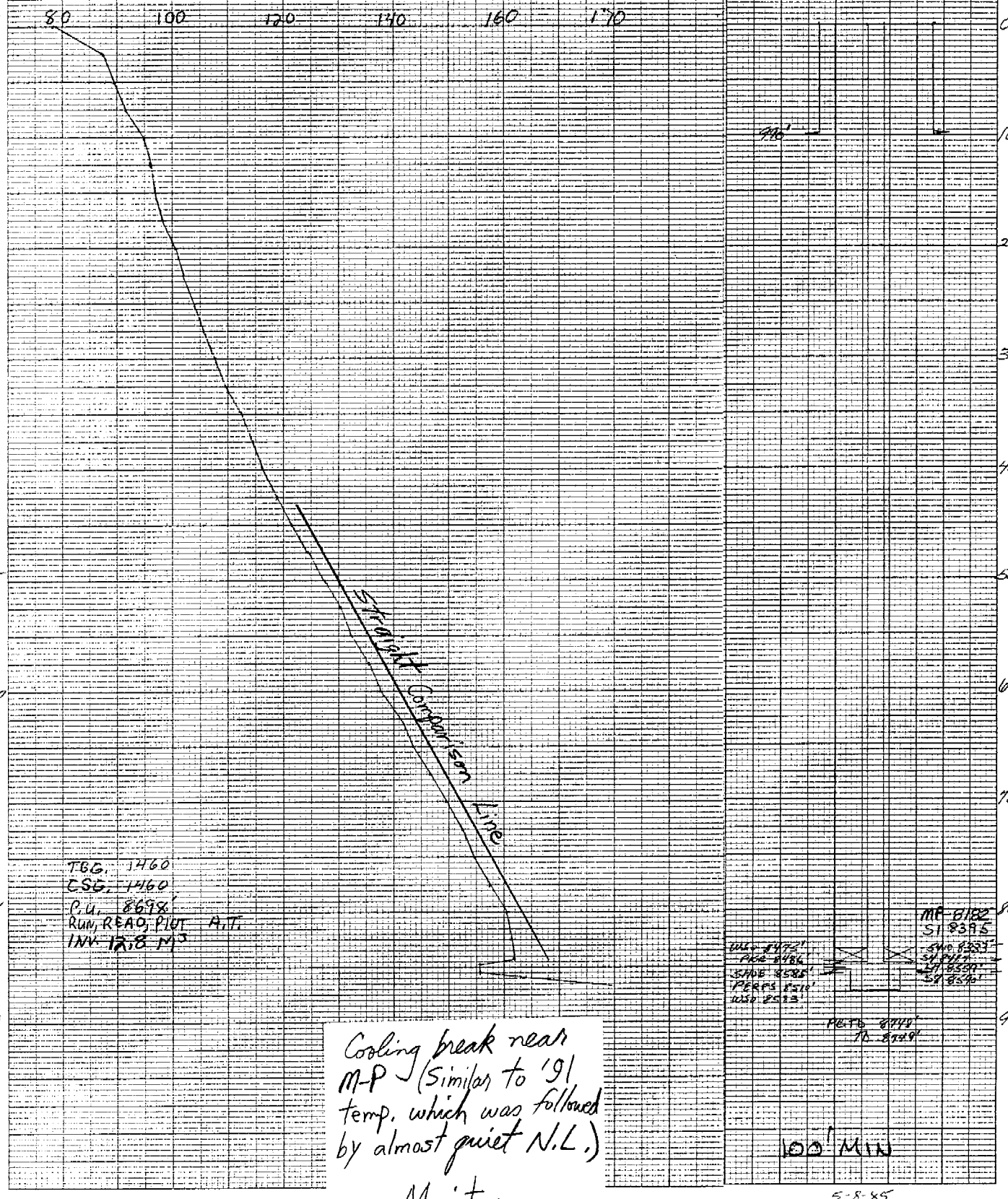
2 3 4 5 6 7 10 2 3 4 5 6 7 10 20 30 40 50 70 100 150 200 300 400 500




SS-25 4/30/92
80
100
120
140
160
170
0
1
2
3
4
5
6
7
8
9
Straight Comparison Line
TBG, 1460
CSG, 1460
P.U. 8618'
RUN, READ, PICT. A.T.
INV. 12.8 M3
Cooling break near M-P (Similar to '91 temp. which was followed by almost quiet N.L.)
Monitor
46 1512
10 X 10 TO THE CENTIMETER 10 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

ALISO CYN, SS 25

SS-25 4/30/92



Cooling break near M-P (Similar to '91 temp. which was followed by almost quiet N.L.)

Monitor

10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.
46 1512

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 30 April, 1992 Element No. 69452 Clock Hours 3

Tubing Press. 1460 Status S/I Time Clock Started _____ Time Clock Off _____

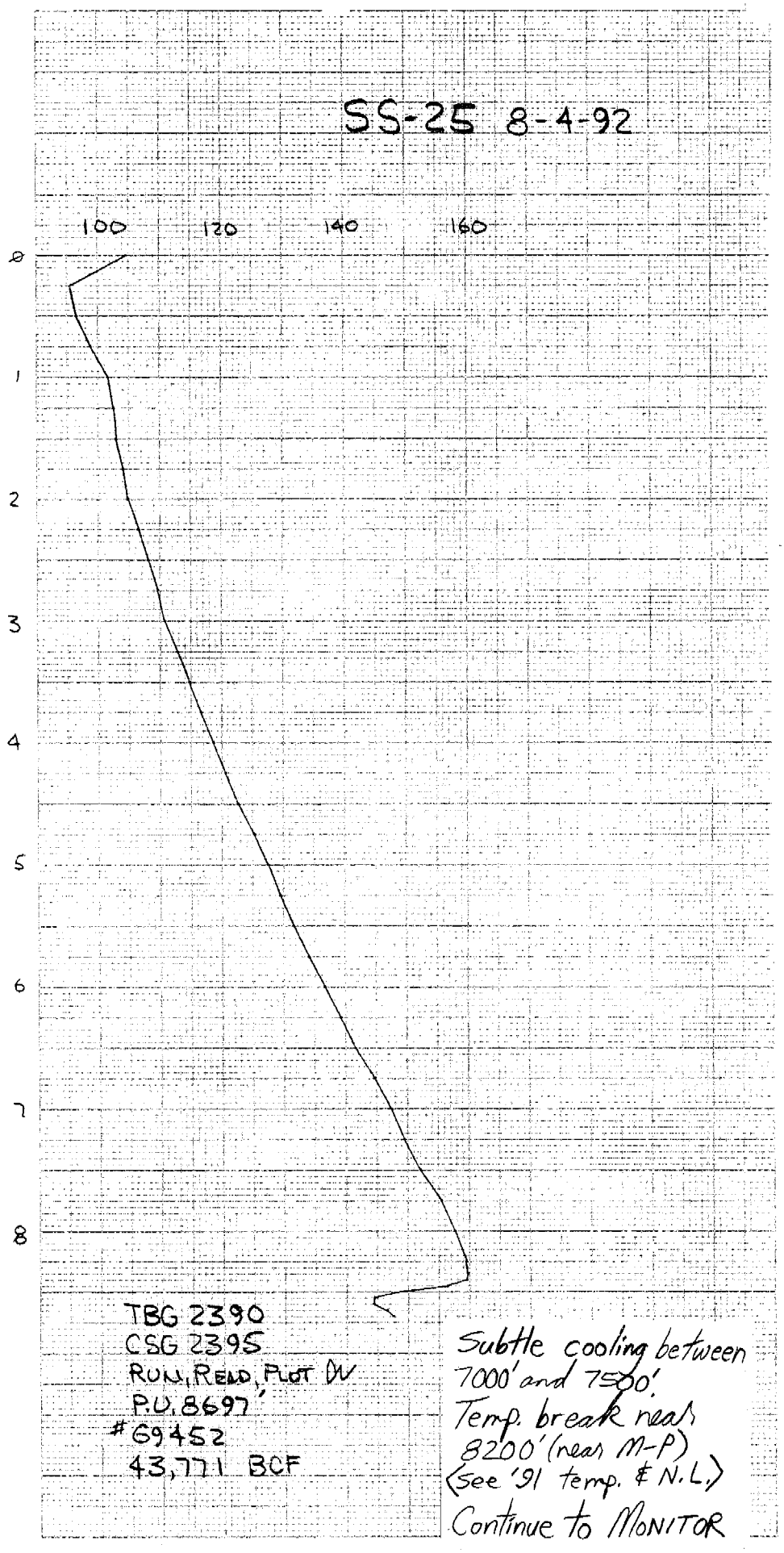
Casing Press. 1460 Pick-Up 8698' Operator AT 100 ' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6'

12.8 M^3

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.133	78.2	5000	55	.383	127.6
250	7.5	.171	87.3	5250	57.5	.399	130.1
500	10	.180	89.4	5500	60.	.413	132.3
750	12.5	.190	91.7	5750	62.5	.434	135.4
1000	15	.205	95.0	6000	65	.451	137.9
1250	17.5	.211	96.3	6250	67.5	.475	141.2
1500	20	.215	97.1	6500	70	.494	143.7
1750	22.5	.220	98.1	6750	72.5	.518	146.8
2000	25	.231	100.4	7000	75	.539	149.5
2250	27.5	.239	102.0	7250	77.5	.562	152.3
2500	30	.249	104.1	7500	80	.585	154.9
2750	32.5	.258	105.8	7750	82.5	.611	157.8
3000	35	.268	107.7	8000	85	.634	160.3
3250	37.5	.277	109.4	8250	87.5 over	.640	161.0
3500	40	.292	112.3	8500	90.		
3750	42.5	.304	114.5	8698 8750	91.98 2.5% 92.5	.718	169.0
4000	45	.317	116.7	9000	95.		
4250	47.5	.330	119.0				
4500	50	.346	121.7				
4750	52.5	.362	124.3				

8425	89.25	.647	161.8
8492	89.92	.588	155.2
8550	90.50	.588	155.2

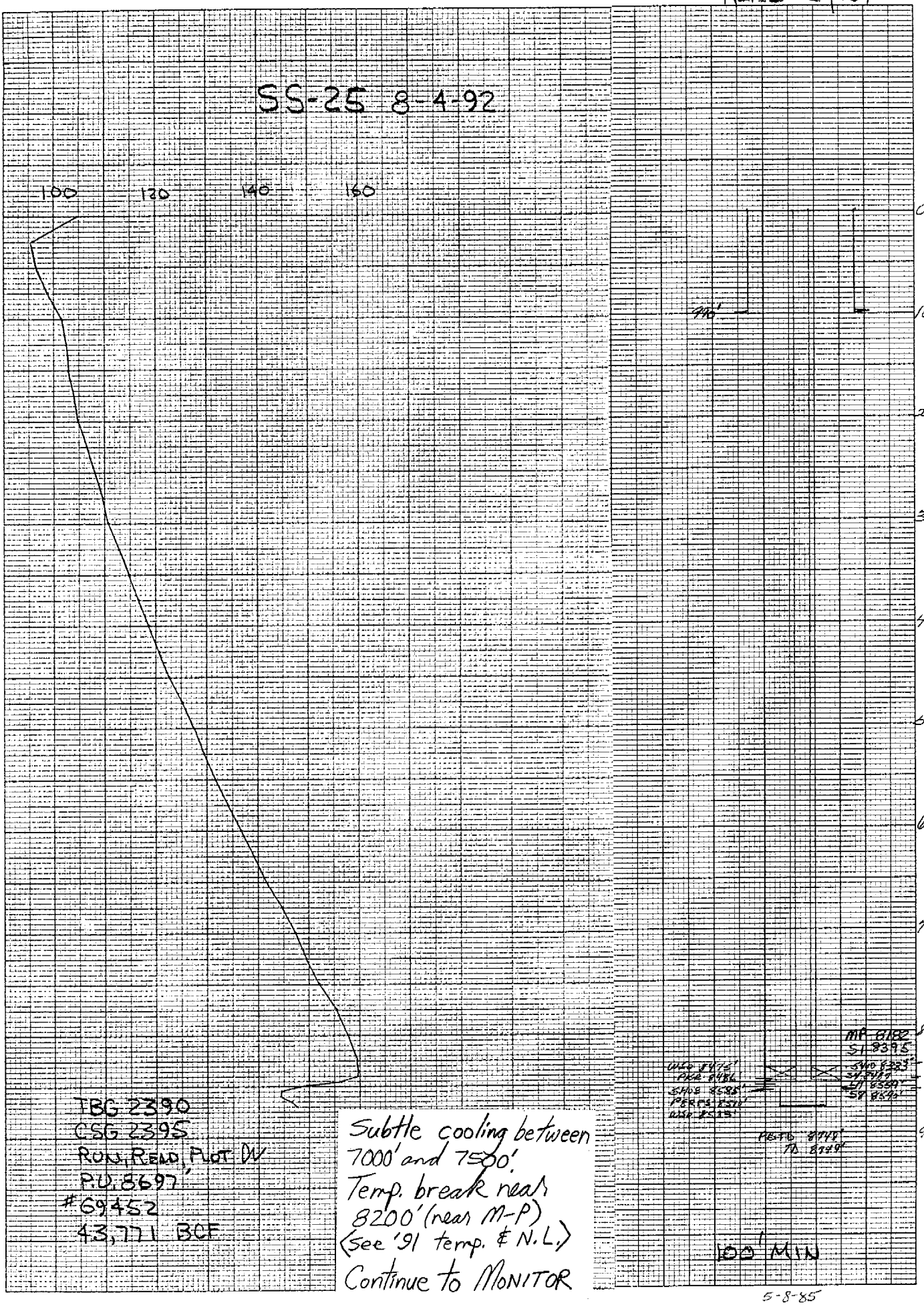


46 1512

10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.

ALISO CYN, SS 25

SS-25 8-4-92



TBG 2390
CSG 2395
RUN, READ, PLOT DV
P.U. 8697'
#69452
43,771 BCF

Subtle cooling between 7000' and 7500'.
Temp. break near 8200' (near M-P)
(See '91 temp. & N.L.)
Continue to MONITOR

46 1512

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

DOEF. 02787

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 8-4-92 Element No. 69452 Clock Hours _____

Tubing Press. 2390 Status S/I Time Clock Started _____ Time Clock Off _____

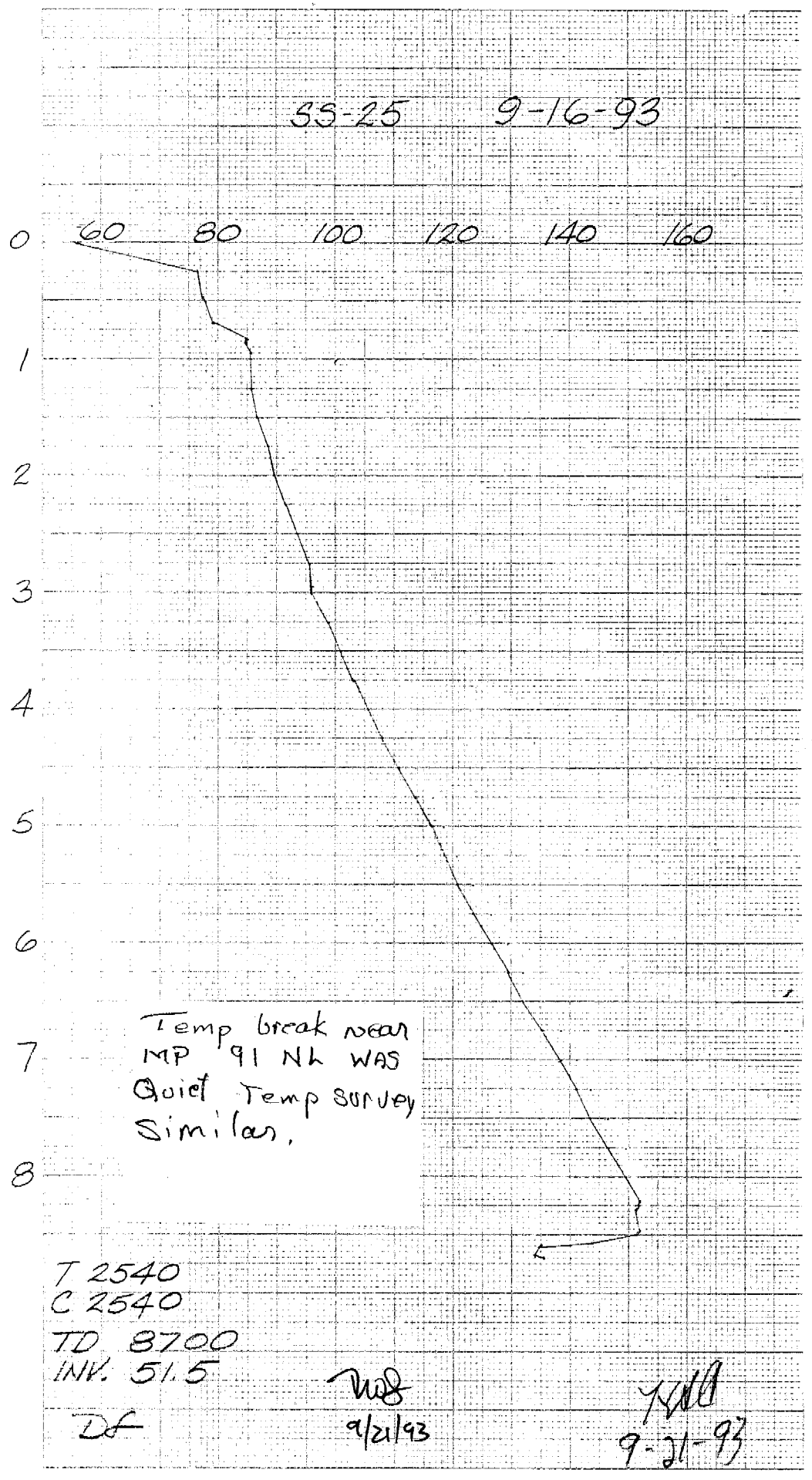
Casing Press. 2395 Pick-Up 8697 Operator W 100' per Minute

Time Press. on _____ Time Start Down _____ Zero Point 6' @ MV

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.249	104.6	5000	55.0	.384	127.4
250	7.5	.202	95.6	5250	57.5	.397	129.5
500	10.0	.205	96.2	5500	60.0	.411	131.5
750	12.5	.218	98.7	5750	62.5	.429	134.0
1000	15.0	.233	101.5	6000	65.0	.448	136.7
1250	17.5	.237	102.3	6250	67.5	.465	139.1
1500	20.0	.240	102.9	6500	70.0	.483	141.6
1750	22.5	.246	104.0	6750	72.5	.506	144.7
2000	25.0	.251	104.9	7000	75.0	.526	147.1
2250	27.5	.258	106.3	7250	77.5	.545	149.4
2500	30.0	.267	108.0	7500	80	.566	152.0
2750	32.5	.276	109.7	7750	82.5	.592	155.2
3000	35.0	.282	110.8	8000	85.	.615	157.8
3250	37.5	.293	112.9	8250	87.5	.630	159.4
3500	40.0	.304	114.9	8500	90. OVER	.545	149.4
3750	42.5	.315	116.6	8697 8750	91.97 92.5	.529	147.5
4000	45.0	.327	118.5	9000	95.		
4250	47.5	.340	120.5				
4500	50.0	.353	122.6				
4750	52.5	.369	125.1				

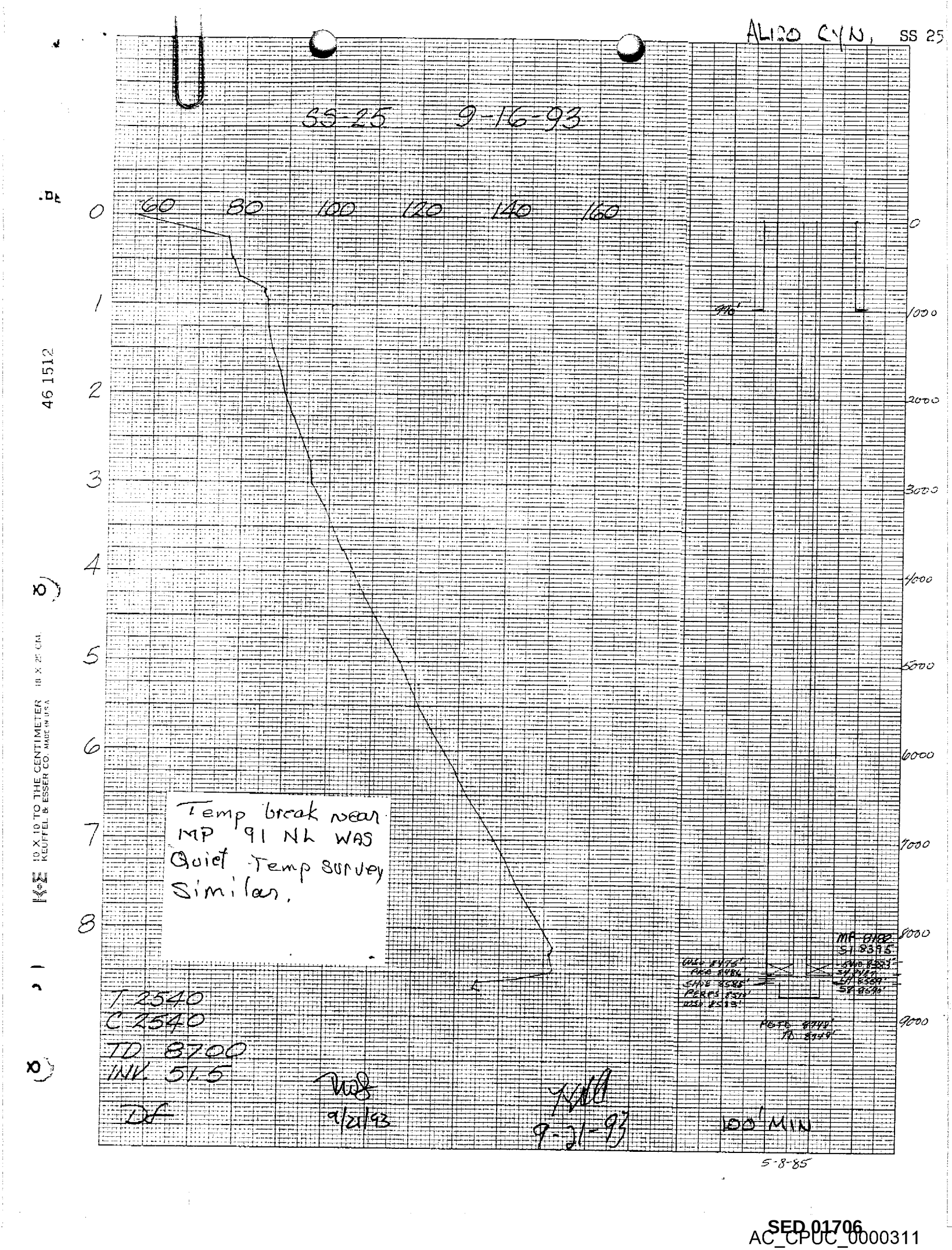
$\frac{2.564}{91.97}$ .02787

	8300	88.0	.633	159.7
	8350	88.5	.634	159.8
	8400	89.0	.631	159.5
	8450	89.5	.600	156.2
	~~8500~~			
	8550	90.5	.506	144.7
*	8600	91.0	.504	144.4
	8650	91.5	.519	146.3



46 1512

10 X 10 TO THE CENTIMETER 19 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.


ALICO CYN, SS 25
SS-25 9-16-93
60 80 100 120 140 160
0 1 2 3 4 5 6 7 8
0 1000 2000 3000 4000 5000 6000 7000 8000 9000
Temp break near MP 91 NL WAS Quiet Temp Survey Similar.
T 2540
C 2540
TD 8700
INV. 51.5
9/21/93
9-21-93
100' MIN
5-8-85
46 1512
10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well SS-25 Date 9/16/93 Element No. 69452 Clock Hours _____

Tubing Press. 2540 Status _____ Time Clock Started _____ Time Clock Off _____

Casing Press. 2540 Pick-Up _____ Operator DS/FG _____' per Minute

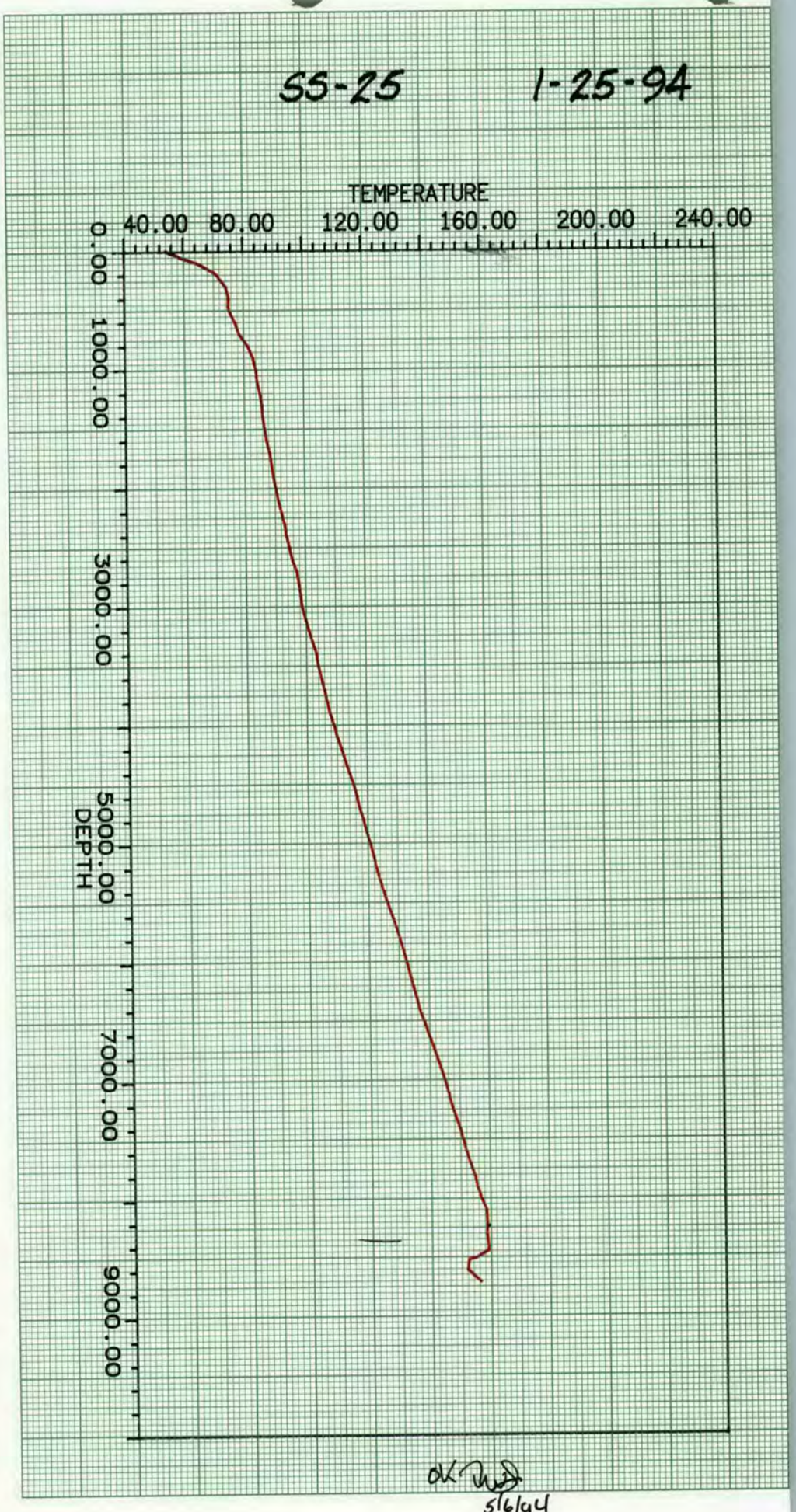
Time Press. on _____ Time Start Down _____ Zero Point 6

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5	.055	55.96	5000	55	.323	116.68
250	7.5	.128	76.72	5250	57.5	.335	118.60
500	10	.132	77.68	5500	60.	.349	120.84
750	12.5	.150	82.00	5750	62.5	.366	123.56
1000	15	.165	85.60	6000	65	.386	126.76
1250	17.5	.165	85.60	6250	67.5	.402	129.42
1500	20	.170	86.80	6500	70	.422	132.06
1750	22.5	.177	88.48	6750	72.5	.445	135.26
2000	25	.182	89.68	7000	75	.467	138.31
2250	27.5	.190	91.60	7250	77.5	.487	141.09
2500	30	.199	93.76	7500	80	.506	143.61
2750	32.5	.209	95.71	7750	82.5	.532	146.71
3000	35	.215	96.85	8000	85	.557	149.68
3250	37.5	.226	98.94	8250	87.5	.575	151.83
3500	40	.237	101.03	8500	90.	.570	151.23
3750	42.5	.248	103.12	8700 8750	92 92.5	.447	135.53
4000	45	.262	105.78	9000	95.		
4250	47.5	.274	108.06				
4500	50	.289	110.91				
4750	52.5	.305	113.80				

TD 8700

470	9.7	.130	77.20
690	11.9	.139	79.36
860	13.6	.162	84.88
945	14.45	.165	85.60
8200	87	.576	151.94
8265	87.65	.569	151.11
8475	89.75	.576	151.94
8565	90.65	.506	143.61
8600	91	.443	134.98
8675	91.75	.437	134.14

SS-25 1-25-94



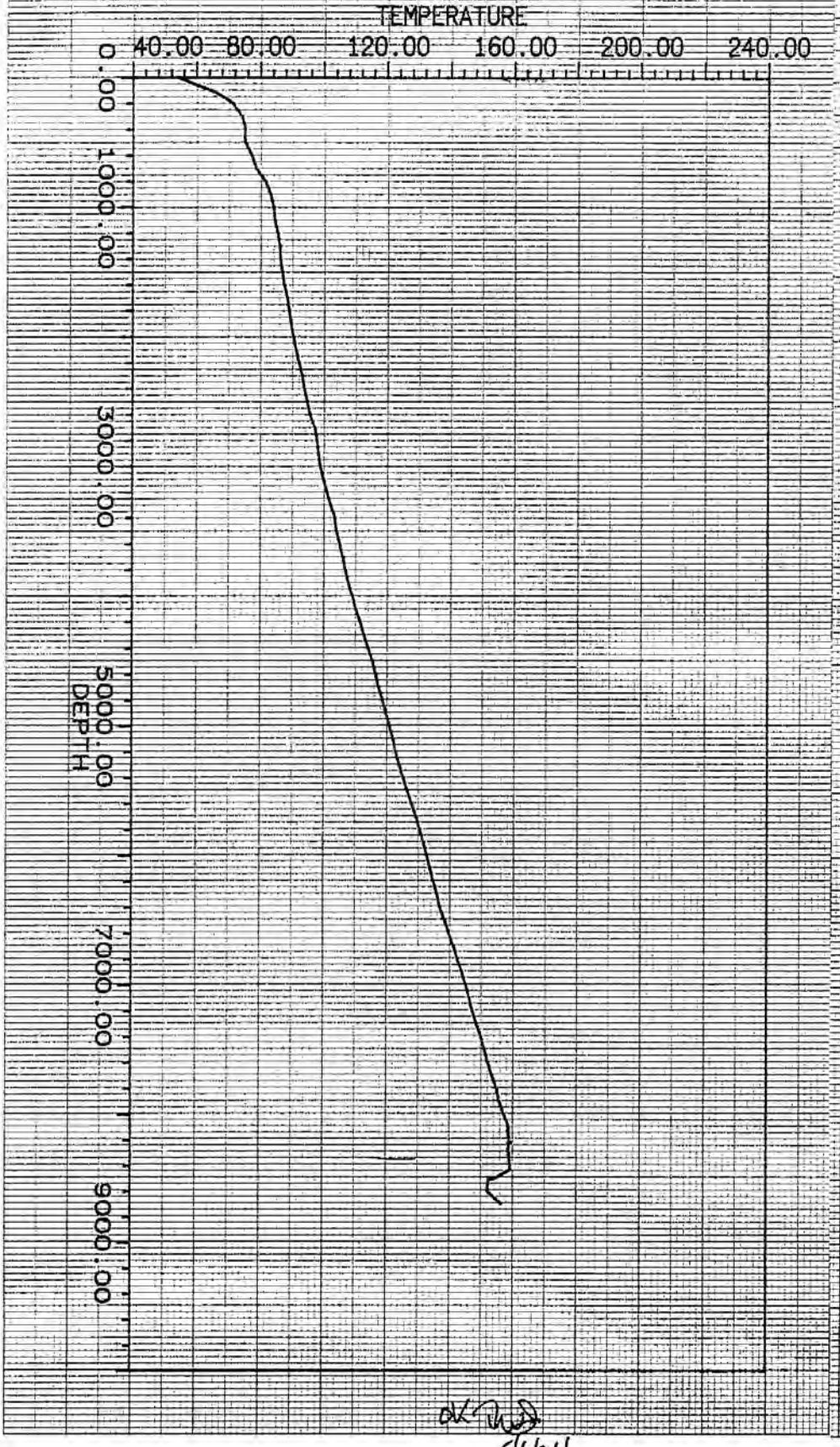
5/6/94

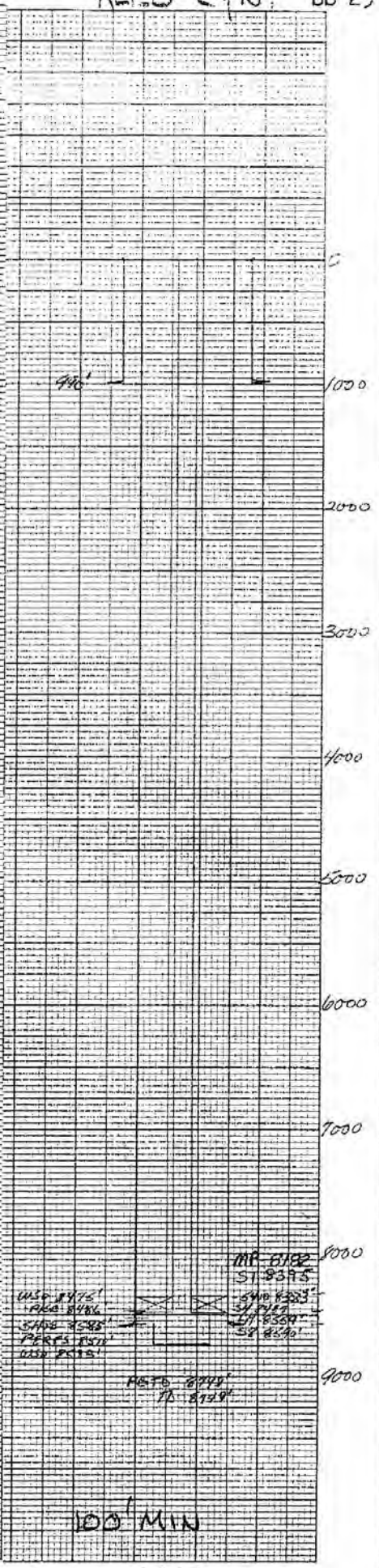
46 1510

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

ALICO CYN. SS 25

SS-25 1-25-94





5/6/94

5-8-85

46 1510

KE 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

****
* SO CALIFORNIA GAS COMPANY *
* ALISO CANYON *
* (805)253-7077 *
****

COMPANY NAME..: GAS CO
DATE .....: 1/25/94
WELL I.D. ....: SS25
FIELD I.D. ...: ALISO
RUN # .....: 1
ENGINEER .....: RON MACNEIL
ZERO REFERENCE: M.V.
START DATE ...: 01/25/94
WELL STATUS...: S/I
GAUGE INFO:
I.D. .....: rt-7 temperature
SERIAL #....: 79743
RANGE.....: 50-250f

COMMENTS .....: PSIG N/A

FILE # .....: 19

STATISTICS:
DEPTH(min): 0.00
DEPTH(max): 8697.00
TEMPERATURE(min): 54.06
TEMPERATURE(max): 159.53

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
1	0.0000	0.000	0.0205	54.06	0.0000
2	0.0196	70.369	0.0443	60.87	0.0967
3	0.0279	100.168	0.0563	64.30	0.1152
4	0.0308	110.579	0.0596	65.25	0.0906
5	0.0501	179.871	0.0770	70.22	0.0718
6	0.0558	200.335	0.0804	71.19	0.0475
7	0.0687	246.650	0.0850	72.51	0.0284
8	0.0836	300.144	0.0910	74.23	0.0321
9	0.0892	320.250	0.0919	74.48	0.0128
10	0.1057	379.488	0.0941	75.11	0.0106
11	0.1114	399.953	0.0943	75.17	0.0028
12	0.1319	473.553	0.0939	75.06	-0.0016
13	0.1393	500.121	0.0945	75.23	0.0065
14	0.1672	600.288	0.1023	77.29	0.0206
15	0.1937	695.430	0.1084	78.59	0.0137
16	0.1950	700.097	0.1082	78.55	-0.0091
17	0.2229	800.265	0.1221	81.51	0.0296
18	0.2507	900.073	0.1299	83.17	0.0166
19	0.2786	1000.241	0.1345	84.15	0.0098
20	0.3064	1100.050	0.1362	84.51	0.0036
21	0.3343	1200.218	0.1407	85.47	0.0096
22	0.3622	1300.385	0.1439	86.15	0.0068
23	0.3900	1400.194	0.1446	86.30	0.0015
24	0.4179	1500.362	0.1478	86.98	0.0068
25	0.4457	1600.170	0.1506	87.58	0.0060
26	0.4736	1700.338	0.1550	88.51	0.0094
27	0.5014	1800.147	0.1582	89.20	0.0068

****
* SO CALIFORNIA GAS COMPANY *
****

Company ..: GAS CO
Well I.D..: SS25
Field I.D.: ALISO

Date: 1/25/94
Run#: 1

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
28	0.5293	1900.315	0.1608	89.75	0.0055
29	0.5571	2000.123	0.1644	90.52	0.0077
30	0.5850	2100.291	0.1682	91.33	0.0081
31	0.6129	2200.459	0.1726	92.26	0.0094
32	0.6407	2300.268	0.1775	93.31	0.0105
33	0.6686	2400.435	0.1806	93.97	0.0066
34	0.6964	2500.244	0.1850	94.90	0.0094
35	0.7242	2600.052	0.1890	95.76	0.0085
36	0.7521	2700.220	0.1964	97.33	0.0157
37	0.7799	2800.029	0.1995	97.99	0.0066
38	0.8078	2900.197	0.2025	98.53	0.0054
39	0.8357	3000.365	0.2053	99.01	0.0048
40	0.8635	3100.173	0.2116	100.10	0.0109
41	0.8914	3200.341	0.2179	101.18	0.0108
42	0.9193	3300.509	0.2251	102.42	0.0124
43	0.9471	3400.317	0.2327	103.72	0.0131
44	0.9750	3500.485	0.2356	104.22	0.0050
45	1.0028	3600.294	0.2414	105.22	0.0100
46	1.0306	3700.103	0.2473	106.24	0.0102
47	1.0585	3800.270	0.2523	107.10	0.0086
48	1.0864	3900.438	0.2577	108.02	0.0093
49	1.1142	4000.247	0.2652	109.31	0.0129
50	1.1420	4100.055	0.2712	110.35	0.0103
51	1.1699	4200.223	0.2795	111.77	0.0143
52	1.1978	4300.391	0.2869	113.05	0.0127
53	1.2256	4400.200	0.2944	114.34	0.0129
54	1.2534	4500.008	0.3029	115.73	0.0140
55	1.2813	4600.176	0.3100	116.78	0.0105
56	1.3092	4700.344	0.3162	117.70	0.0092
57	1.3370	4800.152	0.3243	118.90	0.0120
58	1.3649	4900.320	0.3315	119.96	0.0106
59	1.3927	5000.129	0.3393	121.12	0.0116
60	1.4207	5100.655	0.3470	122.26	0.0113
61	1.4484	5200.105	0.3522	123.03	0.0077
62	1.4763	5300.273	0.3602	124.21	0.0118
63	1.5042	5400.440	0.3686	125.45	0.0124
64	1.5320	5500.250	0.3773	126.74	0.0129
65	1.5600	5600.776	0.3866	128.12	0.0137
66	1.5878	5700.585	0.3957	129.46	0.0135
67	1.6156	5800.394	0.4042	130.65	0.0118
68	1.6435	5900.561	0.4140	131.92	0.0127
69	1.6713	6000.370	0.4218	132.93	0.0102
70	1.6991	6100.179	0.4297	133.96	0.0103
71	1.7270	6200.346	0.4379	135.03	0.0106
72	1.7548	6300.155	0.4466	136.16	0.0113
73	1.7828	6400.682	0.4540	137.12	0.0096
74	1.8105	6500.131	0.4660	138.68	0.0157
75	1.8384	6600.299	0.4760	139.98	0.0130
76	1.8663	6700.467	0.4876	141.49	0.0151
77	1.8941	6800.276	0.4977	142.80	0.0132

****
* SO CALIFORNIA GAS COMPANY *
****

Company ..: GAS CO
Well I.D..: SS25
Field I.D.: ALISO

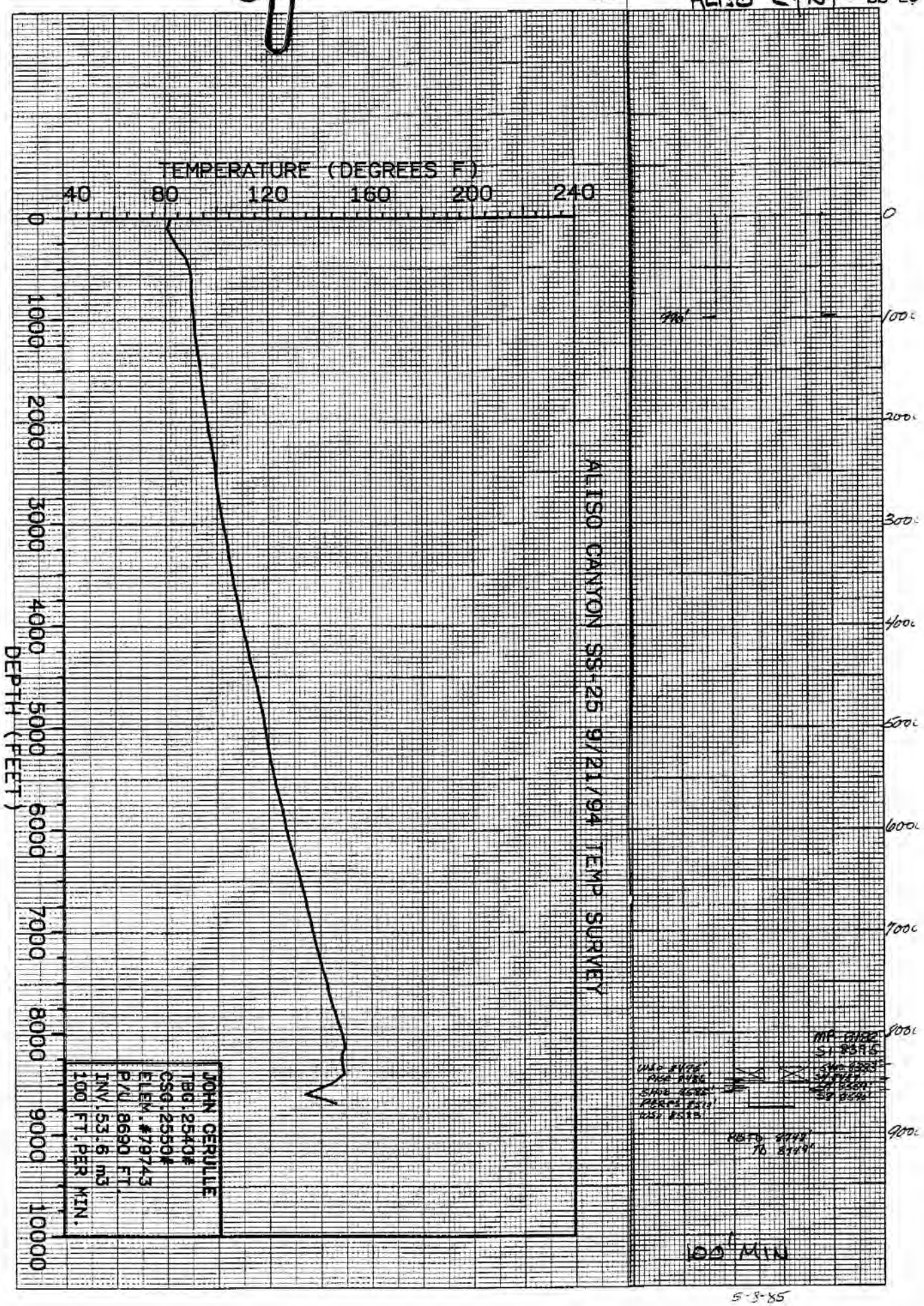
Date: 1/25/94
Run#: 1
Page: 3

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
78	1.9219	6900.084	0.5091	144.16	0.0137
79	1.9498	7000.252	0.5203	145.48	0.0131
80	1.9776	7100.061	0.5295	146.55	0.0108
81	2.0055	7200.229	0.5379	147.53	0.0098
82	2.0334	7300.396	0.5491	148.84	0.0131
83	2.0613	7400.564	0.5613	150.27	0.0143
84	2.0891	7500.373	0.5708	151.38	0.0111
85	2.1170	7600.541	0.5799	152.45	0.0106
86	2.1448	7700.349	0.5910	153.75	0.0130
87	2.1727	7800.517	0.6039	155.21	0.0146
88	2.2006	7900.685	0.6123	156.08	0.0087
89	2.2283	8000.134	0.6253	157.43	0.0136
90	2.2520	8085.223	0.6392	158.88	0.0170
91	2.2562	8100.302	0.6393	158.89	0.0007
92	2.2840	8200.110	0.6421	159.18	0.0029
93	2.3119	8300.278	0.6405	159.01	-0.0017
94	2.3397	8400.087	0.6455	159.53	0.0052
95	2.3502	8437.784	0.6442	159.40	-0.0036
96	2.3676	8500.255	0.6015	154.96	-0.0711
97	2.3715	8514.257	0.5823	152.73	-0.1590
98	2.3955	8600.423	0.5790	152.34	-0.0045
99	2.4224	8697.000	0.6184	156.71	0.0453

***** end data *****

ALISO CANYON SS-25 9/21/94 TEMP SURVEY
TEMPERATURE (DEGREES F)
40
80
120
160
200
240
DEPTH (FEET)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
JOHN CERULLE
TBG.2540#
CSG.2550#
ELEM.#79743
P/U 8690 FT.
INV.53.6 m3
100 FT.PER MIN.
9/21/94
46 1510
10 X 10 TO THE CENTIMETER
KEUFFEL & ESSER CO. MADE IN U.S.A.
18 X 25 CM

ALISO CYN, SS 25



5-3-85

46 1510

10 X 10 TO THE CENTIMETER 18 X 25 CM.

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM KEUFFEL & ESSER CO. MADE IN U.S.A.

Southern California Gas Company
Aliso Canyon

Well 55-25 Date 9/21/94 Element No. 79743 Clock Hours 3

Tubing Press. 2540 Status S/I Time Clock Started 9:30 A Time Clock Off 12:00p

Casing Press. 2550 Pick-Up 8690' Operator JC 100' per Minute

Time Press. on 9:40 A Time Start Down 9:45 A Zero Point 6'

Depth	Elapse Time	Deflection	Temp.	Depth	Elapse Time	Deflection	Temp.
0	5			5000	55		
250	7.5			5250	57.5		
500	10			5500	60.		
750	12.5			5750	62.5		
1000	15			6000	65		
1250	17.5			6250	67.5		
1500	20			6500	70		
1750	22.5			6750	72.5		
2000	25			7000 ft	75		
2250	27.5			7250	77.5		
2500	30			7500	80		
2750	32.5			7750	82.5		
3000	35			8000	85		
3250	37.5			8250	87.5		
3500	40			8500	90.		
3750	42.5		PLN	8690	86.90		
4000	45			8750	92.5		
4250	47.5			9000	95.		
4500	50						
4750	52.5						

****
* SO CALIFORNIA GAS COMPANY *
* ALISO CANYON *
* (805)253-7077 *
****

COMPANY NAME..: THE GAS COMPANY
DATE .....: 09/22/94
WELL I.D. ....: SS-25
FIELD I.D. ...: ALISO CANYON
RUN # .....: 1
ENGINEER .....: JOHN CERULLE
ZERO REFERENCE: KB
START DATE ...: 09/21/94
START TIME ...: 09:45:00
WELL STATUS...: S/I
GAUGE INFO:
I.D. .....: rt-7 temperature
SERIAL #....: 79743
RANGE.....: 50-250f

COMMENTS .....: TBG.PRESS.2540#
CSG.PRESS.2550#
FILE # .....: 1

STATISTICS:
DEPTH(min): 0.00
DEPTH(max): 8690.00
TEMPERATURE(min): 80.74
TEMPERATURE(max): 149.96

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
1	0.0000	0.000	0.1254	82.21	0.0000
2	0.0266	100.314	0.1185	80.74	-0.0147
3	0.0531	200.251	0.1288	82.93	0.0220
4	0.0796	300.188	0.1401	85.34	0.0241
5	0.1061	400.125	0.1543	88.37	0.0303
6	0.1328	500.817	0.1608	89.75	0.0137
7	0.1591	600.000	0.1634	90.30	0.0056
8	0.1858	700.691	0.1629	90.20	-0.0011
9	0.2123	800.628	0.1644	90.52	0.0032
10	0.2388	900.565	0.1662	90.90	0.0038
11	0.2654	1000.879	0.1685	91.39	0.0049
12	0.2919	1100.816	0.1694	91.58	0.0019
13	0.3183	1200.376	0.1717	92.07	0.0049
14	0.3448	1300.313	0.1747	92.71	0.0064
15	0.3714	1400.628	0.1778	93.37	0.0066
16	0.3978	1500.187	0.1802	93.88	0.0051
17	0.4244	1600.502	0.1820	94.27	0.0038
18	0.4508	1700.062	0.1847	94.84	0.0058
19	0.4775	1800.753	0.1872	95.37	0.0053
20	0.5039	1900.313	0.1902	96.01	0.0064
21	0.5305	2000.627	0.1933	96.67	0.0066
22	0.5571	2100.941	0.1953	97.10	0.0042
23	0.5834	2200.124	0.1992	97.93	0.0084
24	0.6100	2300.438	0.2035	98.70	0.0077
25	0.6365	2400.375	0.2077	99.42	0.0072
26	0.6631	2500.690	0.2096	99.75	0.0033

****
* SO CALIFORNIA GAS COMPANY *
****

Company ..: THE GAS COMPANY
Well I.D..: SS-25
Field I.D.: ALISO CANYON

Date: 09/22/94
Run#: 1

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
27	0.6895	2600.250	0.2113	100.04	0.0029
28	0.7162	2700.941	0.2144	100.58	0.0053
29	0.7427	2800.878	0.2183	101.25	0.0067
30	0.7691	2900.438	0.2220	101.88	0.0064
31	0.7956	3000.375	0.2265	102.66	0.0077
32	0.8221	3100.312	0.2317	103.55	0.0089
33	0.8487	3200.626	0.2367	104.41	0.0086
34	0.8752	3300.563	0.2392	104.84	0.0043
35	0.9017	3400.500	0.2433	105.55	0.0071
36	0.9281	3500.060	0.2475	106.27	0.0073
37	0.9547	3600.375	0.2511	106.89	0.0062
38	0.9812	3700.312	0.2560	107.73	0.0084
39	1.0077	3800.249	0.2617	108.71	0.0098
40	1.0343	3900.563	0.2651	109.30	0.0058
41	1.0609	4000.877	0.2704	110.21	0.0091
42	1.0873	4100.437	0.2760	111.17	0.0097
43	1.1138	4200.374	0.2813	112.08	0.0091
44	1.1404	4300.688	0.2861	112.91	0.0082
45	1.1668	4400.248	0.2917	113.87	0.0097
46	1.1933	4500.185	0.2983	115.01	0.0114
47	1.2199	4600.500	0.3042	115.92	0.0091
48	1.2465	4700.814	0.3096	116.72	0.0080
49	1.2729	4800.374	0.3157	117.62	0.0091
50	1.2994	4900.311	0.3215	118.48	0.0086
51	1.3260	5000.625	0.3261	119.16	0.0068
52	1.3526	5100.939	0.3300	119.74	0.0058
53	1.3789	5200.122	0.3348	120.45	0.0072
54	1.4054	5300.059	0.3393	121.12	0.0067
55	1.4321	5400.750	0.3452	121.99	0.0087
56	1.4585	5500.310	0.3515	122.92	0.0094
57	1.4851	5600.624	0.3561	123.60	0.0068
58	1.5116	5700.562	0.3639	124.76	0.0116
59	1.5382	5800.876	0.3714	125.87	0.0111
60	1.5647	5900.813	0.3765	126.62	0.0076
61	1.5911	6000.373	0.3817	127.39	0.0077
62	1.6177	6100.687	0.3881	128.34	0.0094
63	1.6442	6200.624	0.3958	129.48	0.0114
64	1.6707	6300.561	0.4040	130.62	0.0114
65	1.6971	6400.121	0.4130	131.79	0.0118
66	1.7237	6500.435	0.4212	132.86	0.0106
67	1.7503	6600.749	0.4291	133.88	0.0102
68	1.7767	6700.309	0.4373	134.95	0.0107
69	1.8033	6800.624	0.4430	135.69	0.0074
70	1.8297	6900.184	0.4517	136.82	0.0114
71	1.8563	7000.498	0.4572	137.54	0.0071
72	1.8828	7100.435	0.4646	138.50	0.0096
73	1.9093	7200.372	0.4732	139.62	0.0112
74	1.9359	7300.686	0.4812	140.66	0.0104
75	1.9624	7400.623	0.4896	141.75	0.0109
76	1.9889	7500.560	0.5001	143.11	0.0136

****
* SO CALIFORNIA GAS COMPANY *
****

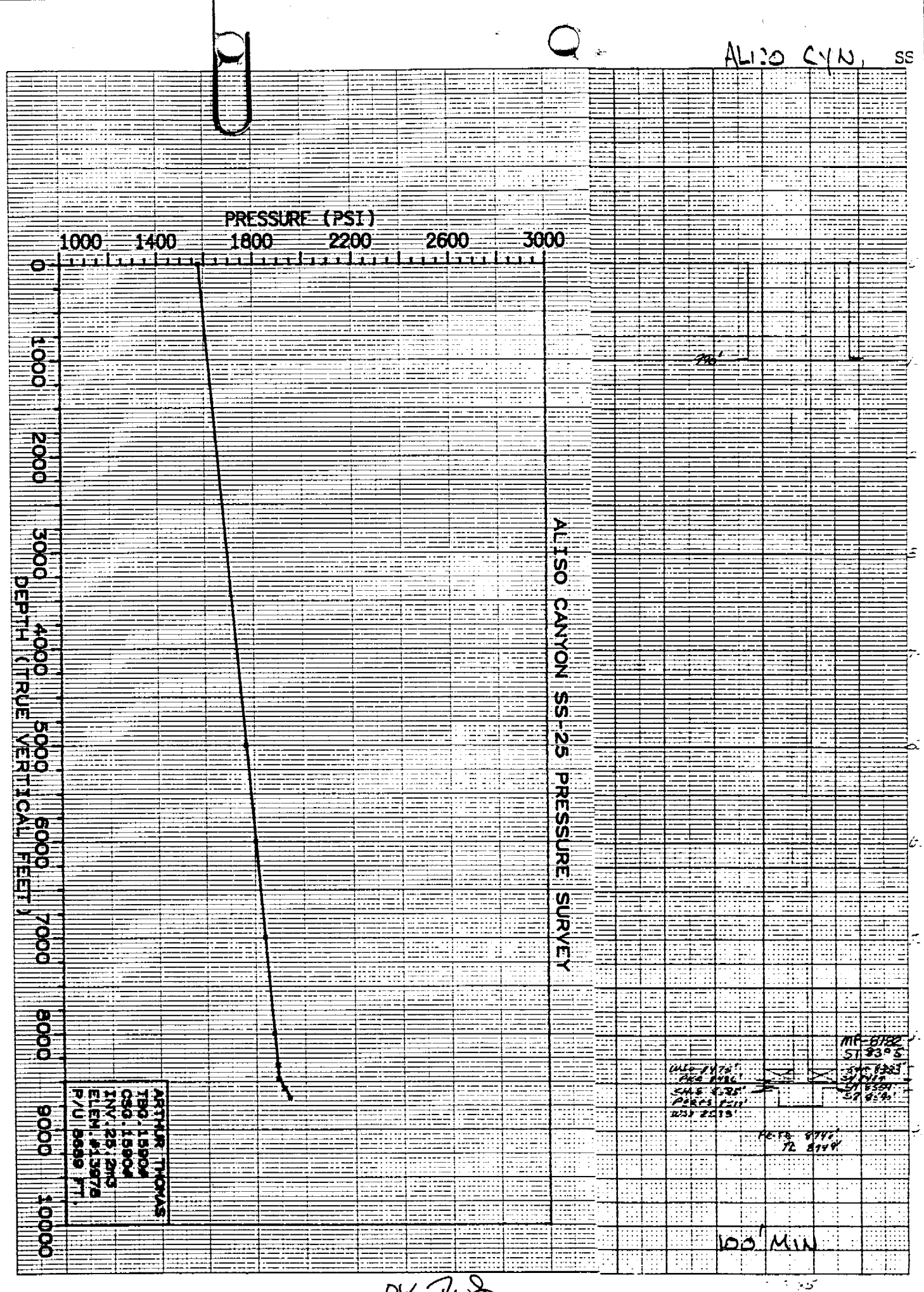
Company ..: THE GAS COMPANY
Well I.D..: SS-25
Field I.D.: ALISO CANYON

Date: 09/22/94
Run#: 1
Page: 3

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
77	2.0155	7600.874	0.5057	143.77	0.0065
78	2.0418	7700.057	0.5151	144.87	0.0111
79	2.0684	7800.371	0.5274	146.31	0.0143
80	2.0950	7900.686	0.5385	147.60	0.0129
81	2.1215	8000.623	0.5495	148.89	0.0129
82	2.1481	8100.937	0.5575	149.83	0.0093
83	2.1607	8148.454	0.5586	149.96	0.0027
84	2.1744	8200.120	0.5488	148.81	-0.0222
85	2.2009	8300.057	0.5506	149.02	0.0021
86	2.2275	8400.371	0.5568	149.75	0.0072
87	2.2540	8500.308	0.5113	144.42	-0.0533
88	2.2805	8600.245	0.4338	134.49	-0.0993
89	2.3043	8690.000	0.5270	146.26	0.1311

***** end data *****

ALISO CYN, SS



OK [signature]
3/8/95

46 1510

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

SED 01720
AC_CPUC_0000457

SOUTHERN CALIFORNIA GAS COMPANY
SUB-SURFACE PRESSURE SURVEY

FIELD ALISO WELL SS-25 DATE

RECORDER NO. RUN NO. SHEET NO. OF SHEETS BY

CLOCK HOURS TIME CLOCK STARTED TIME RUN COMPLETED

WELL CONDITION DURING RUN, SHUT-IN FLOWING INJECTION

HOURS WELL, SHUT-IN FLOWING INJECTION BEFORE RUN

WELL HEAD PRESSURE

TUBING

CASING

FLOW RATE

GAS MCF/D

OIL BBL'S/D

WATER BBL'S/D

GOR

MAXIMUM TEMPERATURE

ZERO POINT 6' @ M/V

PICK-UP

DATUM 8342 (8333)(-5400)

	SIZE	DEPTH
TUBING	2 7/8	8496
CASING	7	8585
CASING SHOE		
LINER	5 1/2	
TOP		8559
BOTTOM		8748

PERFORATION

TOP	8592
BOTTOM	8748

SURVEY DATA

DEPTH		STYLUS DEFLECTION	PRESSURE	GRADIENT PSI/100 FT
VERTICAL	MEASURED			
0	0			
5000	5000			
6000	6000			
7000	7000			
8000	8000			
8333	8342 OAT			
8475	8487 5-4			
8576	8590 5-8			
8675	8689			

SPECIAL INSTRUCTIONS: TBG TAIL 8496
TD 8748

BY

REMARKS:

NOTE: REVISED PRESSURE SURVEY SHEET, BASED ON TEMPERATURE SURVEY
MOVED UP SOME BOTTOM STOPS, ADDED A COUPLE STOPS NEAR BOTTOM (JDM: 6/86)

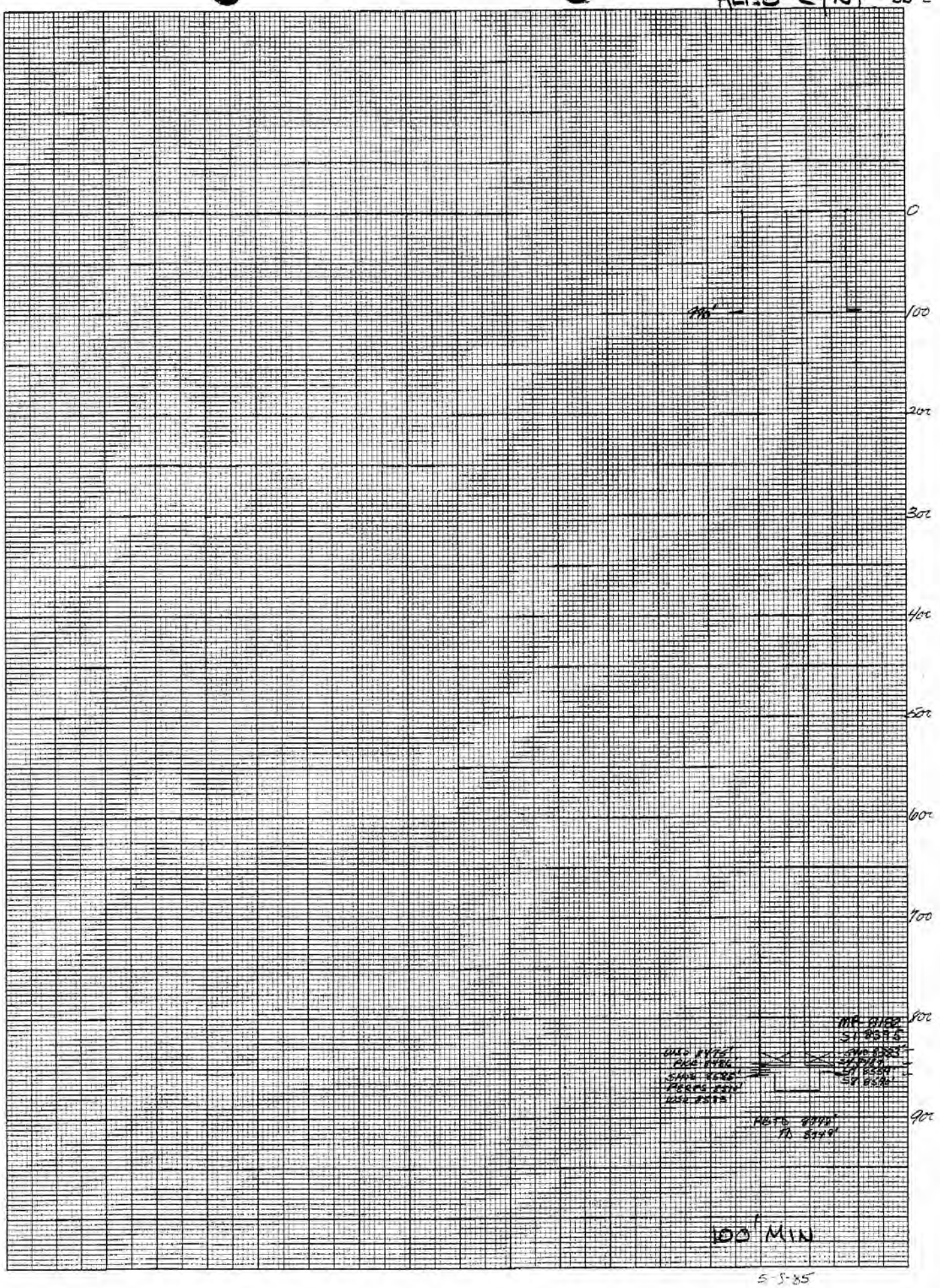
FIELD OPERATOR

CHART READ BY

SOUTHERN CALIFORNIA GAS CO.—4296

SED 01721
AC_CPUC_0000458

ALISO CANYON SS-25. OCTOBER 12 1995 TEMPERATURE SURVEY
TEMPERATURE (DEGREES F)
40
80
120
160
200
240
DEPTH (FEET)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
ARTHUR THOMAS
TBG:2560#
CSG:2560#
ELEM:#68482
P/U:8675 FT.
INV:61.5 m3
100 FT.PER MIN.
10/30/95
46 1510
K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.



461510

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

****
* The Gas Company *
* Aliso Canyon *
* (805) 253-7086 *
****

COMPANY NAME..: SO. CAL. GAS
DATE .....: 10/19/95
WELL I.D. ....: SS-25
FIELD I.D. ...: ALISO CYN.
RUN # .....: 1
ENGINEER .....: A. THOMAS
ZERO REFERENCE: K.B.
START DATE ...: 10/12/95
START TIME ...: 00:00:00
WELL STATUS...: S.I.
GAUGE INFO:
I.D. .....: RT-7
SERIAL #....: 68482
RANGE.....: 51-286

COMMENTS .....: TBG. 2560
CSG. 2560
FILE # .....: 3

STATISTICS:
DEPTH(min): 0.00
DEPTH(max): 8675.00
TEMPERATURE(min): 69.79
TEMPERATURE(max): 167.16

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
1	0.0000	0.000	0.0453	69.79	0.0000
2	0.0282	100.338	0.0518	72.55	0.0275
3	0.0563	200.321	0.0567	74.63	0.0208
4	0.0844	300.304	0.0587	75.48	0.0085
5	0.1125	400.286	0.0533	73.19	-0.0229
6	0.1406	500.269	0.0601	76.07	0.0289
7	0.1688	600.607	0.0644	77.90	0.0182
8	0.1968	700.234	0.0696	80.10	0.0221
9	0.2249	800.216	0.0731	81.59	0.0149
10	0.2530	900.199	0.0753	82.52	0.0093
11	0.2812	1000.537	0.0767	83.12	0.0059
12	0.3092	1100.164	0.0794	84.26	0.0115
13	0.3373	1200.147	0.0816	85.19	0.0093
14	0.3654	1300.129	0.0830	85.79	0.0059
15	0.3937	1400.823	0.0851	86.68	0.0088
16	0.4217	1500.450	0.0874	87.65	0.0098
17	0.4497	1600.077	0.0897	88.63	0.0098
18	0.4779	1700.415	0.0919	89.56	0.0093
19	0.5060	1800.398	0.0945	90.67	0.0110
20	0.5341	1900.380	0.0965	91.52	0.0085
21	0.5621	2000.007	0.0985	92.36	0.0085
22	0.5904	2100.701	0.1008	93.22	0.0085
23	0.6184	2200.328	0.1031	93.84	0.0062
24	0.6466	2300.667	0.1054	94.46	0.0062
25	0.6746	2400.293	0.1078	95.11	0.0065
26	0.7028	2500.632	0.1103	95.78	0.0067

****
* The Gas Company *
****

Company ..: SO. CAL. GAS
Well I.D..: SS-25
Field I.D.: ALISO CYN.

Date: 10/19/95
Run#: 1

NO.	DEPTH DEFL(IN)	DEPTH FEET	TEMPERATURE DEFL(IN)	TEMPERATURE F	GRADIENT
27	0.7309	2600.614	0.1131	96.54	0.0076
28	0.7589	2700.241	0.1159	97.29	0.0076
29	0.7870	2800.224	0.1193	98.21	0.0092
30	0.8151	2900.206	0.1218	98.89	0.0068
31	0.8432	3000.189	0.1236	99.37	0.0049
32	0.8714	3100.527	0.1274	100.40	0.0102
33	0.8995	3200.510	0.1312	101.42	0.0103
34	0.9277	3300.848	0.1350	102.45	0.0102
35	0.9556	3400.119	0.1385	103.40	0.0095
36	0.9837	3500.102	0.1419	104.31	0.0092
37	1.0119	3600.440	0.1463	105.50	0.0118
38	1.0400	3700.422	0.1505	106.64	0.0113
39	1.0680	3800.049	0.1547	107.77	0.0114
40	1.0961	3900.032	0.1587	108.85	0.0108
41	1.1244	4000.726	0.1626	109.90	0.0105
42	1.1525	4100.709	0.1678	111.31	0.0140
43	1.1806	4200.691	0.1744	113.09	0.0178
44	1.2086	4300.318	0.1810	114.87	0.0179
45	1.2368	4400.656	0.1858	116.17	0.0129
46	1.2649	4500.639	0.1914	117.68	0.0151
47	1.2930	4600.621	0.1970	119.19	0.0151
48	1.3211	4700.604	0.1997	119.92	0.0073
49	1.3492	4800.587	0.2053	121.06	0.0114
50	1.3772	4900.213	0.2101	122.02	0.0096
51	1.4053	5000.196	0.2139	122.78	0.0076
52	1.4335	5100.534	0.2191	123.82	0.0104
53	1.4617	5200.873	0.2228	124.56	0.0074
54	1.4897	5300.499	0.2286	125.72	0.0116
55	1.5177	5400.126	0.2327	126.54	0.0082
56	1.5458	5500.109	0.2415	128.30	0.0176
57	1.5741	5600.803	0.2473	129.46	0.0115
58	1.6021	5700.430	0.2528	130.56	0.0110
59	1.6301	5800.056	0.2604	132.08	0.0153
60	1.6582	5900.039	0.2666	133.32	0.0124
61	1.6865	6000.733	0.2717	134.34	0.0101
62	1.7146	6100.716	0.2788	135.76	0.0142
63	1.7426	6200.342	0.2848	136.96	0.0120
64	1.7707	6300.325	0.2920	138.40	0.0144
65	1.7989	6400.663	0.2990	139.80	0.0140
66	1.8270	6500.646	0.3080	141.30	0.0150
67	1.8551	6600.629	0.3171	142.79	0.0148
68	1.8831	6700.255	0.3250	144.08	0.0129
69	1.9113	6800.594	0.3325	145.30	0.0122
70	1.9395	6900.932	0.3408	146.65	0.0135
71	1.9674	7000.203	0.3484	147.89	0.0125
72	1.9955	7100.186	0.3557	149.08	0.0119
73	2.0236	7200.168	0.3626	150.20	0.0112
74	2.0518	7300.507	0.3715	151.65	0.0145
75	2.0800	7400.845	0.3791	152.89	0.0123
76	2.1080	7500.472	0.3858	153.99	0.0110

****
* The Gas Company *
****

Company ..: SO. CAL. GAS
Well I.D..: SS-25
Field I.D.: ALISO CYN.

Date: 10/19/95
Run#: 1
Page: 3

NO.	DEPTH DEFL(IN)	FEET	TEMPERATURE DEFL(IN)	F	GRADIENT
77	2.1361	7600.454	0.3934	155.22	0.0124
78	2.1643	7700.793	0.4013	156.48	0.0125
79	2.1923	7800.419	0.4111	157.84	0.0137
80	2.2205	7900.758	0.4190	158.94	0.0109
81	2.2484	8000.029	0.4285	160.26	0.0133
82	2.2765	8100.011	0.4366	161.39	0.0113
83	2.3048	8200.705	0.4409	161.99	0.0059
84	2.3328	8300.332	0.4396	161.80	-0.0018
85	2.3373	8316.344	0.4380	161.58	-0.0139
86	2.3510	8365.090	0.4257	159.87	-0.0351
87	2.3609	8400.314	0.3996	156.23	-0.1033
88	2.3692	8429.847	0.3874	154.25	-0.0673
89	2.3891	8500.653	0.4044	156.91	0.0376
90	2.4172	8600.636	0.4506	163.33	0.0642
91	2.4381	8675.000	0.4781	167.16	0.0514

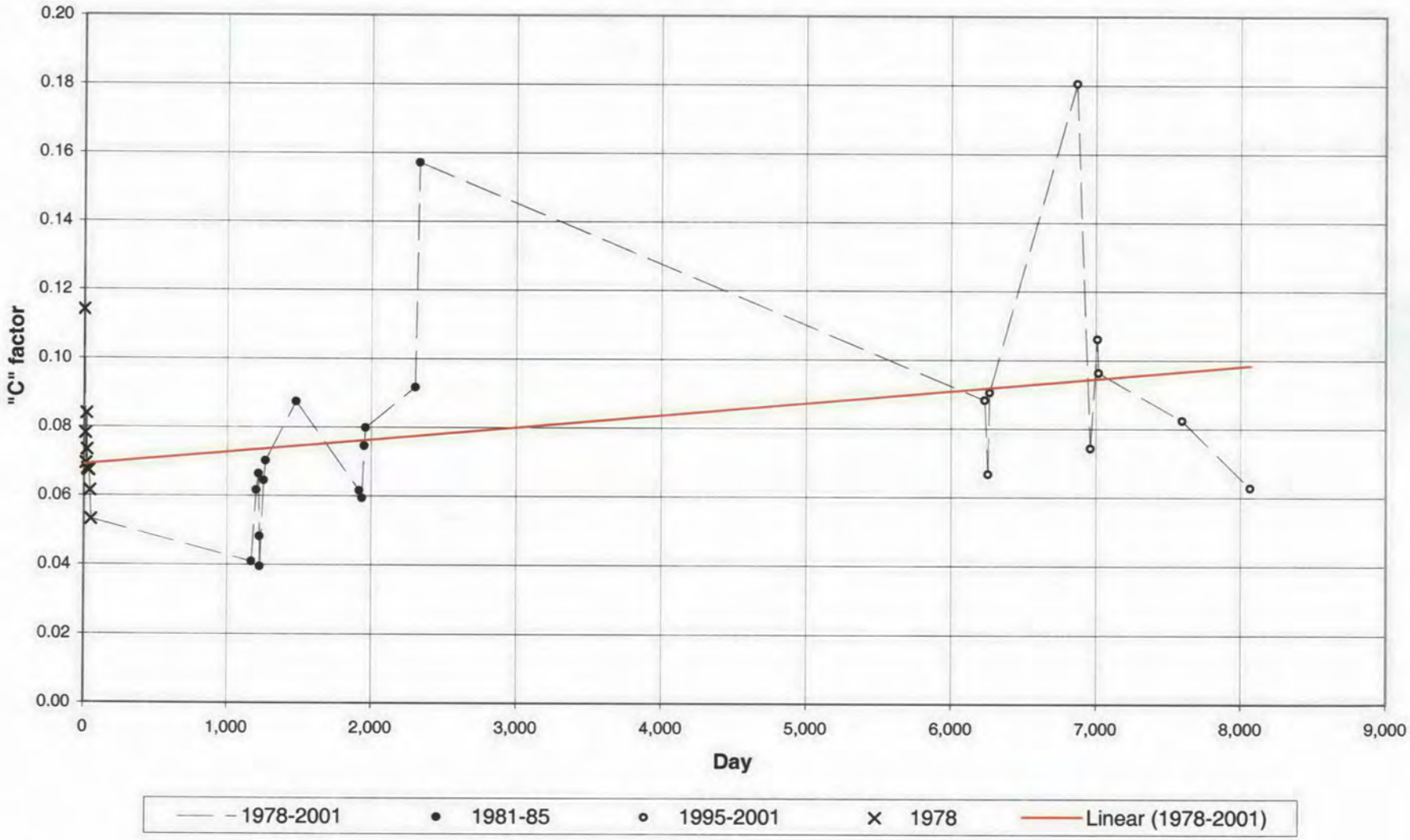
***** end data *****

blue => sand test

WELL
SS 25

DATE	WD MODE (T/C/D)	FIELD or SI WHP (PSIG)	INVENTORY (BCF)	CHOKE SIZE (INCHES)	RATE (MMCFPD)	FLOWING DELTA P (PSIG)
10/13/1999	C	2590	61.5	0.9	48	2220 - 500
12/12/1995	C	2520	66.4	1.00	49	500
10/02/1997	C	2280	49.6	0.90	55	2090-480
11/02/2000	C	2130	39.9	1.00	40	
12/26/1995	C	1980	56.0	1.00	45	1550-500
08/25/2000	C	1900	38.8	1.00	32	
01/12/1999	C	1880	48.6	1.00	43	
01/20/1996	C	1640	42.4	1.00	35	1060-510
01/09/2001	C	1540	28.7	1.00	25	
12/27/2000	C	1440	27.3	1.00	30	
01/30/1996	C	1320	31.5	1.00	28	950-500
01/06/1998	C	1320	25.4	1.10	23	950 - 510
01/31/2001	C	*1280*	16.2	1.30	25	715-500
03/04/1998	C	890	6.5	1.40	20	520 - 480
02/27/1998	C	870	7.3	1.40	20	540 - 500
03/01/2001	C	960	6.0	1.25	16	

Figure 1
SS-25
"C" factor v. Time

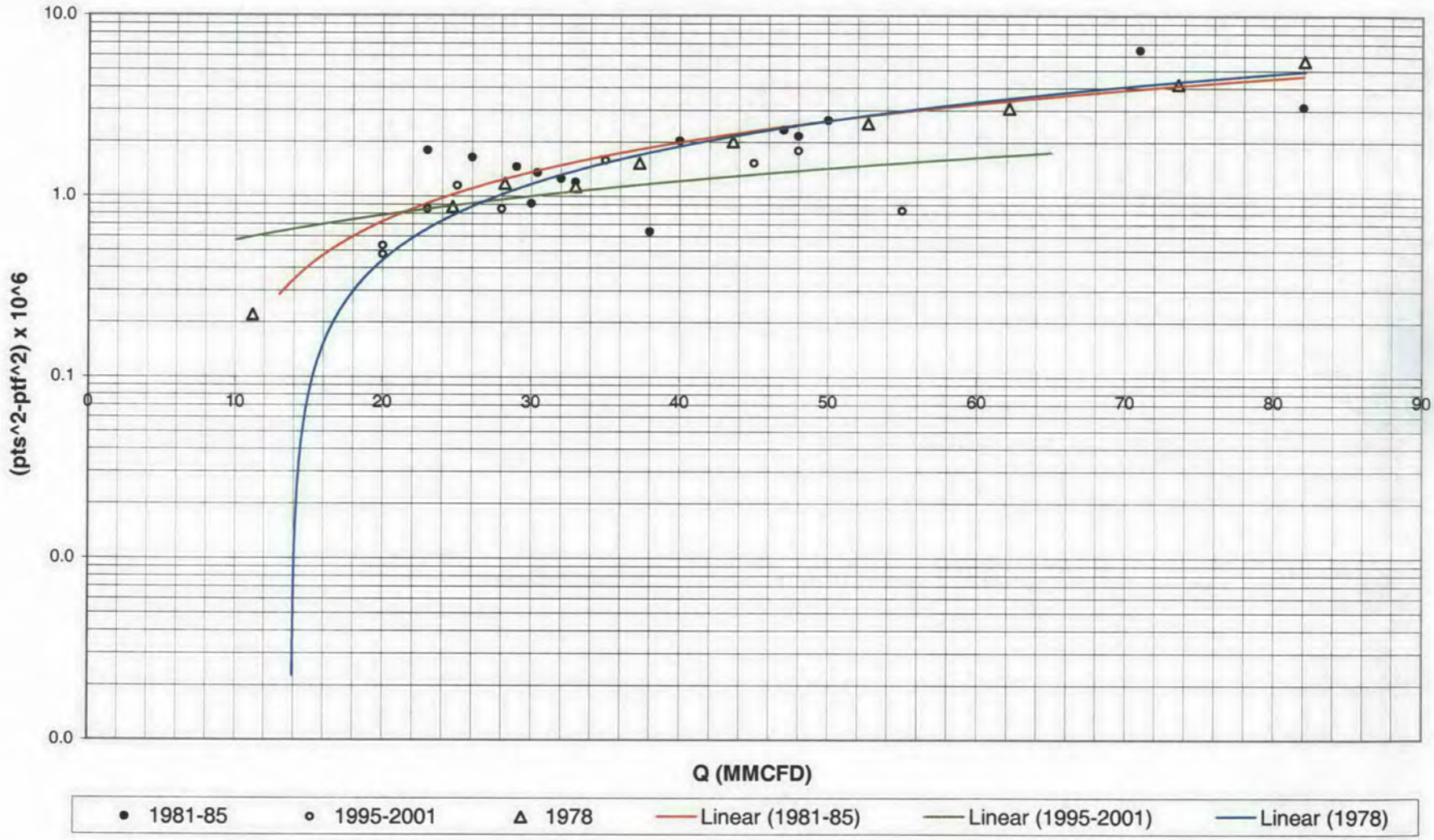


SED 01728
AC_CP UC_0000695

Day	Date	(T/C/D)	SIWHP	FWHP	Choke (in.)	DS	E (%)	Q (MMCFD)	(Pts^2-Ptf^2) x 10^6	"C"	Check
1	9/8/1978	C	2760	2720	0.62	490		11.2	0.220	0.114	11
13	9/19/1978	C	2790	2630	0.62	490		24.7	0.872	0.078	25
16	9/22/1978	C	2820	2605	0.63	525		28.2	1.173	0.069	28
20	9/26/1978	C	2840	2635	0.715	500		33	1.128	0.084	33
23	9/29/1978	C	2805	2520	0.785	505		37.3	1.526	0.073	37
26	10/2/1978	C	2825	2445	0.857	525		43.6	2.014	0.068	43
31	10/7/1978	C	2790	2295	0.95	540		52.7	2.532	0.067	52
37	10/13/1978	C	2890	2300	1.05	575		62.19	3.079	0.067	62
45	10/21/1978	C	2930	2105	1.168	510		73.6	4.178	0.062	73
52	10/28/1978	C	3030	1890	1.303	565		82.1	5.642	0.053	82
1172	12/8/1981	C	2600	590	0	590	0	71	6.471	0.041	70
1207	1/13/1982	C	1780	1075	1.25	550	6.73	40	2.033	0.062	40
1223	1/29/1982	C	1360	720	1.35	525	5.65	30.4	1.350	0.066	30
1229	2/5/1982	C	1380	540		520	0.92	26	1.637	0.048	26
1232	2/8/1982	C	1430	530			3.23	23	1.790	0.040	23
1257	3/3/1982	C	1610	540	0	520	2.55	47	2.332	0.064	46
1271	3/17/1982	C	1580	600		555	5.39	48	2.165	0.070	47
1479	10/15/1982	C	2900	2300	1.25	500	3.8	82	3.138	0.087	82
1918	1/4/1984	C	2090	1320	1.25	490	0.95	50	2.648	0.062	50
1938	1/24/1984	C	1530	950	1.35	500	1.68	29	1.455	0.059	29
1953	2/9/1984	C	1430	900	1.4	480	1.08	32	1.250	0.075	32
1961	2/17/1984	C	1320	750	1.5	560	1.12	33	1.197	0.080	33
2305	2/1/1985	C	1300	890	1.3	580	0.65	30	0.910	0.092	30
2329	2/25/1985	C	1340	1080	0	490	2.24	38	0.637	0.157	38
6230	12/26/1995	C	1980	1550	1.00	500	4.0	45	1.530	0.088	45
6254	1/20/1996	C	1640	1060	1.00	510	2.3	35	1.583	0.067	35
6264	1/30/1996	C	1320	950	1.00	500	2.8	28	0.851	0.091	28
6866	10/2/1997	C	2280	2090	0.90	480	0.5	55	0.836	0.181	55
6960	1/6/1998	C	1320	950	1.10	510	3.3	23	0.851	0.074	23
7011	2/27/1998	C	870	540	1.40	500	12.3	20	0.475	0.106	20
7018	3/4/1998	C	890	520	1.40	480	0.3	20	0.533	0.096	20
7597	10/13/1999	C	2590	2220	0.9	500	1.4	48	1.791	0.082	48
8065	1/31/2001	C	1280	715	1.30	500	0.9	25	1.144	0.063	25

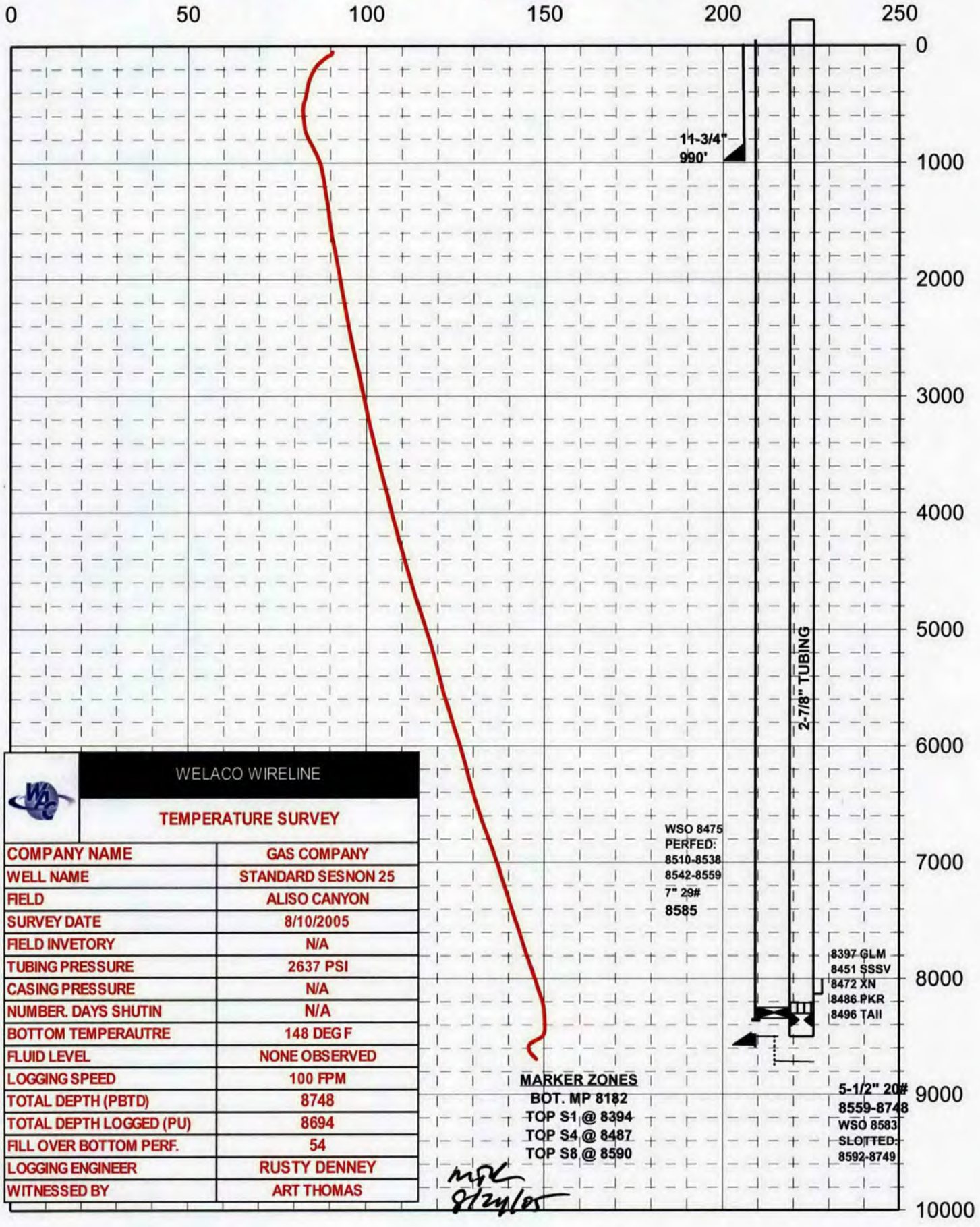
SED 01729
AC_CPUC_0000693

Figure 1
SS-25
Wellhead Performance Curve



SED 01730
AC_CPUC_0000694

037.00776_SURVEY_TEMPERATURE_2005.08.10



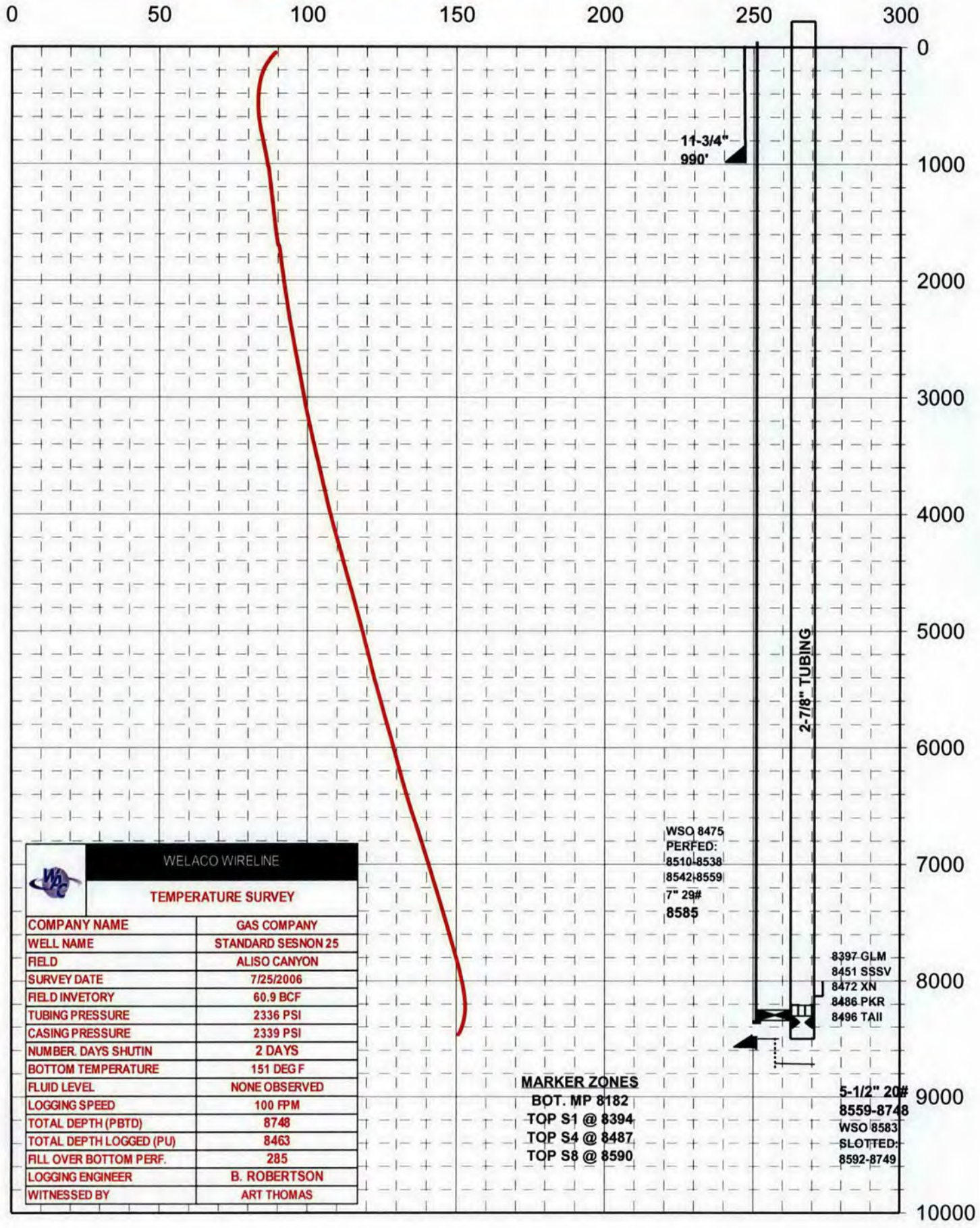
WELACO WIRELINE

TEMPERATURE SURVEY

COMPANY NAME	GAS COMPANY
WELL NAME	STANDARD SESNON 25
FIELD	ALISO CANYON
SURVEY DATE	8/10/2005
FIELD INVETORY	N/A
TUBING PRESSURE	2637 PSI
CASING PRESSURE	N/A
NUMBER. DAYS SHUTIN	N/A
BOTTOM TEMPERAUTRE	148 DEG F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748
TOTAL DEPTH LOGGED (PU)	8694
FILL OVER BOTTOM PERF.	54
LOGGING ENGINEER	RUSTY DENNEY
WITNESSED BY	ART THOMAS

MPL 8/24/05

037.00776_SURVEY_TEMPERATURE_2006.07.25



WELACO WIRELINE	
TEMPERATURE SURVEY	
COMPANY NAME	GAS COMPANY
WELL NAME	STANDARD SESNON 25
FIELD	ALISO CANYON
SURVEY DATE	7/25/2006
FIELD INVETORY	60.9 BCF
TUBING PRESSURE	2336 PSI
CASING PRESSURE	2339 PSI
NUMBER. DAYS SHUTIN	2 DAYS
BOTTOM TEMPERATURE	151 DEG F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748
TOTAL DEPTH LOGGED (PU)	8463
FILL OVER BOTTOM PERF.	285
LOGGING ENGINEER	B. ROBERTSON
WITNESSED BY	ART THOMAS

WELACO
PRODUCTION LOGGING

AUDIO DETECTION SURVEY

FILING NO.

COMPANY: SOUTHERN CALIFORNIA GAS CO
WELL: STANDARD SESNON 25
FIELD: ALISO CANYON
COUNTY: LOS ANGELES STATE: CALIFORNIA
LOCATION: OTHER SVC:

JJ
API NUMBER: 0403700776
SEC: 28 TWN: 3N RNG: 16W

PERMANENT DATUM: GROUND LEVEL ELEV:
LOG MEASURED FROM DF 6' PERM DATUM
DRILLING MEASURED FROM

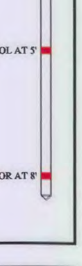
-ELEVATIONS-
KB: Ft.
DF: Ft.
GL: Ft.

DATE LOG RAN	11-07-2006	PRESSURE	FLOWING	INJECTION	SHUT-IN
RUN NUMBER	ONE	TUBING PSI			2808
EFFECTIVE DEPTH	8748'	CASING PSI			2808
PICKUP DEPTH	8472'	INJECTION RATE			
BOT LOGGED INT	8472'	OBSERVED RATE			
TOP LOGGED INT	100'	R/A SOURCE			
TYPE OF INJECT	NONE	ACTIVITY			
FLUID IN WELL	GAS	HALF LIFE			
FLUID LEVEL	N/A				
WELL STATUS	STATIC		PRODUCTION DATA		
MAX TEMPERATURE	144.9 F	OIL Gr.	OIL =		
AT DEPTH	8107.0'	GAS Gr.	GAS=		
TEMPERATURE SENS	1 F/DIV.	MPP	BHP =		
LOGGING SPEED	VARIOUS		WATER=		
RECORDED BY	R. LOPEZ				
WITNESSED BY	N/A				
ENGINEER	N/A				
DEPTH CORRELATION	PACKER				

Equipment Data

Collar Locator	1.375"		
Temperature Tool	1.375"		
Audio Detector	1.375"		

TOOL DIAGRAM



Remarks/Survey Results

CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
11.75"	42	SURFACE	990'				
7"	26	SURFACE	8585'				
5.5"	20	8559'	8748'				
2.875"	6.5	SURFACE	8496'				

STR.	PIPE DIA.	PERFORATIONS
A	7"	8475'-8476', 8510'-8538', 8542'-8585'.
	5.5"	8592'-8478'.
		PACKERS: 8486'-8502'.
		NO-GO: 8472'.

Audio Data: c:\data\Noise.txt

DEPTH	200HZ	600HZ	1000HZ	2000HZ
500	19.80	17.60	16.40	14.20
1000	19.50	16.00	14.80	13.00
1500	20.80	18.50	17.30	15.60
2000	21.40	18.80	17.70	16.00
2500	18.10	16.40	14.60	13.50
3000	18.80	16.30	15.30	14.00
3500	20.60	19.10	18.20	16.40
4000	16.80	15.30	14.10	12.50
4500	19.20	18.00	17.70	16.30
5000	17.70	16.20	15.40	13.90
5500	19.80	18.60	17.30	15.80
6000	17.70	17.10	16.30	14.80
6500	16.20	14.90	13.80	12.10
7000	18.40	16.80	16.00	14.40
7500	19.20	19.10	18.00	15.80
8000	17.00	16.40	15.30	13.80
8400	15.30	14.60	13.40	12.00
8425	16.70	16.10	15.10	13.50
8450	15.90	15.20	13.80	12.00
8472	15.70	15.00	14.10	12.40

SED 01733
AC_CPUC_0000454

WELACO
PRODUCTION LOGGING
AUDIO DETECTION SURVEY

FILING NO.

COMPANY: SOUTHERN CALIFORNIA GAS CO
WELL: STANDARD SESNON 25
FIELD: ALISO CANYON
COUNTY: LOS ANGELES STATE: CALIFORNIA
LOCATION: OTHER SVC:

JJ
API NUMBER: 0403700776
SEC: 28 TWN: 3N RNG: 16W

PERMANENT DATUM: GROUND LEVEL ELEV:
LOG MEASURED FROM DF 6' PERM DATUM
DRILLING MEASURED FROM

-ELEVATIONS-
KB: Ft.
DF: Ft.
GL: Ft.

DATE LOG RAN	11-07-2006	PRESSURE	FLOWING	INJECTION	SHUT-IN
RUN NUMBER	ONE	TUBING PSI			2808
EFFECTIVE DEPTH	8748'	CASING PSI			2808
PICKUP DEPTH	8472'	INJECTION RATE			
BOT LOGGED INT	8472'	OBSERVED RATE			
TOP LOGGED INT	100'	R/A SOURCE			
TYPE OF INJECT	NONE	ACTIVITY			
FLUID IN WELL	GAS	HALF LIFE			
FLUID LEVEL	N/A				
WELL STATUS	STATIC			PRODUCTION DATA	
MAX TEMPERATURE	144.9 F	OIL Gr.		OIL =	
AT DEPTH	8107.0'	GAS Gr.		GAS=	
TEMPERATURE SENS	1 F/DIV.	MPP		BHP =	
LOGGING SPEED	VARIOUS			WATER=	
RECORDED BY	R. LOPEZ				
WITNESSED BY	N/A				
ENGINEER	N/A				
DEPTH CORRELATION	PACKER				

Equipment Data

Collar Locator	1.375"		
Temperature Tool	1.375"		
Audio Detector	1.375"		

Remarks/Survey Results

TOOL DIAGRAM

COLLAR LOCATOR AT 2'
TEMPERATURE TOOL AT 5'
AUDIO DETECTOR AT 8'

CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
11.75"	42	SURFACE	990'				
7"	26	SURFACE	8585'				
5.5"	20	8559'	8748'				
2.875"	6.5	SURFACE	8496'				

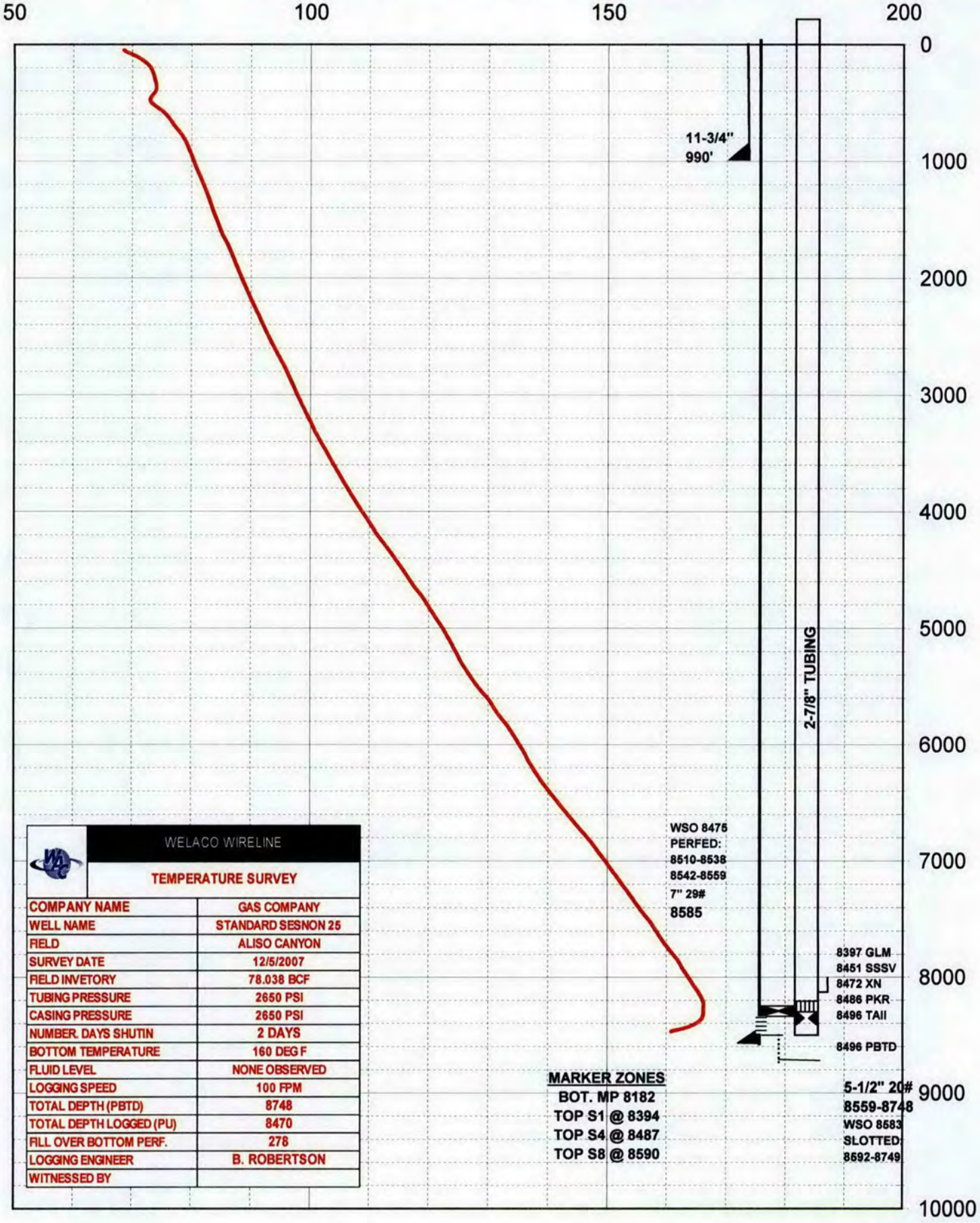
STR.	PIPE DIA.	PERFORATIONS
A	7"	8475'-8476', 8510'-8538', 8542'-8585'.
	5.5"	8592'-8478'.
		PACKERS: 8486'-8502'.
		NO-GO: 8472'.

Audio Data: c:\data\Noise.txt

DEPTH	200HZ	600HZ	1000HZ	2000HZ
500	19.80	17.60	16.40	14.20
1000	19.50	16.00	14.80	13.00
1500	20.80	18.50	17.30	15.60
2000	21.40	18.80	17.70	16.00
2500	18.10	16.40	14.60	13.50
3000	18.80	16.30	15.30	14.00
3500	20.60	19.10	18.20	16.40
4000	16.80	15.30	14.10	12.50
4500	19.20	18.00	17.70	16.30
5000	17.70	16.20	15.40	13.90
5500	19.80	18.60	17.30	15.80
6000	17.70	17.10	16.30	14.80
6500	16.20	14.90	13.80	12.10
7000	18.40	16.80	16.00	14.40
7500	19.20	19.10	18.00	15.80
8000	17.00	16.40	15.30	13.80
8400	15.30	14.60	13.40	12.00
8425	16.70	16.10	15.10	13.50
8450	15.90	15.20	13.80	12.00
8472	15.70	15.00	14.10	12.40

1125 CCL 2125 | 75 TEMPERATURE 95 | 0.02 AUDIO DETECTION LOG (MV) 200

037.00776_SURVEY_TEMPERATURE_2007.12.05



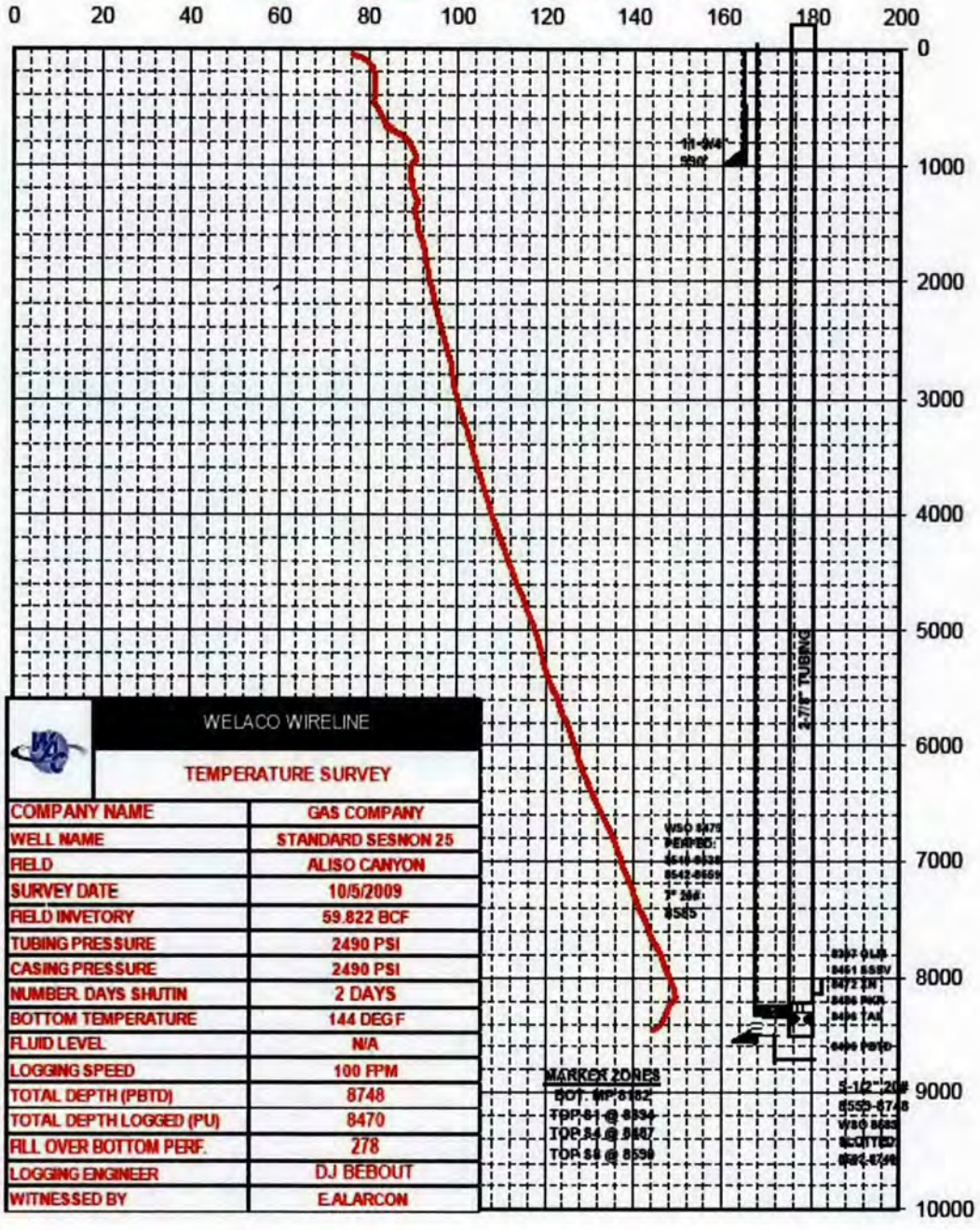
WELACO WIRELINE

TEMPERATURE SURVEY

COMPANY NAME	GAS COMPANY
WELL NAME	STANDARD SESNON 25
FIELD	ALISO CANYON
SURVEY DATE	12/5/2007
FIELD INVETORY	78.038 BCF
TUBING PRESSURE	2650 PSI
CASING PRESSURE	2650 PSI
NUMBER. DAYS SHUTIN	2 DAYS
BOTTOM TEMPERATURE	160 DEG F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748
TOTAL DEPTH LOGGED (PU)	8470
FILL OVER BOTTOM PERF.	278
LOGGING ENGINEER	B. ROBERTSON
WITNESSED BY	

WELL ANALYSIS CORPORATION

037.00776_SURVEY_TEMPERATURE_10.05.2009



WELACO WIRELINE	
TEMPERATURE SURVEY	
COMPANY NAME	GAS COMPANY
WELL NAME	STANDARD SESNON 25
FIELD	ALISO CANYON
SURVEY DATE	10/5/2009
FIELD INVETORY	59.822 BCF
TUBING PRESSURE	2490 PSI
CASING PRESSURE	2490 PSI
NUMBER DAYS SHUTIN	2 DAYS
BOTTOM TEMPERATURE	144 DEG F
FLUID LEVEL	N/A
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748
TOTAL DEPTH LOGGED (PU)	8470
FILL OVER BOTTOM PERF.	278
LOGGING ENGINEER	DJ BEBOUT
WITNESSED BY	E.ALARCON

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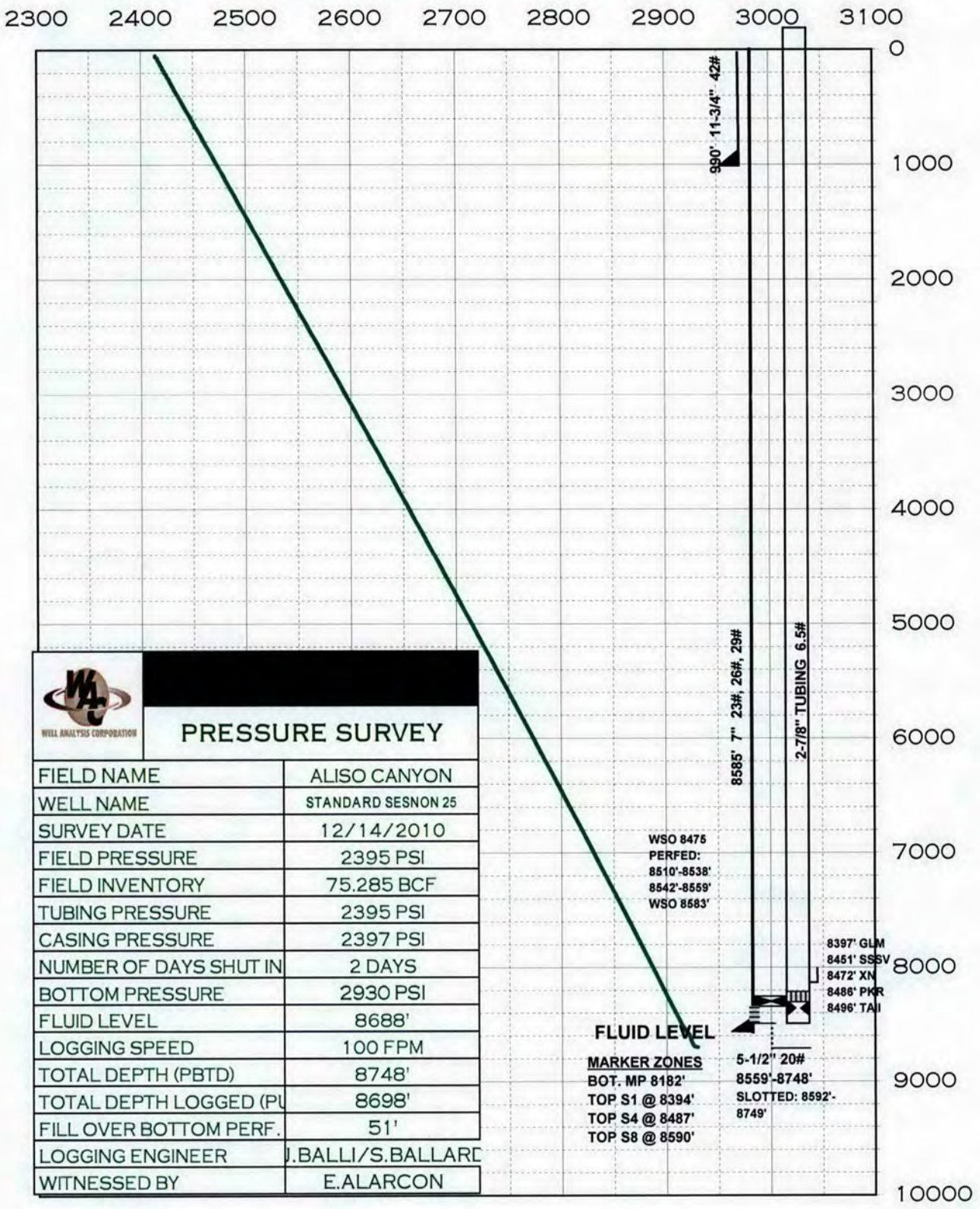
03700776_SURVEY_PRESSURE_12-14-2010(SS25)



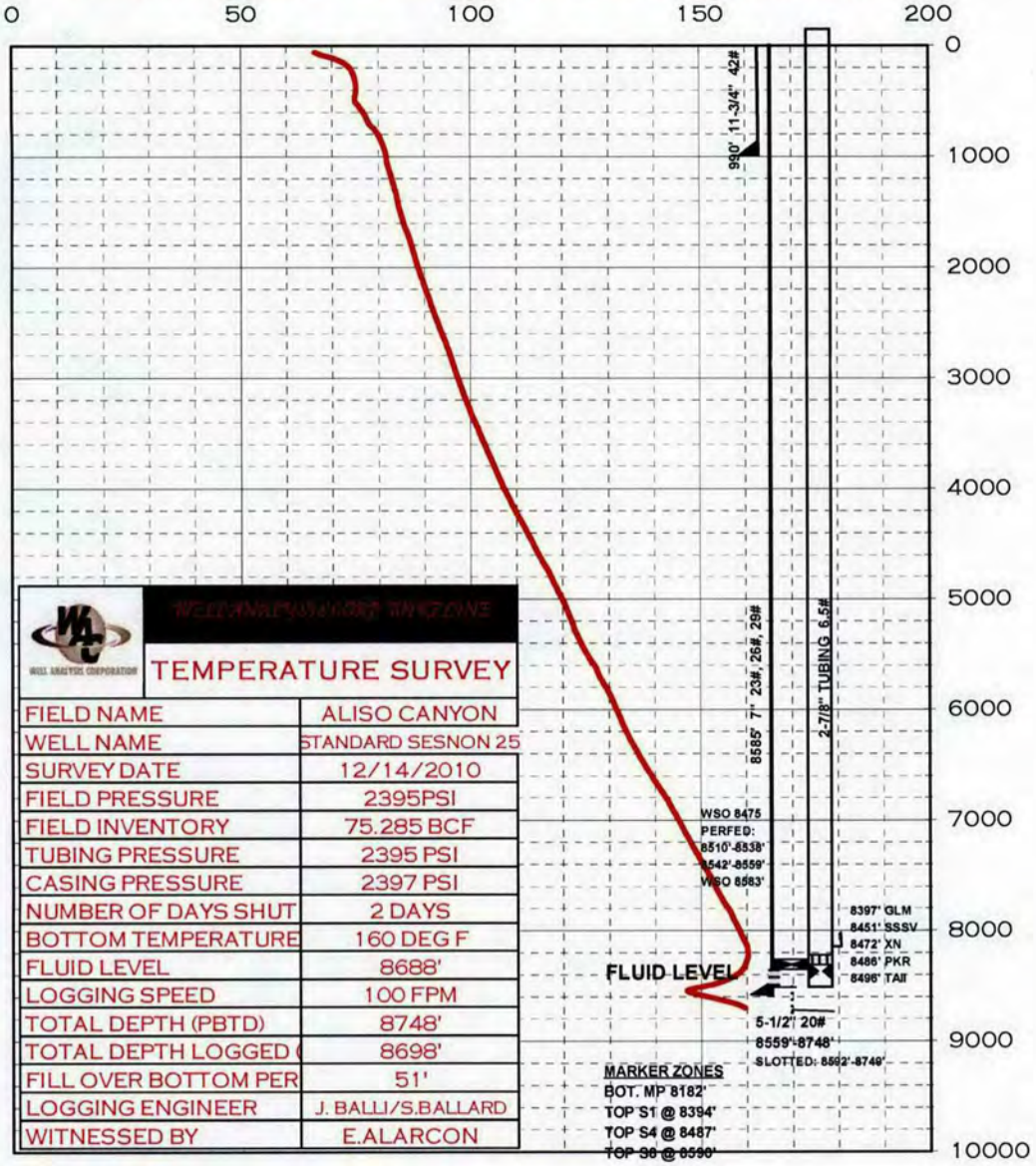
WELL ANALYSIS CORPORATION

PRESSURE SURVEY

FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	12/14/2010
FIELD PRESSURE	2395 PSI
FIELD INVENTORY	75.285 BCF
TUBING PRESSURE	2395 PSI
CASING PRESSURE	2397 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM PRESSURE	2930 PSI
FLUID LEVEL	8688'
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748'
TOTAL DEPTH LOGGED (PU	8698'
FILL OVER BOTTOM PERF.	51'
LOGGING ENGINEER	J.BALLI/S.BALLARD
WITNESSED BY	E.ALARCON

WELL ANALYSIS CORPORATION

03700776_SURVEY_TEMPERATURE_12-14-2010(SS25)



TEMPERATURE SURVEY	
FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	12/14/2010
FIELD PRESSURE	2395PSI
FIELD INVENTORY	75.285 BCF
TUBING PRESSURE	2395 PSI
CASING PRESSURE	2397 PSI
NUMBER OF DAYS SHUT	2 DAYS
BOTTOM TEMPERATURE	160 DEG F
FLUID LEVEL	8688'
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748'
TOTAL DEPTH LOGGED	8698'
FILL OVER BOTTOM PER	51'
LOGGING ENGINEER	J. BALLI/S.BALLARD
WITNESSED BY	E.ALARCON

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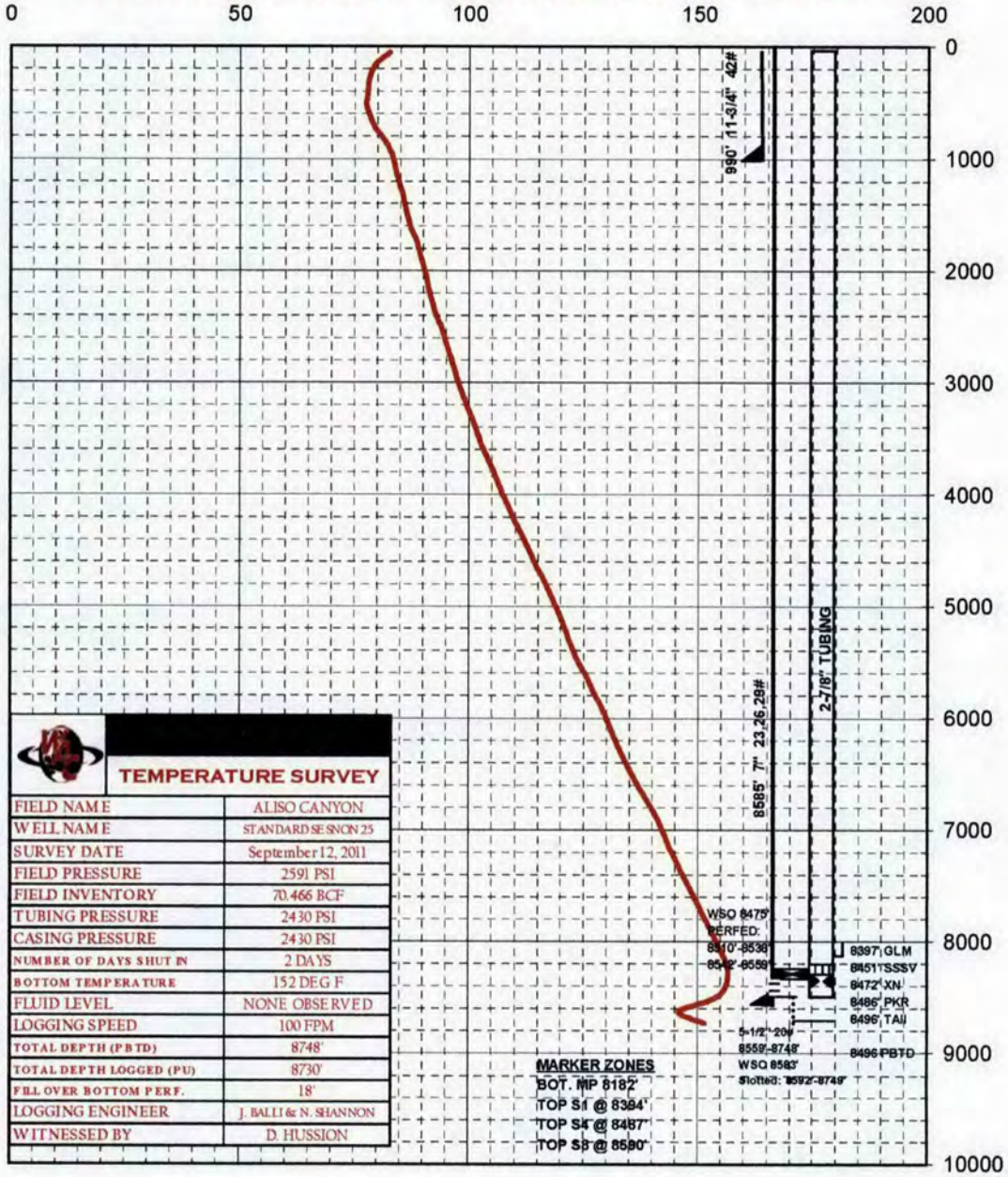
Well Analysis Corporation

03700776_SURVEY_TEMPERATURE_09-12-2011(SS25)



TEMPERATURE SURVEY	
FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	September 12, 2011
FIELD PRESSURE	2591 PSI
FIELD INVENTORY	70.466 BCF
TUBING PRESSURE	2430 PSI
CASING PRESSURE	2430 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM TEMPERATURE	152 DEG F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748'
TOTAL DEPTH LOGGED (PU)	8730'
FILL OVER BOTTOM PERF.	18'
LOGGING ENGINEER	J. BALLI & N. SHANNON
WITNESSED BY	D. HUSSION

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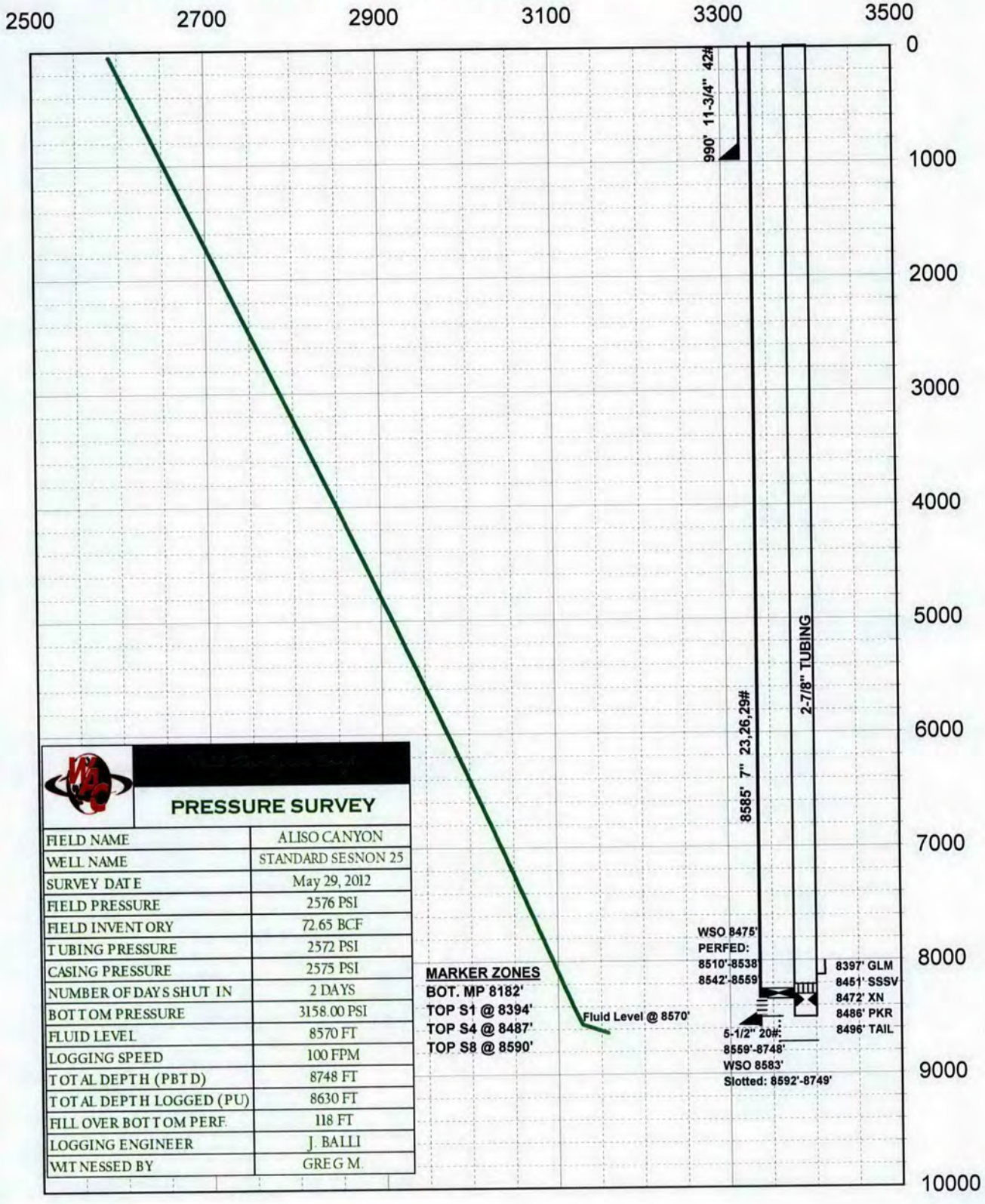
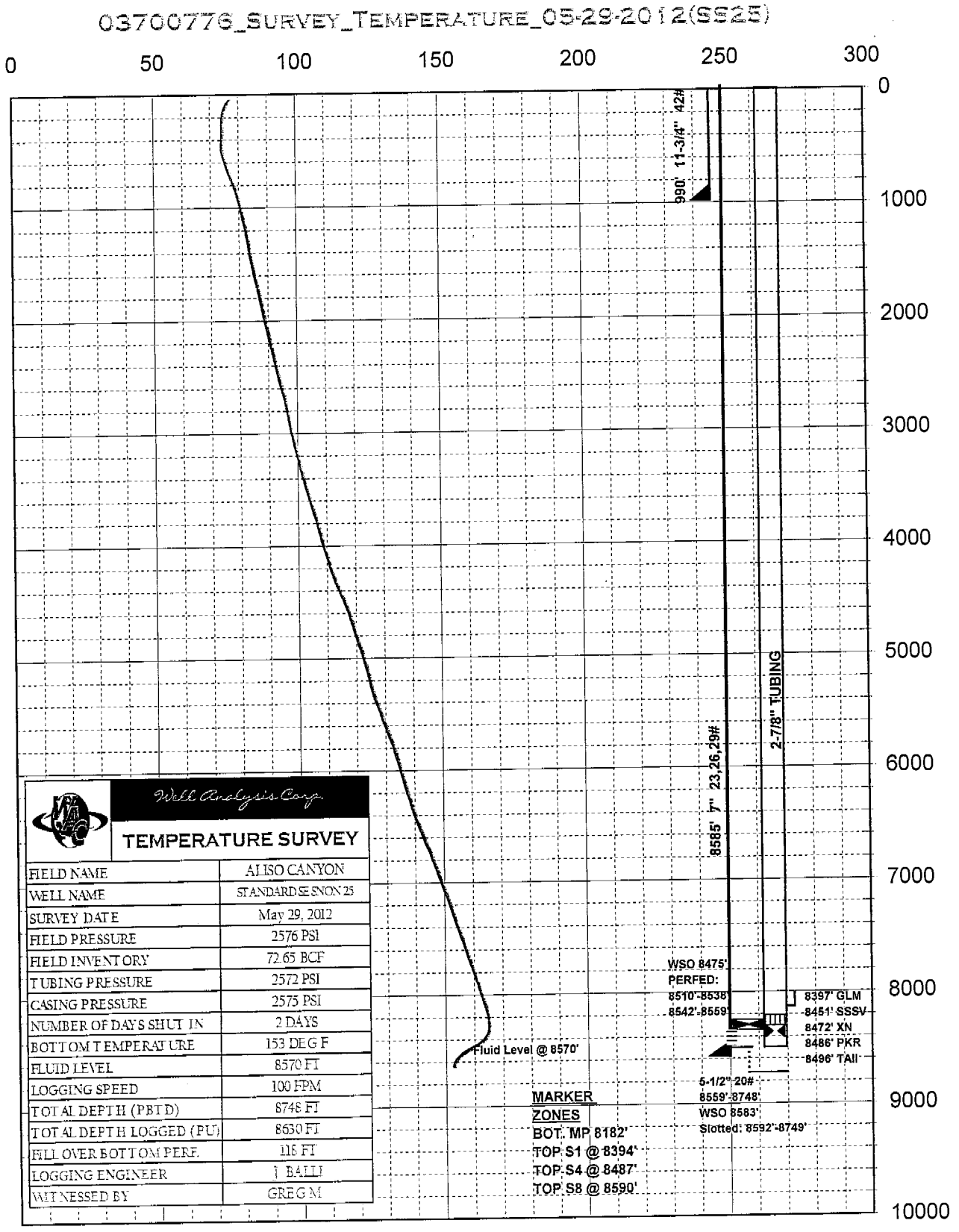
03700776_SURVEY_PRESSURE_05-29-2012(SS25)



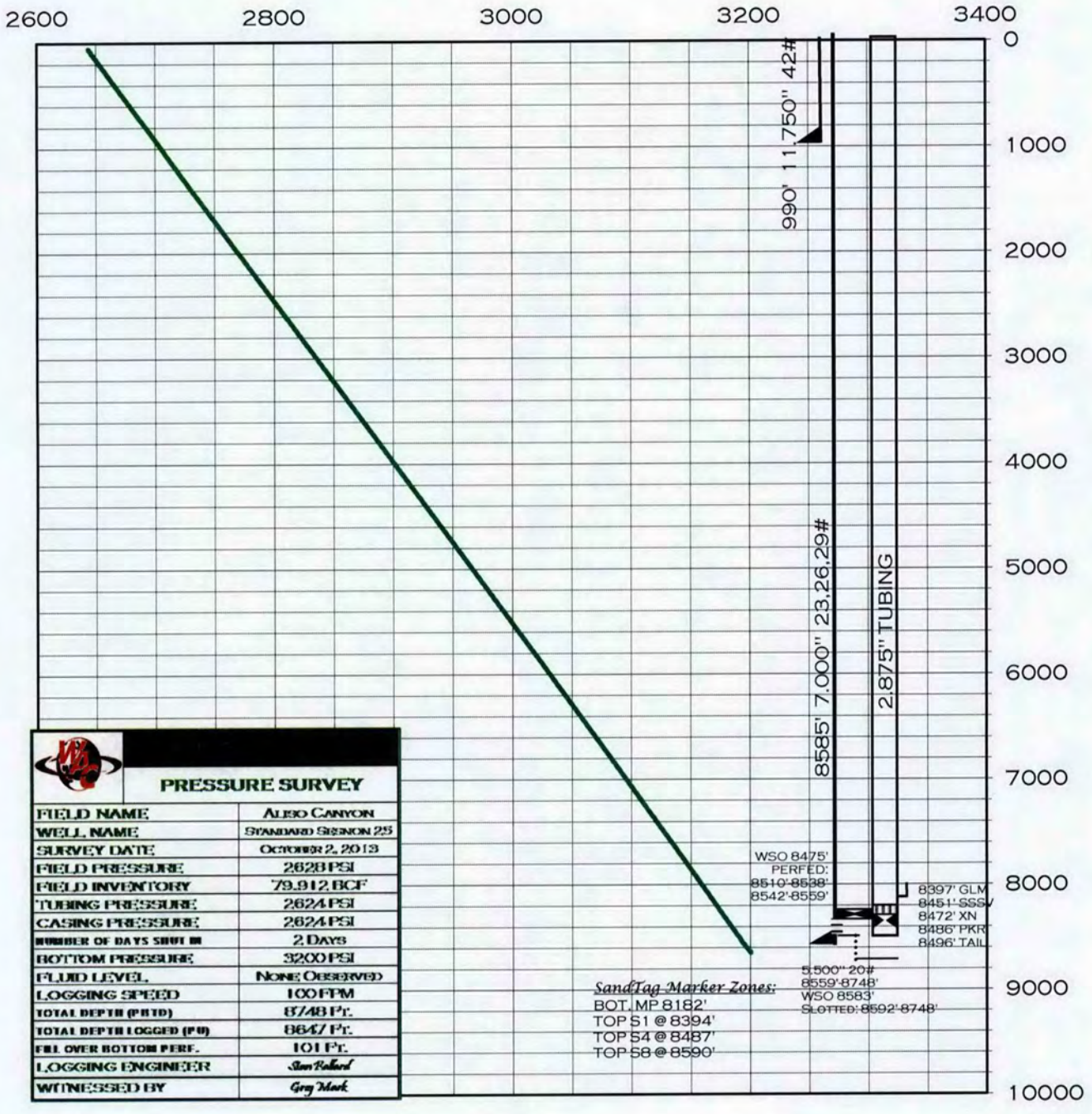
PRESSURE SURVEY

FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	May 29, 2012
FIELD PRESSURE	2576 PSI
FIELD INVENTORY	72.65 BCF
TUBING PRESSURE	2572 PSI
CASING PRESSURE	2575 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM PRESSURE	3158.00 PSI
FLUID LEVEL	8570 FT
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748 FT
TOTAL DEPTH LOGGED (PU)	8630 FT
FILL OVER BOTTOM PERF.	118 FT
LOGGING ENGINEER	J. BALLI
WITNESSED BY	GREG M.


03700776_SURVEY_TEMPERATURE_05-29-2012(SS25)
0
50
100
150
200
250
300
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
990' 11-3/4" 42#
8565' 7" 23,26,29#
2-7/8" TUBING
WSO 8475'
PERFED:
8510'-8538'
8542'-8559'
8397' GLM
8451' SSSV
8472' XN
8486' PKR
8496' TAIL
5-1/2" 20#
8559'-8748'
WSO 8583'
Slotted: 8592'-8749'
Fluid Level @ 8570'
MARKER
ZONES
BOT. MP 8182'
TOP S1 @ 8394'
TOP S4 @ 8487'
TOP S8 @ 8590'
Well Analysis Corp.
TEMPERATURE SURVEY
FIELD NAME ALISO CANYON
WELL NAME STANDARD SESNON 25
SURVEY DATE May 29, 2012
FIELD PRESSURE 2576 PSI
FIELD INVENTORY 72.65 BCF
TUBING PRESSURE 2572 PSI
CASING PRESSURE 2575 PSI
NUMBER OF DAYS SHUT IN 2 DAYS
BOTTOM TEMPERATURE 153 DEG F
FLUID LEVEL 8570 FT
LOGGING SPEED 100 FPM
TOTAL DEPTH (PBTD) 8748 FT
TOTAL DEPTH LOGGED (PU) 8630 FT
FILL OVER BOTTOM PERF. 116 FT
LOGGING ENGINEER J. BALLI
WITNESSED BY GREG M

503 0742

03700776_SURVEY_PRESSURE_10-02-2013(SS25)



PRESSURE SURVEY

FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	OCTOBER 2, 2013
FIELD PRESSURE	2628 PSI
FIELD INVENTORY	79.912 BCF
TUBING PRESSURE	2624 PSI
CASING PRESSURE	2624 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM PRESSURE	3200 PSI
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748 FT.
TOTAL DEPTH LOGGED (PBD)	8647 FT.
FBL OVER BOTTOM PERF.	101 FT.
LOGGING ENGINEER	*Stan Rutherford*
WITNESSED BY	*Greg Mark*

JOB TICKET #: 44103

P.O. Box 20008
Bakersfield, CA 93390-0008

WELL ANALYSIS CORPORATION Wireline

CUSTOMER: SoCalGas DATE: K-2-13

WELL NO(S): S.S. 25 S.S. 25B S.S.3H FIELD LOCATION ALISO

CONTRACT NO: _____ ORDERED BY: Greg Mark

DESCRIPTION OF WORK PERFORMED

ON LOCATION _____ OFF LOCATION _____ TOTAL HOURS _____

S.S. 25 - Ran a Traverse survey down to 8646'
T: 2624 C: 2624

S.S. 25 B - Ran a Traverse survey down to 8681
T: 2638 C: 2638

S.S. 3H - Ran a Traverse survey down to 8260
T: 2491 C: 697

EOT: _____

PB: _____

RIG UP CHARGE:

HOURLY CHARGE:

LINE TRUCK MILEAGE: (RT) .....MILES X $ ..... /PER MILE:

CHASE VEHICLE MILEAGE: (RT).....MILES X $ ..... /PER MILE:

EQUIPMENT CHARGES: 185/person x2 370

447/well x3 1341

$ 1711.00

SAFETY EQUIPMENT: _____

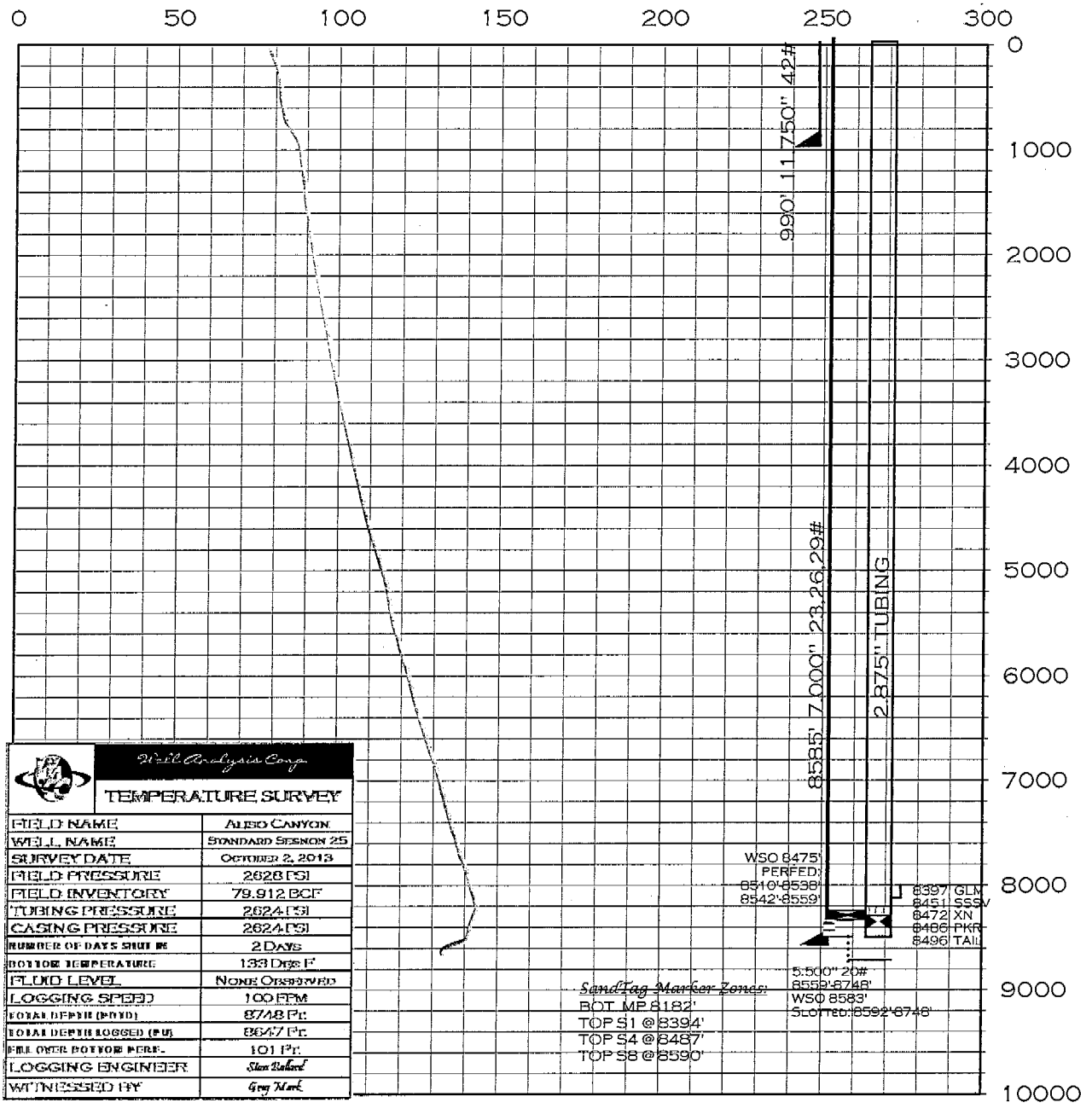
FUEL SURCHARGE: _____

TOTAL AMOUNT DUE:

ENGINEER: _____ APPROVAL: _____

WAC Wireline CUSTOMER

03700776_SURVEY_TEMPERATURE_10-02-2013(SS25)

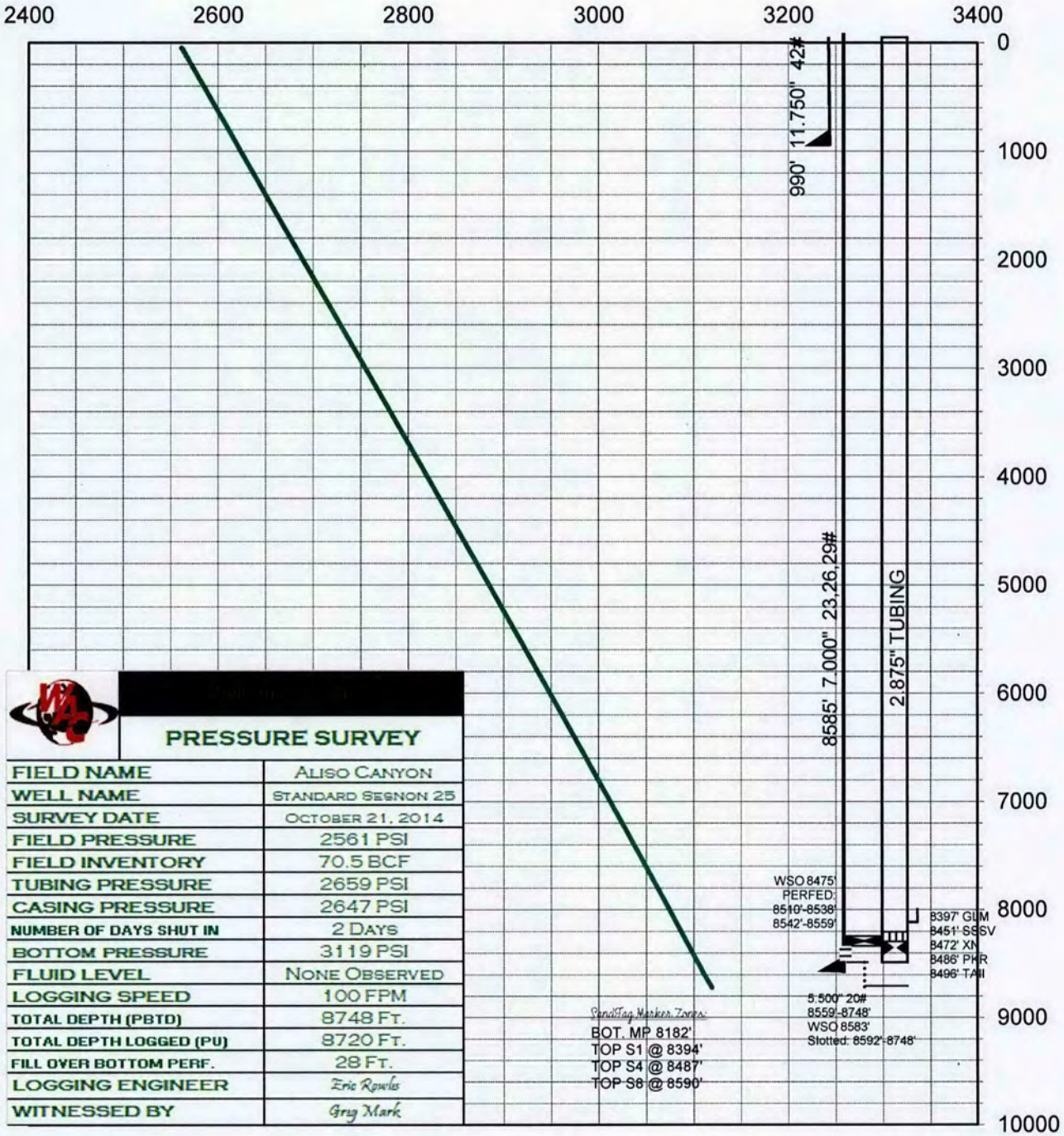


Well Analysis Corp.

TEMPERATURE SURVEY

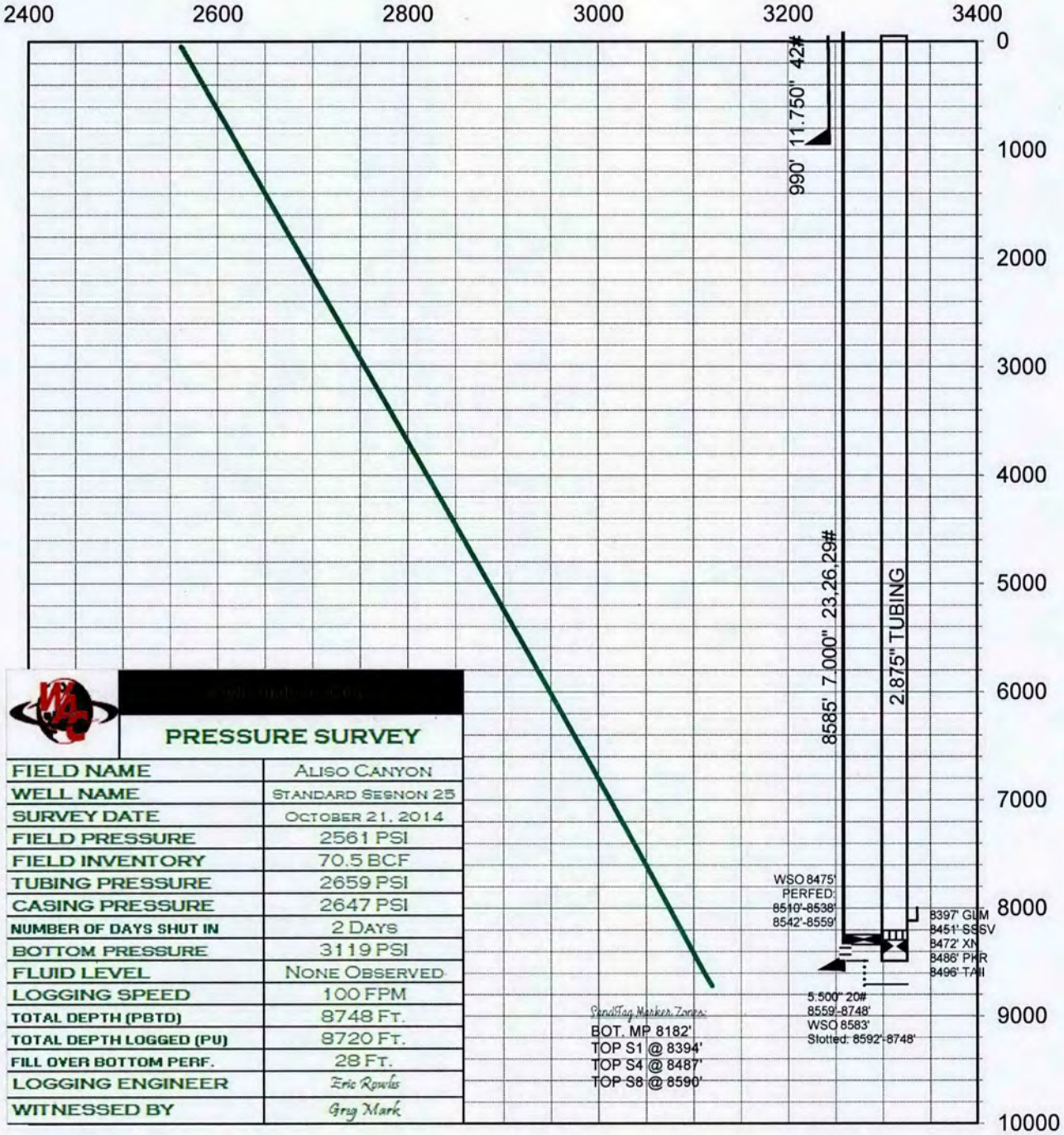
FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	OCTOBER 2, 2013
FIELD PRESSURE	2628 PSI
FIELD INVENTORY	79.912 BCF
TUBING PRESSURE	2624 PSI
CASING PRESSURE	2624 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM TEMPERATURE	133 Degs F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (DRVR)	8748 Ft
TOTAL DEPTH LOGGED (FU)	8647 Ft
FILL OVER BOTTOM PERF.	101 Ft
LOGGING ENGINEER	Stan Pollard
WITNESSED BY	Greg Mark

03700776_Survey_Pressure_10-21-2014(SS25)



PRESSURE SURVEY	
FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	OCTOBER 21, 2014
FIELD PRESSURE	2561 PSI
FIELD INVENTORY	70.5 BCF
TUBING PRESSURE	2659 PSI
CASING PRESSURE	2647 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM PRESSURE	3119 PSI
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748 FT.
TOTAL DEPTH LOGGED (PU)	8720 FT.
FILL OVER BOTTOM PERF.	28 FT.
LOGGING ENGINEER	Eric Rowles
WITNESSED BY	Greg Mark

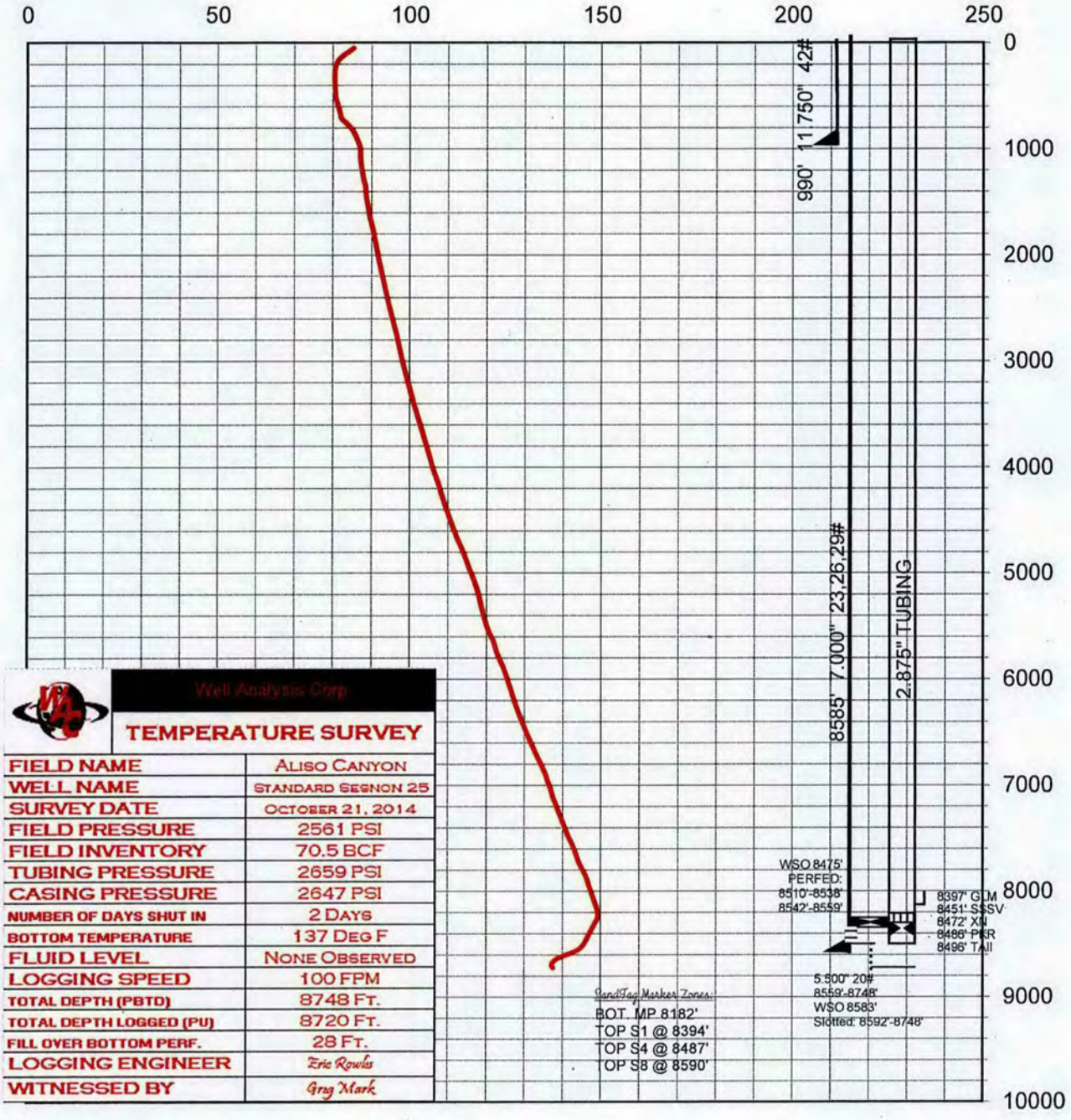
03700776_Survey_Pressure_10-21-2014(SS25)



PRESSURE SURVEY

FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SESNON 25
SURVEY DATE	OCTOBER 21, 2014
FIELD PRESSURE	2561 PSI
FIELD INVENTORY	70.5 BCF
TUBING PRESSURE	2659 PSI
CASING PRESSURE	2647 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM PRESSURE	3119 PSI
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748 FT.
TOTAL DEPTH LOGGED (PU)	8720 FT.
FILL OVER BOTTOM PERF.	28 FT.
LOGGING ENGINEER	Eric Rowles
WITNESSED BY	Greg Mark

03700776_Survey_Temperature_10-21-2014(SS25)



Well Analysis Corp

TEMPERATURE SURVEY

FIELD NAME	ALISO CANYON
WELL NAME	STANDARD SEGNON 25
SURVEY DATE	OCTOBER 21, 2014
FIELD PRESSURE	2561 PSI
FIELD INVENTORY	70.5 BCF
TUBING PRESSURE	2659 PSI
CASING PRESSURE	2647 PSI
NUMBER OF DAYS SHUT IN	2 DAYS
BOTTOM TEMPERATURE	137 DEG F
FLUID LEVEL	NONE OBSERVED
LOGGING SPEED	100 FPM
TOTAL DEPTH (PBTD)	8748 FT.
TOTAL DEPTH LOGGED (PU)	8720 FT.
FILL OVER BOTTOM PERF.	28 FT.
LOGGING ENGINEER	Eric Rowles
WITNESSED BY	Greg Mark

JOB TICKET NO: 48617

P.O. Box 20008
Bakersfield, CA 93390-0008

WELL ANALYSIS CORPORATION Wireline

CUSTOMER: So CAL Gas DATE: 11-17-2014

WELL NO(S): SS-44B, 25A, (25B), 25 FIELD LOCATION Aliso Canyon

CONTRACT NO: _____ ORDERED BY: _____

DESCRIPTION OF WORK PERFORMED

ON LOCATION _____ OFF LOCATION _____ TOTAL HOURS 8 hrs

Ran Gradients on SS-44B, SS-25A, SS 25-B, SS-25

EOT: _____

PB: _____

RIG UP CHARGE: 300.00 x 4	WL01	1200.00
HOURLY CHARGE: 90.00 x 8	WL02	720.00
LINE TRUCK MILEAGE: (RT) 202 MILES X $ 2.25 /PER MILE:	WL31	454.50
CHASE VEHICLE MILEAGE: (RT) 202 MILES X $ 1.25 /PER MILE:	WL32	252.50
EQUIPMENT CHARGES: Download 80.00 x 4		320.00
Batt. 25.00 x 4		100.00
P.P.E. 40.00 per day		40.00
Per. Diem		370.00
Gauge 100.00 x 4		400.00
~~$3857.00~~		~~$3857.00~~

$3857.00

SAFETY EQUIPMENT: _____

FUEL SURCHARGE: _____

TOTAL AMOUNT DUE:

ENGINEER: Joe Thomason Joe T WAC Wireline APPROVAL: _____ CUSTOMER

SS25 Well Pressures

Ref #	Date	Time	Casing Pressure	Tubing Pressure	Surface Csg	Events	Notes
1	Normal Operation		2700	2700	Should be Zero	Well normally operates on casing injection and casing WD. It may be operated on dual flow	Well on injection - heard noise in wellhead
2	Friday, October 23, 2015	4:00 PM	270	1700	140	Ops noticed leaking Annulus fitting on well. They responded by closing 2 inch surface annulus valve and noticed 140 psi on gauge	When Ops closed injection header valve, the WKM SSV on casing closed almost immediately by low pressure pilot (setpoint is 270-300 psi). It was at that time Ops noticed sound of gas flow in wellhead.
3	Friday, October 23, 2015	4:10 PM	270	1700	140	Well shut-in by Ops	We initially suspected an up/down wellhead seal leak between the 7 inch casing and he 11-3/4 surface casing - Called Cameron
	Saturday, October 24, 2015	6:00 AM	270	1700	140	Cameron began repairing wellhead seals	Cameron initially tested both seals to 1200 psi, both bled down to 600. They then pumped 14 tubes of plastic into primary seal cavity.
4	Saturday, October 24, 2015	12:27 PM	290	1700	140	Haliburton circulating down tubing	Pumped 11.8 barrels of 10# polymer brine. Pressure on tubing rose to 3500. Shut down. 7 inch casing pressure remained at 290. Surface casing remained at 140. Monitored tubing pressure for 20 minutes. Tubing pressure bled to 2700.
	Saturday, October 24, 2015	2:00 PM	290	2700		Decided to pump and bleed down 7 inch casing to fill casing using 8.6# lease water.	
	Saturday, October 24, 2015	1:20 PM				Shut in tubing with 2700 psi on it	
	Saturday, October 24, 2015	1:30 PM		50		Put the well on Tubing flow to frac tank for few mintues and bled tubing down to 50 psi	
5	Saturday, October 24, 2015	2:07 PM	290	50	140	Haliburton began pumping 8.6 lb lease water down 7 inch casing	Started pumping 8.6# lease waster at a rate of 1.5 b/m. At 20 barrels increased rate to 2.5 b/m , at 33 barrels increase to 3.5 b/m, Began monitoring location for gas. Inspected the wellhead, noticed the noise and vibraton had subsided. Continuted pumped. At 89 barrels gas broke through surface at location and surrounding location. Continuted Monitoring
	Saturday, October 24, 2015	2:30 AM	400			When we shut down after 89 barrels and gas came to surface and we shut down, 7 inch casing pressure increased to 400 psi	
6	Saturday, October 24, 2015						
7	Saturday, October 24, 2015	5:00 PM	306	177			
8	Saturday, October 24, 2015	5:23 PM	307	200			
9	Saturday, October 24, 2015	5:30 PM	309	210			
	Saturday, October 24, 2015	5:40 PM	310	218			
	Saturday, October 24, 2015	5:50 PM	311	226			
	Saturday, October 24, 2015	6:00 PM	312	232			
	Saturday, October 24, 2015	6:10 PM	314	239			
	Saturday, October 24, 2015	6:30 PM	316	251			
	Saturday, October 24, 2015	7:00 PM	318	262			
	Saturday, October 24, 2015	7:30 PM	322	274			
	Sunday, October 25, 2015	8:45 AM	377	616	450		

3:00 | 401 | 674 | 459

4-10 Bbls to tbg

11.8

150

1

1

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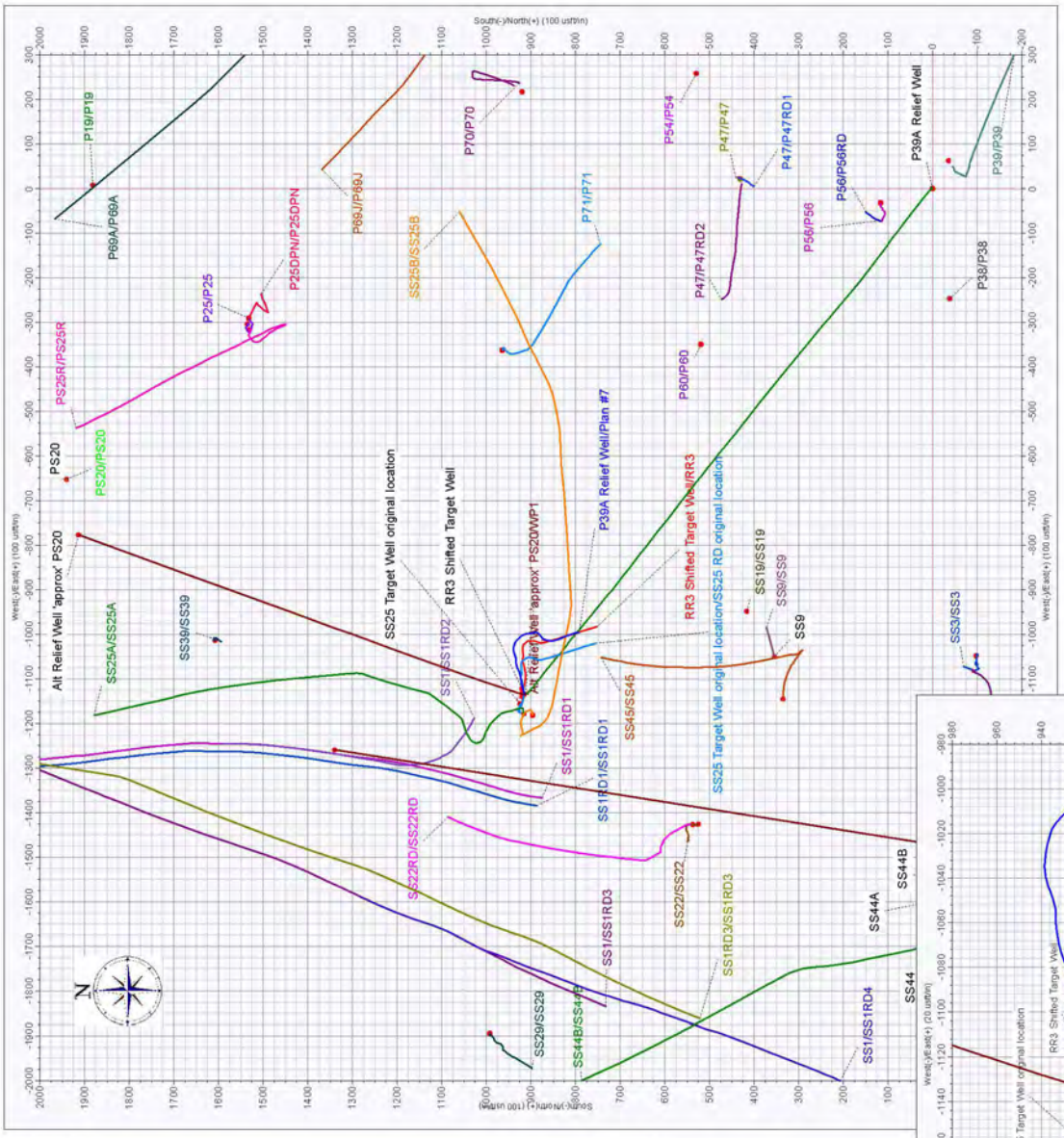

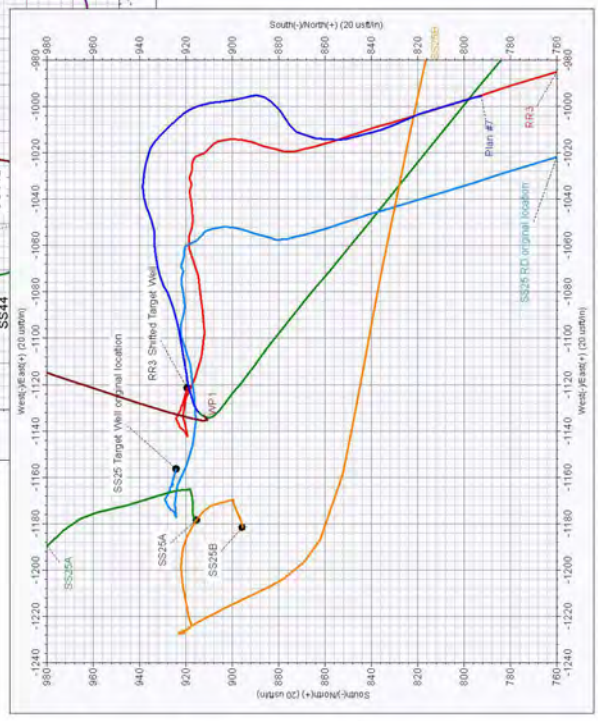

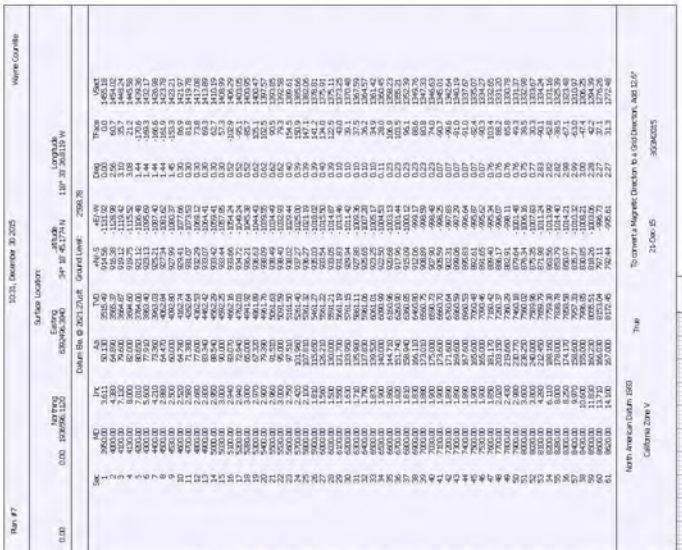

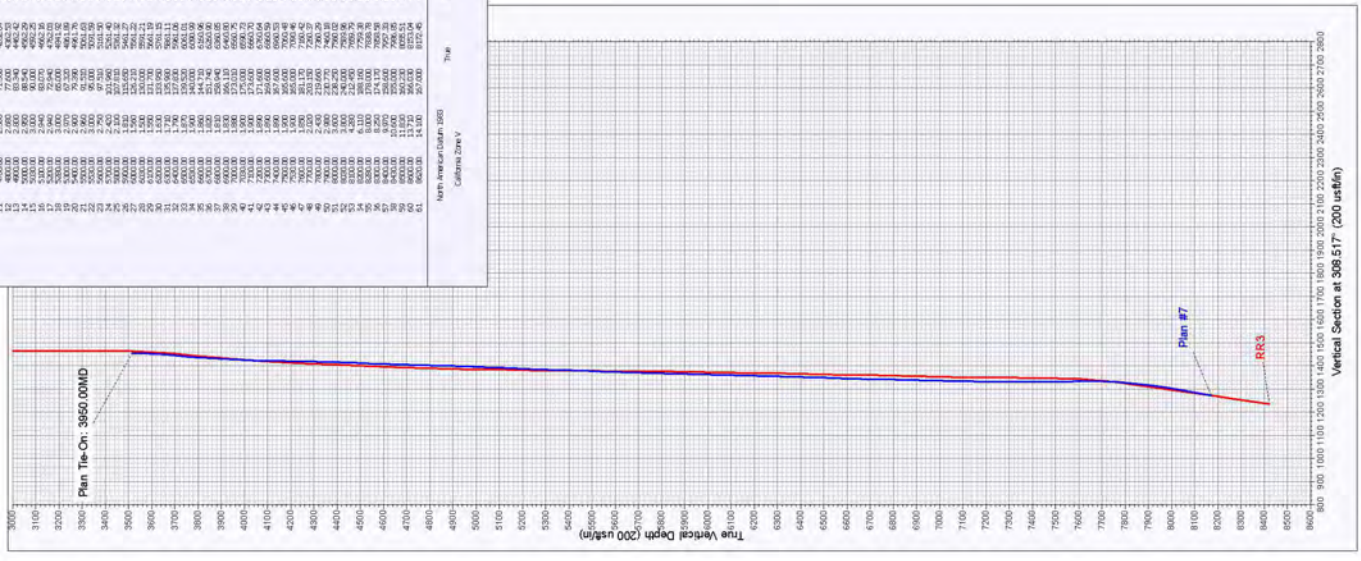

Southern California Gas Company

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Boots & Coots
A HALLIBURTON SERVICE

Boots & Coots Services
INITIAL WELL CONTROL RIG AUDIT
Surface Operations

Date: 12/27/2015

Company: Boots & Coots

Well Name: P39A Relief Well

Location/ County, State: Los Angeles, California

Drilling Rig Contractor & Rig #: Ensign 587

Activity at time of inspection: Drilling Ahead

Tool Pusher on Location: Allen Long and David S Meyer

Audit Performed by: John Hatteberg and Wayne Courville

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The following checklist has been developed to suit guidelines as specified by Boots & Coots Well Control Engineering and insurance underwriters.

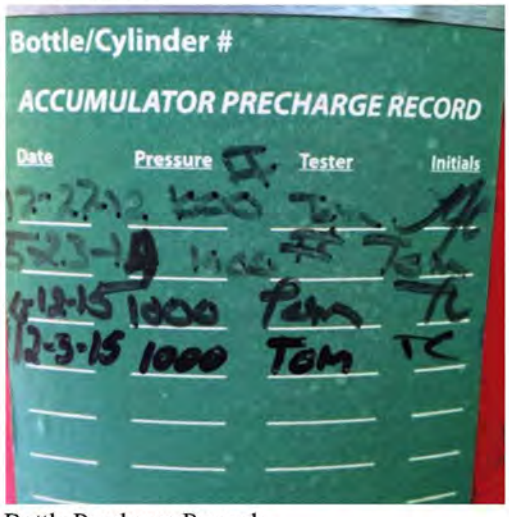
The well site Drilling Supervisor and the rig tool pusher should assist the B&C representative in completing this checklist after nipple up on the intermediate casing string. All of the following questions are required to be answered, along with some additional information that the rig auditor will discuss with the client on site.

ACCUMULATOR

Accumulator Bottles

4-Way Valves

Blind 4-Way Valve (Flap placed down after picture)



Bottle Precharge Records

AC_SED_01753_4504

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Nitrogen Recharge

Electric Recharge

Accumulator Pressures

Remote Panel

1. Are there both floor mounted and remote accumulator controls and are these clearly labeled? **Yes**

2. Is the remote unit used to actuate pipe rams at least once a week? **Yes**

3. Are the off-floor controls effective if the floor unit is destroyed? **Yes**

4. Is a fire wall provided to shield the accumulator and the primary controls from radiant heat? **Yes**

5. Does an alternate power source exist so the accumulator can be recharged if one source fails?
   Nitrogen bottles instead of air, main is electric
   What type? **Nitrogen**
   Is it in working order? **Yes**

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6. Is there a light on the rig floor in easy view of the driller and on the accumulator to indicate when the accumulator is running and is it functional? **Yes**

7. Are lines from any unused accumulator controls plugged? **Yes**

8. Are the operating ranges of the accumulator pumps regulated to start at 2700 psi and shut down at 3000 psi? **Yes**

9. Is the remote accumulator panel checked every shift to confirm proper pressure settings? **Yes**

10. Upon rig up is the accumulator pump charging time checking to insure 1000 psi to 3000 psi pressure rise is less than 15 minutes? **Yes**

11. What is the condition of the accumulator fluid and are the strainers in good condition? **Good, yes**
When was it last inspected **Inspected at rig up**

    a. Is the accumulator bottle isolation valve open? **Yes**

13. Was the accumulator pre-charge measured on initial rig-up and every 60 days thereafter and restored if necessary? **Yes**
Is the pre-charge pressure correct? **Yes**
When was it last checked? **June 2015**

14. Is the accumulator pressure 3000 psi? If not, how much? **2900**

15. Is the air pressure provided to the accumulator at least 75 psi? **120 psi**

16. Do relief lines protect control lines and are they of a pressure rating equal to accumulator pump pressure capability? **Yes**

17. Does the accumulator have enough fluid capacity to operate the BOP's one and a half times? **Yes**

18. Is the accumulator a safe distance from the wellhead? **65' with cold weather housing containers in between**

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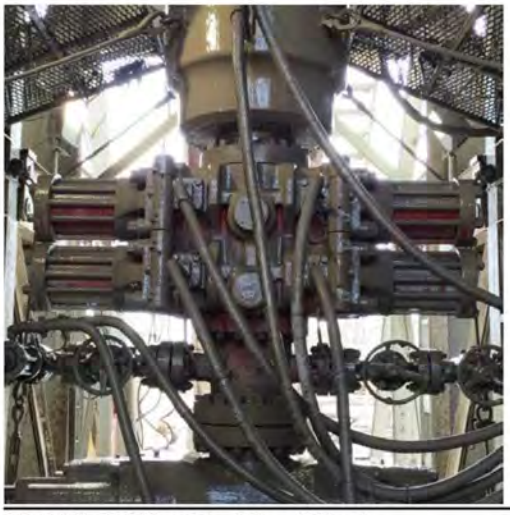
BLOWOUT PREVENTER

Full Stack

13 5/8" 5M Annular



13 5/8" 5M Double (Pipe/Blind)

Tubing Head

AC_SED_01756 4507

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13 5/8" 5M Single (Pipe)

19. Does the BOP assembly meet contractual obligations and conform to pertinent company guidelines and regulations? **Yes**

20. Is there a set of drawings available to the rig showing BOP stack, lines, valves, and manifolds used? **Yes, but it is for the previous hole section. Place copy of updated stack drawing in the doghouse.**

21. Is assembly rating greater than or equal to casing burst pressure, or formation breakdown pressure, which ever is lesser? **Yes**

22. Do all items of the BOP assembly meet or exceed the overall pressure rating for the assembly? **Yes**

23. Are Weco 1502 hammer unions installed on surface casing valves? **All flanged connections**

24. Can all necessary manipulations of the BOP stack be made without going under the rig floor? **Yes**

25. Is the stack well anchored and can it be aligned conveniently if necessary? **Yes**

26. Are extra ring gaskets, bonnet seal rings and BOP flange bolts on hand? **Yes, enough backups are available to allow for another complete nipple up**

27. Are BOP control lines positioned low so they are not likely to be destroyed quickly in the event of a fire? **Yes**

28. Is there a step set of illustrations showing how to test all BOP items? **No**

29. Are these steps followed after each nipple up and at specified intervals thereafter? **N/A**

30. Is there a test plug and test joint available, or is a cup packer used for testing BOPs? **Not at the drilling location, it is brought out during testing time**
Is it correct for this application? **Yes**

31. Are BOP and valve control handles clearly labeled and kept in the "open" or "closed" position? **Yes**

32. Can the well be closed in quickly while observing and controlling casing pressure? **Yes**

AC_SED_01_757 4508

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33. Do preventers have hydraulic or manual locks? If manual, are handwheels and shafts attached? **Manual, Yes**

34. Does the stack have clearance for tool joints between pipe rams so pipe can be stripped through the rams? **Yes**

35. Is it possible to pump into the well with the blind rams closed? **Yes**

36. Does the blind rams accumulator control have a cover but no lock to allow the blind rams to be actuated from the remote station and prevent accidental or unreasoned closure? **Yes**

37. Have the preventers been field disassembled and inspected in accordance with API standards. **Yes** Date of Last inspection? **June 2015** Are recommended closing pressure of the annular preventers for testing drill pipe known and used when testing? **Yes**

38. Are closing pressure-sealing pressure relationships available for annular preventer and characteristics known by supervisors? **No**

39. Can all preventers and hydraulic valves be closed in 19 seconds or less at a pressure of 1200 psi, with pumps off and with a remaining accumulator volume of 50% or original volume? **Yes**

40. For high temperature/high pressure wells are blind-shear rams installed in BOP stack? **N/A**

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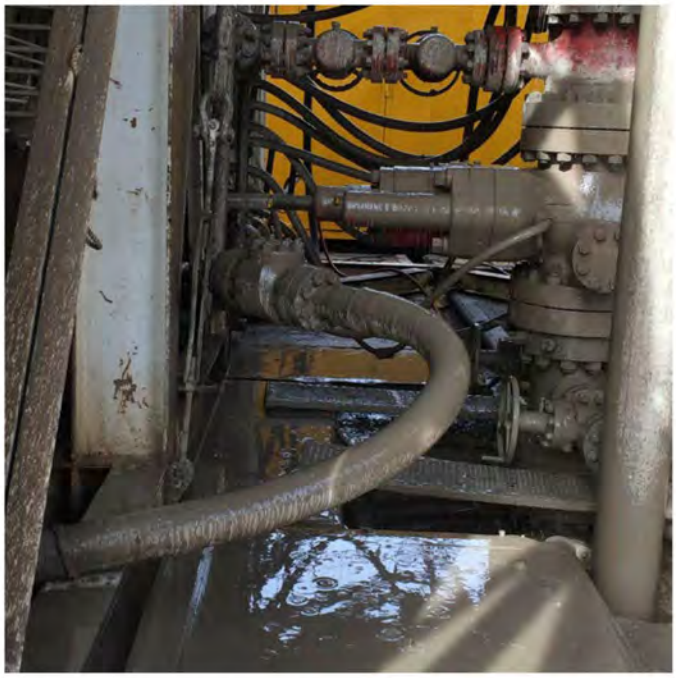
CHOKE & KILL

4 1/16" 5M Kill Valves and Line

4 1/16" 5M Choke Valves and Line



Kill Line Check Valve **(HCR does not have handwheel)**

4 1/16" 5M Choke Line

AC_SED_01757_4510

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Choke Manifold

Manual Choke

Electric Choke

Downstream Choke Lines and Panic Line

AC_SED_01_760 4511

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Panic Line (Flare Line also Pictured)

Choke Remote

41. Are there master valves on the choke flow line and on each choke manifold wing? **Yes**
    Are these used only for closure to allow downstream repairs? **Yes**

42. Is there a fill-up line separate from the kill line? **Yes**
    If yes, is fill-up line normally used to fill the hole? **No, circulate with the trip tank**

44. Is the choke line straight? **No, but the choke line has targeted Ts at turns**

45. Are all choke line connections flanged for equipment rated at 5K or greater? **Yes**

46. Is the line that bypasses the choke(s) at least equal in diameter to the choke line? **Yes**

47. Are sufficient hydraulic variable chokes available with a rating to handle expected pressure? **Yes, One (1) manual choke and One (1) electric choke**

48. Is an emergency back-up system for operating the hydraulic choke (manual pump or Nitrogen) available in the event rig air becomes unavailable? **N/A**

49. Are extra parts for chokes on hand? **Yes, 2 extra valves and extra api rings**

50. Are choke lines and valves well supported and anchored? **Yes**

51. For high temperature/high pressure wells, are there 2 hydraulic and 1 manual choke? **N/A**

52. Are choke lines arranged so that fluids can be discarded, gas separated safely, or mud recovered and degassed? **Yes**

53. Does the choke flow line have a minimum ID of 4"? **Yes**
    What is ID of the choke flow line? **4", same with kill line**

54. What is the choke manifold pressure rating**? 5k psi** Is it correct for this application? **Y**

AC_SED_01761_4512

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55. Is the choke operated prior to drilling out each casing string? **Yes**

GAS SEPARATION

Gas Separator

Fluid Line to Gas Separator

Gas Separator Mud Leg

Flare

56. Can gas separated from the mud be safely discharged or flared? **Yes**
What is the height of the gas flare line or discharge line? **about 10'**

57. Is there a mud/gas separator of adequate volume with vent lines of a least 8" and a 'U' tube mud line to provide back pressure to prevent gas surging to shaker? **Yes**

What are the dimensions of the mud gas separator? **11' tall x 4' diameter**

AC_SED_01_762 4513

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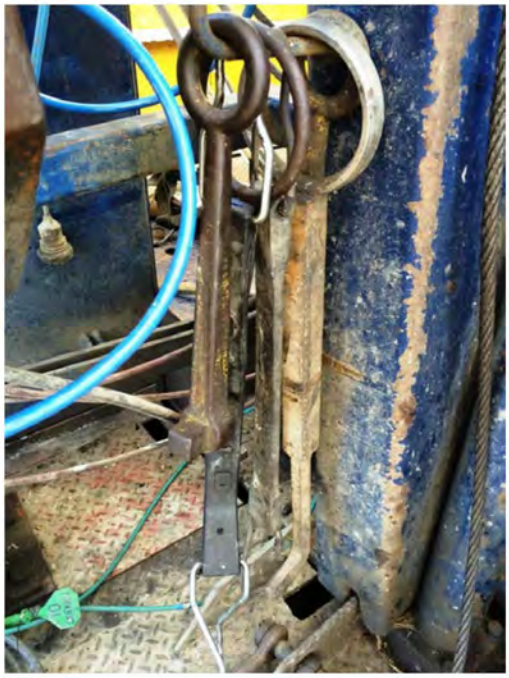
INSIDE BOP, KELLY COCK, VALVES AND FLOATS

Inside BOP

TIW

TIW Open



TIW Handle

AC_SED_01763 4514

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58. Are inside BOP and full opening TIW safety valve for drill pipe available on the rig floor? Yes
Can they be manually stabbed? Yes
Are they functioned tourly to ensure proper operation? Yes

59. Is the TIW handle readily available at a known designated place? Yes, by the drawworks

60. Is there a lower Kelly safety valve and is the handle readily available at a known designated location? Yes

61. Is a drillpipe float used? Yes

62. Is an upper Kelly valve used or is the rig equipped with a top drive system with hydraulic and manual valves? **Top drive**

DRILL COLLAR SAFETY

62. Are crossover subs available so inside BOP and full opening safety valve can be made up on the drill collars? Yes, for anything run

63. Can the collars be fastened down quickly? Yes What kind of device is present for doing this? Chain

64. Is a drill collar clamp and chains available on the rig floor? Yes

FLOW INDICATORS

65. Is there a pit volume totalizer and recorder mounted in easy view of the driller? Yes

66. Is there a flow indicator for out-of-hole conditions or can the flow line be seen from the rig floor? Yes

67. Does the rig have a pump stroke counter and/or trip tank for use in critical hole filling checks? Yes

CASING

68. How is casing wear monitored? No, keep minimum mud weight, have float Is this sufficient for the application? Yes

69. Are maximum allowable surface pressures upon closing in well specified and posted? No

70. Was the surface casing held in tension until cement set to avoid misalignment? Yes

71. Is the casing wear bushing used while drilling? No

TRIPPING PROCEDURES

72. Is pipe slugged to permit pulling string dry and sufficient time allowed for fluid level to balance before pulling out of hole? No, keep minimum mud weight, have a float

73. Are flow checks made prior to pulling off bottom, at the casing shoe and at the collars? Yes

74. At least once each trip, are the ram-type BOPs operated and are all choke and kill valves flushed on each trip? Yes, ram BOPs are operated; No, the choke and kill valves are not flushed each trip

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75. Is the hole filled continuously from the trip tank (preferred) or is there a specified procedure for hole filling (number of stands)? **Trip sheets used with minimum 75 psi pressure drop. Fill every 5 stands.**
Is the hole filled while pulling each stand of drill collars? **Yes**

76. Is the rig equipped with a trip tank? **Yes**

77. Does the crew keep a written trip record? **Yes**

78. Are charts posted on the rig showing volume pumped from the pits for various amounts of pipe pulled from the hole? **Yes**

79. Are crews instructed as to procedures during trip if swabbing or lost circulation is detected? **Yes**

DRILLS

80. Are "on bottom" drills held at intervals, timed and recorded on the IADC? **No, but they are kept electronically**

81. Are "while tripping" drills held and treated as above? **Yes**

82. Are "drill collar" drills held and treated as above? **No**

83. Are "out of hole" drills held and treated as above? **Yes**

84. Are slow pump rates and pressures recorded tourly and after a mud density changes and recorded on daily drilling reports? **Yes**

RIG SPECIFICATIONS

85. Are approved well killing worksheets available on rig floor, and are they updated daily? **No, it is kept electronically**

86. Is the leakoff pressure recalculated and posted after every mud density change? **Yes**

87. Is the maximum allowable mud density posted? **No, it is kept electronically**

88. Are drill pipe, drill collar, hole and mud pump capacity figures available on the rig? **Yes**

89. Are rig mud pump pop-offs properly pinned and maximum pressures known? **Yes, 3000 psi**

90. Have the mud pump pop-offs been tested on a regular basis? Are they functional? **Not tested, but they are flushed regularly**

91. Is a quick acting method of shutting down the rig engines available off the rig floor? **Yes**
If diesel engines, is a device installed for closing off the air intake? **Yes**

92. Are two stairs available from the rig floor and are walkways uncluttered and open? **Yes**

93. Are the storage house doors facing away from the wellbore so personnel would not be trapped in case of fire? **Yes, both directions**

94. Are the shaker motors explosion proof? **Yes**

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95. Is there an effective slugging tank? Yes

96. Are matches, lighters and cigarettes prohibited on the rig floor and safe smoking areas designated? Yes

97. Are safe welding areas designated? Yes, when necessary. There is not one set up right now.

98. When welding is done on location, does the supervisor inspect the area with welder before issuing a permit? Yes

99. Are all lights and wiring systems vapor proof? Yes

100. During perforating or cutting operations are radio transmissions shut down and personnel placed near the entrance of the location to limit traffic access? Yes

101. Are fire extinguishers located at suitable points and easily accessible? When were they last inspected? Yes

102. Are flood lights provided under the rig floor? Yes Are they clear and in working order? Yes

103. Is an operational steam cleaner/pressure washer available for maintenance of equipment? Yes

104. Is there a list of BOP accessory information and safety regulations on the rig? Yes, in the office

105. Are copies of all relevant company orders and BOP manual on the rig? Yes

106. Are company safety regulations clearly posted? No

RIG CREW TRAINING

107. Does Drilling Foreman have current certificate of Well Control Training? Yes

108. Do toolpushers, drillers and drill crew have certificates of well control training for their positions? Yes

109. Does the toolpusher have evidence of training (records, cards and certificates) in well control for all members of the crew? Yes

110. Are all new employees trained in their duties on the rig in the event of a well kick? Yes

111. Is a rig intercom system in place and operational with communication points located at drillers console, mud tanks, company rep., toolpusher and mud logger trailers? Yes

112. Is there an emergency plan in place and are the procedures reviewed at shift change? Yes

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Boots & Coots
Rig Audit Surface

AC_SED_01767 4518

WELL FILE SS-25A

DIRECTIONAL DRILLING REPORT

PACIFIC LIGHTING SERVICE COMPANY

WELL NO. I W - 6 9

ALISO CANYON

JOB NO _____ DATE 12-7-1972

U. S.

DIRECTIONAL DRILLING SYSTEMS

2852 GARDENIA AVE.

LONG BEACH, CALIFORNIA

SED 01769
AC_CPUC_0000858

SURVEY RECORD

VERT. SUB SEA 2927'
K.B. I5'
ELEVATION 2942'
8I4' SOUTH & 5373' WEST
OF STATION 84

JOB NO IW-69 ONE DATE I2-7-I972

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES NORTH	SOUTH	EAST	WEST	REMARKS
I	I20	.30	I20 00	I 04	S 82 W		I5		I 03	
2	330	.30	330 00	I 83	N 29 E	I 45			I5	
3	5I6	2.00	5I5 89	6 49	N 86 E	I 90		6 33		
4	600	I.30	599 86	2 20	S 88 E	I 82		8 53		
5	696	I.45	695 82	2 93	N 88 E	I 92		II 46		
6	808	I.45	807 76	3 42	N 75 E	2 8I		I4 77		
7	860	I.45	859 74	I 59	N 69 E	3 38		I6 25		
8	907	.30	906 74	4I	S 22 W	3 00		I6 Io		
9	I040	3.I5	Io39 53	7 54	N 04 W	I0 52		I5 57		
I0	II00	3.30	I099 42	3 66	N I0 W	I4 I2		I4 94		
II	I2I6	3.I5	I2I5 23	6 58	N 2I W	20 26		I2 58		
I2	I472	3.I5	I470 82	I4 5I	N I4 W	34 33		9 07		
I3	I748	2.30	I746 55	I2 04	N I3 W	46 06		6 36		
I4	207I	3.I5	2069 03	I8 3I	N 40 W	60 09			5 4I	
I5	2594	2.30	259I 5I	22 80	N 55 W	73 I7			24 09	
I6	27I0	3.00	2707 35	6 07	N 53 W	76 82			28 94	
I7	3030	2.45	3026 97	I5 36	N 75 W	80 79			43 78	
I8	3333	2.00	3329 79	I0 57	N 59 W	86 23			52 84	
I9	3460	2.00	3456 7I	4 43	N 64 W	88 I7			56 83	
20	3850	I.30	3846 59	I0 22	N I2 W	98 I7			58 96	
2I	3988	I.30	3984 55	3 6I	N 05 W	I0I 77			59 27	
22	4085	I.45	408I 50	2 96	N 05 W	I04 72			59 52	
23	4208	2.00	4204 43	4 29	N 26 E	I08 58			57 64	
24	430I	2.30	4297 34	4 06	N 26 E	II2 23			55 86	
25	4503	4.00	4498 86	I4 I0	N 5I E	I2I I0			44 90	
26	4705	6.00	4699 75	2I II	N 7I E	I27 98			24 94	
27	4938	7.00	493I 00	28 40	N 73 E	I36 29		2 22		
28	4958	7.45	4950 82	2 70	N 60 E	I37 64		4 56		
29	498I	9.30	4973 50	3 80	N 49 E	I40 I3		7 42		
30	5047	II.45	5038 I2	I3 44	N 39 E	I50 57		I5 88		
3I	5200	I2.30	5I87 49	33 II	N 36 E	I77 36		35 34		
32	5400	I2.30	5382 75	43 28	N 35 E	2I2 8I		60 I6		

SED 01770
AC_CPUC_0000859

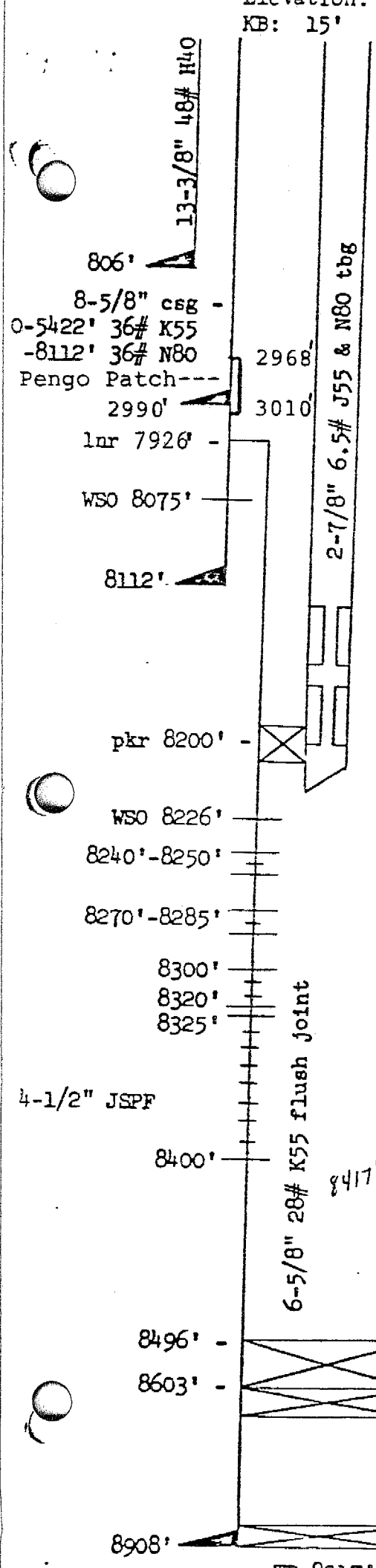
SURVEY RECORD

JOB NO IW-69 TWO DATE I2-7-I972

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES NORTH	SOUTH	EAST	WEST	REMARKS
33	5422	II.30	5404 3I	4 39	N 27 E	2I6 72		62 I6		
34	5453	II.45	5434 66	6 3I	N 2I E	222 6I		64 42		
35	55I9	I3.00	5498 97	I4 85	N I3 E	237 08		67 76		
36	56I0	I5.00	5586 87	23 55	N I4 E	259 93		73 45		
37	5804	I4.I5	5774 90	47 76	N I7 E	305 6I		87 4I		
38	5990	I3.I5	5955 95	42 63	N I9 E	345 92		I0I 29		
39	6076	I2.00	6040 07	I7 88	N I5 E	363 I9		I05 92		
40	6I07	II.30	6070 45	6 I8	N 07 E	369 33		I06 67		
4I	6I35	II.30	6097 89	5 58	N 0I W	374 9I		I06 57		
42	6238	I2.30	6I98 45	22 29	N 06 W	397 08		I04 24		
43	6425	I2.30	638I 02	40 47	N 05 W	437 40		I00 7I		
44	6642	I2.45	6592 66	47 89	N 04 W	485 I8		97 37		
45	6952	I2.45	6895 00	68 42	N 06 W	553 23		90 22		
46	7260	I2.45	7I95 39	67 98	N 08 W	620 55		80 76		
47	7573	I0.45	7502 9I	58 37	N 09 W	678 2I		7I 63		
48	767I 42	I0.00	7599 42	I7 02	N I0 W	694 97		68 68		
49	8023	I2.45	7942 73	77 69	N I3 W	770 67		5I 20		
50	8I00	I3.I5	80I7 68	I7 65	N I3 W	787 86		47 23		
THE FOLLOWING SURVEYS ASSUMED AS CORRECT										
5I	8II2	I3.I5	8029 36	2 75	N I3 W	790 54		46 6I		
52	8240	I3.00	8I54 08	28 80	N I3 W	8I8 60		40 I3		
53	8405	I3.00	83I4 85	37 I2	N I3 W	854 77		3I 78		
54	8672	I3.00	8575 0I	60 07	N I3 W	9I3 30		I8 26		
TD 55	8908	I3.00	8804 97	53 I0	N I3 W	965 04		6 32		
				HORIZONTAL DEPARTURE		965' N 0.23' E				
	THESE SURVEYS CORRECTED FOR I6° DECLINATION									

SED 01771
AC_CPUC_0000860

Elevation: 2927'
KB: 15'



Surface choke: _____

Casing flow string

--8156' Otis 2-1/2" SSSV
(8072') 2.313"ID, 1.125" min ID

--8196 No-Go 2.205"ID, Otis X-N
(8101') BH choke: _____

--8215'

--S4 8240' (8154')

--S8 8326' (8238')

8417' --(8327') (-5400')

--Frew 8672'

8903'

11/2/72 - Well spud
12/7/72 - Well completed
7/9/76 - 7/22/76 - Cleaned out t
8603', permanent bridge plug hac
moved up-hole, plugged back to
8496' and reperfed with jets, ra
tbg with SSSV.

10/19/81-10/29/81-installed
casing patch across leaking
collar from 2968' to 3010'.

Cubic Feet

Tubing	- 267
Csg/Lnr	- 52
Annulus	- 2326

11/24/81

INTEROFFICE SOUTHERN CALIFORNIA gas COMPANY CORRESPONDENCE

REVISED
April 18, 1983

J. B. Lane's Copy

TO J. P. Anand FROM G. C. Abrahamson DATE Dec. 31, 1982

SUBJECT Program, material request, budget cost estimate and DOG Notice to recomplete with 3-1/2" tubing and 5-1/2" casing as tubing at IW #69 at Aliso Canyon

Please find attached a program to replace 2-7/8" tubing with 3-1/2" tubing and 5-1/2" casing to act as both a tubing and inner string in the above-referenced well to maintain maximum withdrawal rate. The well records show the following current conditions: 13-3/8" cemented at 806', 8-5/8" cemented at 8112', WSO 8075', stage collar 2990' and casing patch 3010' - 2968', 992' 6-5/8" cemented at 8908', plugged to 8496', perforated 8400' - 8325', 8320' - 8300', 8285' - 8270' and 8250' - 8240', WSO 8226', top of liner 7926'. The well is completed with packer set at 8200' in 6-5/8" liner and 2-7/8" tubing with NO-GO nipple and 2-7/8" annular flow safety system.

As recommended by J. B. Lane we have programmed completion with 3-1/2" tubing top and bottom and 5-1/2" 20# K-55 Hydril triple seal to act as a tubing flow well. We propose to land this string on existing Otis 6-5/8" permatrieve packer set at 8200' or 284' below top of 6-5/8" liner and run 3-1/2" tubing to top of liner.

We have estimated 48 hours and $170,000 GWO; 56 hours and $45,000 MWO for a total of 104 hours, or 8 calendar days and $215,000.

The DOG NOTICE is being sent under separate cover for your handling.

If you desire any changes in the material as presented, please advise.

64-D

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO Mr. N. D. Stevenson FROM D. A. Marostica DATE January 20, 1983

SUBJECT Evaluation of Ultrasonic and Radiographic Inspection of Withdrawal Piping at Aliso Canyon

In response to your inquiry, Larry Tu evaluated the 3" casing withdrawal piping removed from IW-82 at Aliso Canyon. The piping section was located directly downstream from the surface safety valve. The piping section was cut off as a result of the recent ultrasonic inspection which showed significant pipe wall reduction due to sand erosion. The testing was conducted using an ultrasonic transducer scanning around the pipe circumference. The results indicated that the pipe wall was eroded to as thin as 0.28" and 0.33" at Location #4, as illustrated in Figure 1. These wall thickness readings were below the minimum requirement of 0.350". Radiographs were taken from four different angles at this pipe location, as shown in Figure 2.

The 3" pipe section was cut off in order to evaluate the pipe wall thickness measured by ultrasonic and radiographs. As shown in Figure 3, the pipe wall thickness was reduced to 0.33" at one location between the 12 o'clock and 3 o'clock position on the pipe. The ultrasonic measurement reported 0.32" in the same area on the pipe. The 6 o'clock to 9 o'clock pipe section wall thickness was measured as 0.47" versus the ultrasonically reported 0.46". These confirmed that the ultrasonic inspection conducted by moving the ultrasonic unit around the pipe circumference could detect the pipe erosion and accurately measure the pipe wall thickness. The radiographs also reported pipe erosion at two different orientations, as shown in Figures 2(a) and 2(d). But the radiographs could not provide accurate pipe wall thickness measurement, and it depends on the orientations.

The ultrasonic and radiographic inspection records for piping located at IW-81, P-47 and IW-69 are given in Figures 4 and 5, respectively. Both the ultrasonic and radiographic test results for Location #9 of IW-81 showed light erosion, but the reported pipe wall thicknesses were above the minimum design level, Figures 4(a) and 5(a).

The radiographic inspection reported by the X-ray contractor showed no erosion on 3" casing withdrawal piping at Location #1 of P-47 (Table 1), but the ultrasonic testing showed that the pipe wall thicknesses in most areas were below the minimum requirement. Detail examination of the radiographs by Engineering revealed that the pipe experienced a uniform rather than a groove type of erosion where one side of the pipe cross section wall was much thinner than the other side. This might have led the X-ray contractor to report no erosion on the pipe. Measurement on the radiographs showed that the pipe wall thicknesses at Location #1 ranged from 0.62" to 0.77", which were too high and unreasonable for 3" piping. Therefore, the pipe wall thickness measured by radiographs should be calibrated using ultrasonic test results.

64-D

The radiographs of 3" casing withdrawal piping at IW-69 showed erosion at Location #4, Figure 5(c). Pipe wall thickness measured from the radiographs showed a minimum value of 0.42". This pipe wall thickness should be corrected to read 0.34" using the ultrasonic test results.

In conclusion, both the radiographic and ultrasonic techniques are valuable tools for detecting sand erosion in withdrawal piping systems. Radiograph is useful for providing indication of pipe erosion, but it has the following drawbacks:

(a) It cannot provide accurate pipe wall thickness measurements.
(b) It depends critically on the film orientation.
(c) The film interpretation depends on training and skills.

The ultrasonic testing could be used to detect the location of erosion, and accurately give the pipe wall thickness if the pipe surface is reasonably smooth. The ultrasonic inspection should be conducted using a transducer scanning around the pipe circumference. Larry recommends that both the radiographs and ultrasonics should be used together for pipe erosion inspection, and Engineering should assist in interpreting the radiographic and ultrasonic test results.

LKLT/js
Attachments

cc: H. L. Aubin
J. A. Cordano, Jr.
L. J. Fast
J. W. Gourley
T. C. Harlan
B. F. Jones
B. A. King
W. E. Schickling
Q-83-7

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO Mr. N. D. Stevenson FROM B. A. King DATE March 9, 1983

SUBJECT Sand Erosion at Aliso Wells

Attached is a memorandum regarding the results of detailed radiographic tests on several Aliso Canyon wells. The radiographic scanning confirmed erosion in piping at wells IW 81, IW 82, IW 69, and P47. Engineering Design recommends replacing the small diameter piping with full-size lateral piping at all the wells except IW 81.

Please let us know if you agree with this recommendation and want us to proceed with providing design drawings to modify the existing piping.

DFS:lw
Attachment
cc: Messrs. J. F. Dixon
L. J. Fast
S. K. Gally
B. F. Jones
P. I. Plann
W. E. Schickling
J. W. Stidham
L. K. L. Tu
File E-82-136

64-D

SED 01776
AC_CPUC_0000899

MEMORANDUM

Additional Sand Erosion Tests Results: Aliso Canyon Wells

D. F. Sam

March 9, 1983

Last November Engineering issued a report on the findings of detailed ultrasonic tests of several wells at Aliso Canyon. Earlier radiographs of these 8 wells had indicated significant erosion at specific locations. The detailed ultrasonic tests provided quantitative confirmation of erosion for half the wells tested. Additional detailed radiographs of these 4 wells were taken last December. Larry Tu's report of January 20, 1983, discusses the results in detail. Briefly, the correlation of the ultrasonic data and the radiographs is very good. Also, an eroded portion of piping at IW 82 was removed and the wall thickness physically measured. The actual measured wall thickness also compared favorably with the ultrasonic readings.

Based on the most recent ultrasonic tests, the erosion detected at IW 81 is not in the main flow stream piping and the wall thickness is still above the minimum required, so replacement is not necessary here. However, a portion of the small diameter piping in wells IW 69, IW 82 and P47 has been eroded to below the minimum required wall thickness and should be replaced. Replacement in kind would be the simplest way to correct the damage to the piping, but it wouldn't improve the piping's resistance to erosion. Replacing all the small diameter transition piping with full-size lateral piping should reduce the erosion problem as well as repair existing damage.

All the data gathered so far supports the rule: $\rho V^2 \leq 8000$ for limiting the flow through the well lateral. Table 1 shows the transition pipe diameter, final lateral diameter, limiting flow rates for both diameters and the range of actual flow rates through the wells. In all 3 wells studied, the actual flow rate exceeds the recommended maximum for the transition pipe. This suggests that the transition piping is more susceptible to erosion. The radiographic and ultrasonic tests have proven this out since the detected erosion was in the small diameter transition piping for all 3 wells.

The main reason for having a portion of small diameter piping was to provide a sand probe tap in the high velocity flow stream. Currently, the flange of the surface safety valve is being drilled and tapped to accommodate the sand probe. Since it's no longer necessary to provide a run of small diameter piping, all the small diameter piping at IW 69, IW 82, and P47 should be replaced with full-size lateral piping.

The replacement work should be done at the end of this withdrawal season. The best way to make the transition from the small diameter surface safety valve and the large diameter lateral piping is to use an expander flange. These should be ordered as soon as possible since they are fairly long lead items. Additional piping modifications may be necessary to fit a larger pipe into the same space being occupied by a smaller pipe.

DFS:lw

TABLE 1

COMPARISON OF RECOMMENDED FLOW RATES PER: $PV^2 \leq 8000$ AND ACTUAL FLOW RATES FOR ALISO WELLS

WELL NO.	TRANSITION PIPE		FINAL LATERAL PIPE			ACTUAL FLOW RANGE (mmCF/D)
	DIAMETER (IN.)	MAXIMUM FLOW @1500 PSIG (mmCFD)	DIAMETER (IN.)	MAXIMUM FLOW @ 750 PSIG	MAXIMUM FLOW @1500 PSIG	
I.W. 69	4"	21.5	8"	62.8	84.5	37 - 75
I.W. 82	4"	21.5	6"	36.3	48.9	28 - 46
P. 47	3"	12.8	6"	36.3	43.7	18 - 43

SED 01779
AC_CPUC_0000902

VALLEY X-RAY SERVICES

2667 EAST 28th STREET, SUITE 512
SIGNAL HILL, CALIF. 90806
PHONE (213) 426-6409

SO. CALIF. GAS CO.

RADIOGRAPHIC INSPECTION REPORT

ALISO CANYON

Table 1.

IW-81 12-3-82

2" CASING WITHDRAWAL

CORROSION: NONE
EROSION: LIGHT EROSION AT WELD LOCATION # 9
SAND: NONE
LIQUID: NONE

.87 .64

IW-69 12-3-82

3" CASING WITHDRAWAL

CORROSION: NONE
EROSION: Heavy erosion at weld # 4
SAND: NONE
LIQUID: At welds 1-2-3

P-47 12-3-82

3" CASING WITHDRAWAL

CORROSION: NONE
EROSION: NONE
SAND: NONE
LIQUID: At welds 1-2-3

IW-82 12-3-82

3" CASING WITHDRAWAL

CORROSION: NONE
EROSION: Light to heavy erosion at weld # 4
SAND: NONE
LIQUID: At welds 1-2-3

P-30 12-3-82

4" CASING WITHDRAWAL

CORROSION: NONE
EROSION: NONE
SAND: NONE
LIQUID: NONE

IW-69

KB: 15' Elevation 2927' G.L. M.V. - 13'

Surface Choke:

Tubing Flow String

- 64' x-over 3½" 8rd x 5½" TS

11/2/72-Well spud
12/7/72- Well completed
7/9/76-7/22/76- Cleaned out to 8603', permanent bridge plug moved up hole, plugged back to 8496' and reperfed with jets, tbg. with SSSV.
10/19/81-10/29/81 - Installed casing patch across leaking collar from 2968' to 3010'.
4/20/83-4/27/83 - Installed 5½" large tubing with annulus inhibited with fluid to prevent gas leakage through casing patch.

13-3/8" 48# H40

806'

8-5/8" csg.
0-5422' 36#K55
-8112' 36#N80

Pengo Casing Patch
2968' -3010'

5½" 20# K-55 TS

---7856' x-over 5½" TS x 3½" 8rd.

--7890' Camco MMA mandrel w/ BST PUMP OUT PLUG SET TO SHEAR AT 4000PSI BOTTOM HOLE CASING PRESSURE (8057')

3½" EUE 8rd

Liner 7926'
WSO 8075'
8112'

---8142' Otis 3½" Sliding Sleeve - XA - run upside down (XO) with 2.750" profile.

---8176' Otis XN nipple - 2.750" x 2.635"

pkr. 8211'

--8218'

WSO 8226'

--S4 8240' (8154')

8240'-8250'

8270'-8285'

8300'
8320'
8325'

--S8 8326' (8238')

4-½" JSPF

8400'

--8433' (8342') (-5400')

6-5/8" 28# K55 Flush Joint

8496' -
8603' -

--Frew 8672'

8908'

TD 8917'

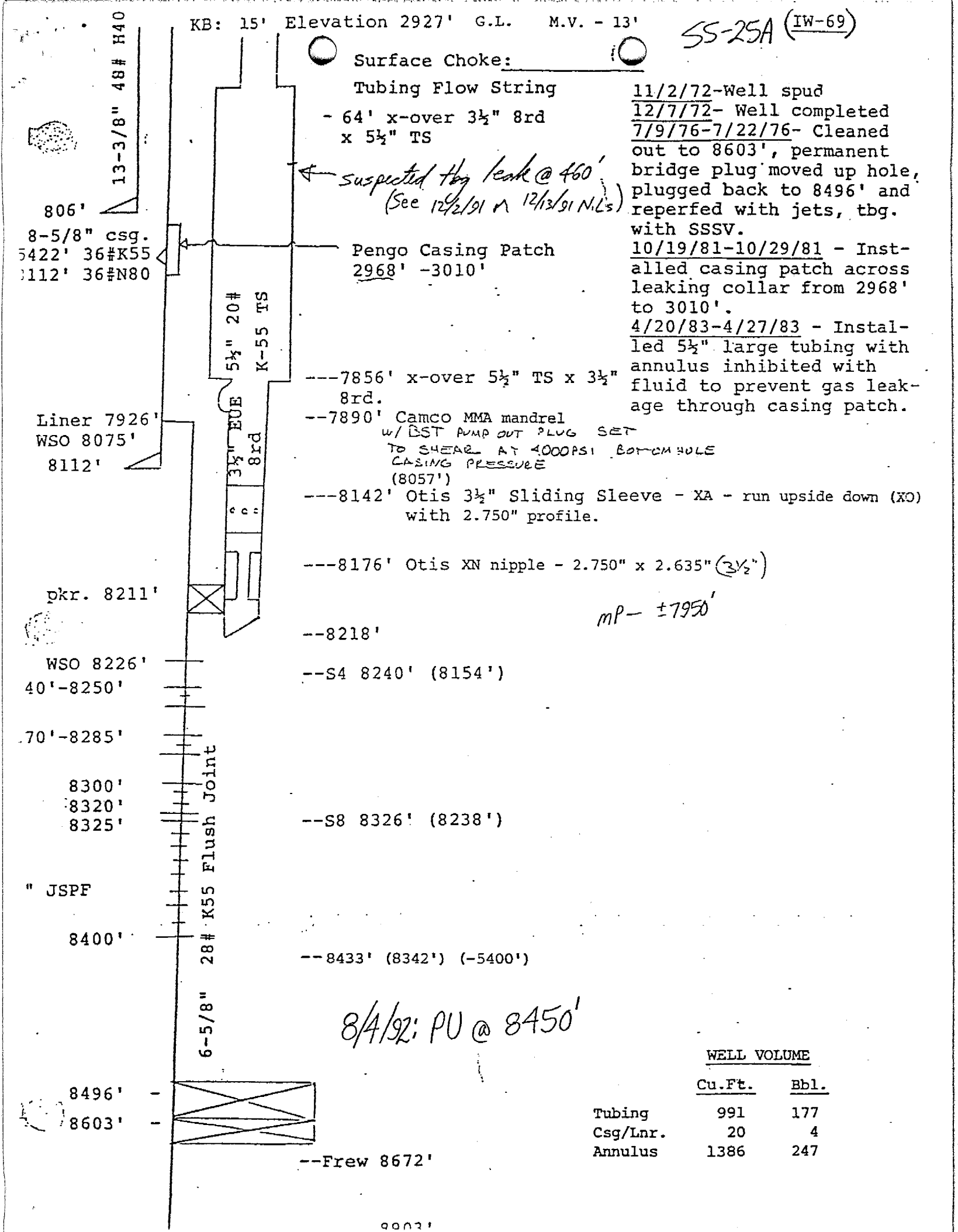
8903'
(SS-5876)

WELL VOLUME

	Cu.Ft.	Bbl.
Tubing	991	177
Csg/Lnr.	20	4
Annulus	1386	247

5/30/85

SED 01781
AC_CPUC_0000781



WELL VOLUME

	Cu.Ft.	Bbl.
Tubing	991	177
Csg/Lnr.	20	4
Annulus	1386	247

The Gas Company℠

Interoffice Memo

To: N.W. Buss/J.D. Mansdorfer

From: T.W. Schroeder

Date: November 22, 1993

Subject: **SS25A TUBING REPAIR, ALISO CANYON FIELD**

I hereby request Drilling review the above referenced well and schedule a rig to repair a shallow tubing leak as soon as possible.

In the past 3 years it appears that it has been standard practice to vent the casing annulus and thus prevent pressure from building against a Pengo Casing Patch at 2968' (see attached wellbore schematic). This casing pressure is transmitted from a tubing leak at approximately 460' which has worsened to the point that venting is no longer an option. It is believed that if the casing is left shut-in, injection pressure will build in the casing and jeopardize the integrity of the casing patch.

After finding it increasingly difficult to limit pressure on the casing/tubing annulus a plug was set in the tubing at 8176' on 10/22/93. The pressures on the well are currently 290# on the casing and 450# on the tubing. (Prior to this, tubing pressure was approximately 2700# and casing pressure could not be vented below 150#).

The SS25A well is vital to Aliso operations for 2 reasons. First, this well is the source well for the gas lift system and will be needed to sustain oil production as inventory falls. Secondly, this well has high withdrawal capacity at lower inventories and may be crucial to sustaining rate in the later part of withdrawal season.

Please advise should you have any questions on this matter.

CC: R.C. Wiegman

TWS/ym

SED 01783
AC_CPUC_0000874

WORKOVER PROGRAM

Operator: *Southern California Gas Company*

Field: *Aliso Canyon*

Well: *Standard Sesnon 25A (formerly IW-69)*

Objective: *Repair Large Diameter Tubing Leak(s).*

Contractor: *Pride Rig #447*

Approx. Location: *814' South and 5373' West from Station 84.*

Elevation: *Elevation 2927' (G.L.). Take all measurements from original kelly bushing which is 15' above ground level.*

Safety: *Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of the wellhead or near any other flammable material.*

Present Conditions:

0'	to 806'	13-3/8"	48# H-40	*Buttress*	
0'	to 5422'	8-5/8"	36# K-55	Pengo casing patch from 2968'-3010'.	
5422'	to 8112'	8-5/8"	36# N-80		
7926'	to 8908'	6-5/8"	28# K-55	Otis PW packer at 8211'. WSO @ 8226'. Perforations, 4-1/2" JSPF, 8240'- 8250', 8270' - 8285', 8300'- 8320', 8325'- 8400'. Bridge plug and cement from 8603' - 8496'. Est. 50' fill in bottom of liner.	

Tubing Detail Attached. **Note:** approximate depth of leak is 460'.

Work Category PR:

- Prepare surface as required.
- Perform any piano wire work required.
- Spot fluid tank on location.
- Check with the Resident Reservoir Engineer to determine any changes in the condition of the well since writing of this program and the current bottom-hole pressure in the vicinity of the well.
- Well kill requirements:

  a. Top of producing zone = 8240' MD, 8154' TVD.

  b. Estimated bottom-hole pressure 3000 psig.

  c. Calculated fluid density to provide 500 psig over-balance = 61.8 lbs./cu.ft. Use 63 lbs./cu.ft. KCL fluid with following additives while working on well:
  5 gals Hib 19/100 bbls workover fluid
  5 gals Ucarcide 125/100 bbls workover fluid
  2 gals COS/100 bbls workover fluid

  d. Overbalance = 567 psig.

  Tubing = 177 bbls.
  Annulus = 247 bbls.
  Casing/Liner = 4 bbls.
  TOTAL = 428 bbls.

  * Bleed off any gas to Gas Company system.

  * Obtain assistance from an Aliso Canyon field supervisor when killing well.

  * Be sure to bleed off surface string annulus.

  * Maintain surface volume equal to or greater than well volume during workover.

1) Move in and rig up.

- Bleed off all casing annulars to zero pressure and fill with workover fluid.
- Be sure well will stand full of fluid before proceeding. Notify the Drilling Engineer if well is not in this condition.
- Set equalizing back pressure valve in doughnut.
- Remove xmas tree and send in for repairs as necessary.

2) Install 9" Class III 5000 psig BOPE.

- Include Hydril bag and double gate with 3-1/2" and 5-1/2" pipe rams and blind rams.
- Bag and both sets of rams are to be actuated hydraulically by a 3000 psig minimum 60 gallon accumulator with dual remote control and auxiliary nitrogen.
- Install 9" minimum 5000 psig spool with choke and kill lines as well as check valve.
- Choke manifold to have discharge to Gas Company system, with block valve and bleeder as well as connections to kill fluid tank.
- Inspect Hydril bag when installing BOPE.
- Use new Rx API rings on all untested BOPE connections.

3) Pressure Test BOPE.

- Blind rams, 3-1/2" pipe rams and choke manifold are to be tested to 5000 psig with water.
- Test Hydril bag to 3500 psig with water.

4) Pull, inspect and repair tubing string.

- Remove back pressure valve.
- Pressure test well bore (casing/tubing) to 500 psig for 20 minutes.
  Note: isolation plug already set in Otis XN no-go nipple at 8176'.
- Pull and inspect large diameter tubing. Have at least 10 joints of 5-1/2" Hydril Triple Seal casing on site for replacement. Hydril representative to be on hand to inspect threads as the tubing is pulled from the well.

5) Run and land tubing.

- Pick up and run 3-1/2" x 5-1/2" x 3-1/2" tubing. Hydril representative to be on hand to inspect threads as 5-1/2" LDT is being run in well.
- Hydrotest tubing to 4000 psig while running in well.
- Tubing to include:

  - Otis guide shoe
  - Otis production tube
  - Otis (4) seals assembly
  - Otis straight-slot locator
  - 3-1/2" 8rd x 2-7/8" 10 rd crossover
  - one joint 3-1/2" N-80 8rd EUE tubing
  - Otis 3-1/2" XN no-go nipple
  - One joint 3-1/2" N-80 8rd EUE tubing
  - Otis 3-1/2" XO sliding sleeve (closed)
  - 8 joints 3-1/2" N-80 8rd EUE tubing
  - 3-1/2" 8rd EUE pup
  - 3-1/2" gas lift mandrel with 1-1/2" valve
  - One joint 3-1/2" N-80 8rd EUE tubing
  - 3-1/2"N-80 8rd EUE pin x 5-1/2" Hydril Triple Seal box
  - ~187 joints 5-1/2" K-55 Hydril Triple Seal casing
  - 5-1/2" K-55 TS Hydril pin x 3-1/2" N-80 8rd EUE box
  - 3-1/2" N-80 8rd EUE tubing and pups to surface as necessary

- Space out and land tubing with 40,000 lbs. on packer.
- Pressure test packer (along with casing) to 500 psig using a chart recorder.
- Keep tubing full and observe for returns while conducting pressure test.

6) **Remove BOPE and install xmas tree.**

- Install equalizing back pressure valve in doughnut.
- Remove BOPE.
- Install xmas tree.
- Tighten all wellhead bolts.
- Pressure test seals, xmas tree, seal flange and tubing head to 5000 psig with oil for 20 minutes.
- Check and close all wellhead valves.
- Install tapped flanges with bleeder valves on all wellhead valves.
- Open sliding sleeve.

7) **Rig down and move out rig.**

- Inform the Resident Engineer before moving off wellsite so proper wellsite safety protection can be arranged.
- Release rig.
- Clean wellsite by removing all trash, debris, equipment and materials.
- Conduct a post-rig wellsite inspection with the Resident Reservoir Engineer or Resident Reservoir Engineer's designee.

E. S. Sinclair
12/01/93

Approved: R. L. Patterson

ESS

cc:	*C. C. Affelt*	*w/o att.*	*H. Robinson*	*w/o att.*
	I. R. Binmore	*w/att.*	*T. W. Schroeder*	*w/att.*
	N. W. Buss	*w/o att.*	*R. A. Skultety*	*w/o att*
	J. A. Hemmerly	*w/att.*	*R. C. Wiegman*	*w/o att*
	J. D. Mansdorfer	*w/att.*	*M. A. Woiemberghe*	*w/att.*
	D. G. Neville	*w/att.*	*Tool Pushers (2)*	*w/att.*
	Rig Supervisor	*w/att.*	*File (w:\ac\ss25a\pgmss25a)*	*w/att.*

12/17/93 Mueller

Day 5. Killed well with 390 Bbls of 2% KCl. Circulated 195 Bbls. While laying down kill string, well started flowing. Closed well in. 150 psi build up on casing. Could not run in well with kill string. Pumped 371 Bbls of 2% KCl and circulated 50 Bbls. Closed well in with 0 psi on tubing and casing. Picked up and ran 2-7/8" tubing kill string to 5000'. Well started flowing. Circulated 300 Bbls 2% KCl. Closed well in with 0 psi pressure on both tubing and casing. Picked up and ran in well to 7750' with kill string. Secured well.

MWO 99732

Daily	$ 17,933
Cumulative	$ 58,541

12/20/93 Mueller

Day 6. Circulated 380 Bbls of 2% KCl water. Pulled out of well and laid down 2-7/8" kill string. Picked up and internally pressure tested 3-1/2" 9.3#, N-80, 8rd tubing w/ AB-modified collars and 3-1/2" production equipment in well. Picked up and internally pressure tested 5-1/2" 17#, K-55 Atlas Bradford FL4S large diameter tubing in hole @ 5000 psi.

MWO 99732

Daily	$ 5,474
Cumulative	$ 64,015

12/21/93 Mueller

Day 7. Picked up and internally pressure tested 5-1/2" large diameter tubing in well at 5000 psi. (total of 93 joints of 17# and 100 joints of 20# run in well). Secured well.

MWO 99732

Daily	$ 9,403
Cumulative	$ 73,418

12/22/93 Mueller

Day 8. Hydro-tested 3-1/2" tubing in well. Spaced out large tubing and landed with 39,000 lbs of compression on packer. Removed BOPE. Installed x-mas tree and tested to 5000 psi. Released rig at 1:00 p.m. 12/22/93.

MWO 99732

□

Daily	$ 24,132
Cumulative	$ 97,550

12/03/93 Jackson

Day 0. Moved rig from Montebello to Aliso Canyon for SS-25A workover.

MWO 99732

Daily	$ 13,500
Cumulative	$ 13,500

12/04/93 Jackson

Day 1. Continued rigging up. Mixed fluids. Bled casing from 500 psi to zero psi. Pumped 40 Bbls and bled gas from well. Repeated until full. Opened tubing still at 500 psi. Bled to zero. Pumped 40 Bbls and vented gas. Repeated until full. Pumped down tubing and had returns from casing at 300 psi. Well stood full. Set BPV. Removed xmas tree. Installed Class III 5000 psi BOPE. Tested casing against packer to 500 psi for 20 minutes on recorder. Tested BOPE. Secured well.

MWO 99732

Daily	$ 7,424
Cumulative	$ 20,924

12/06/93 Jackson

Day 2. Changed pipe rams to 5-1/2". Unlanded 3-1/2" x 5-1/2" large diameter tubing with 170,000 lbs. of pull, and pulled up to 210,000 lbs. Laid down 3-1/2" tubing. Visually inspected and laid down 5-1/2" 20# Hydril Triple Seal pipe. Approximately 40 joints out of 120 joints are estimated to need repair. Some scale and pitting was also found while visually inspecting 5-1/2" pipe.

MWO 99732

Daily	$ 3,530
Cumulative	$ 24,454

12/07/93 Jackson

Day 3. Opened well. Inspected and laid down 5-1/2" Hydril TS casing and 3-1/2" 8rd EUE tubing. Ran 66 jts. of 2-7/8" 8rd EUE tubing for a kill string. Suspended workover operations pending the inspection and repair of tubing. (Note: 2-7/8" pipe rams left in BOPE)

MWO 99732

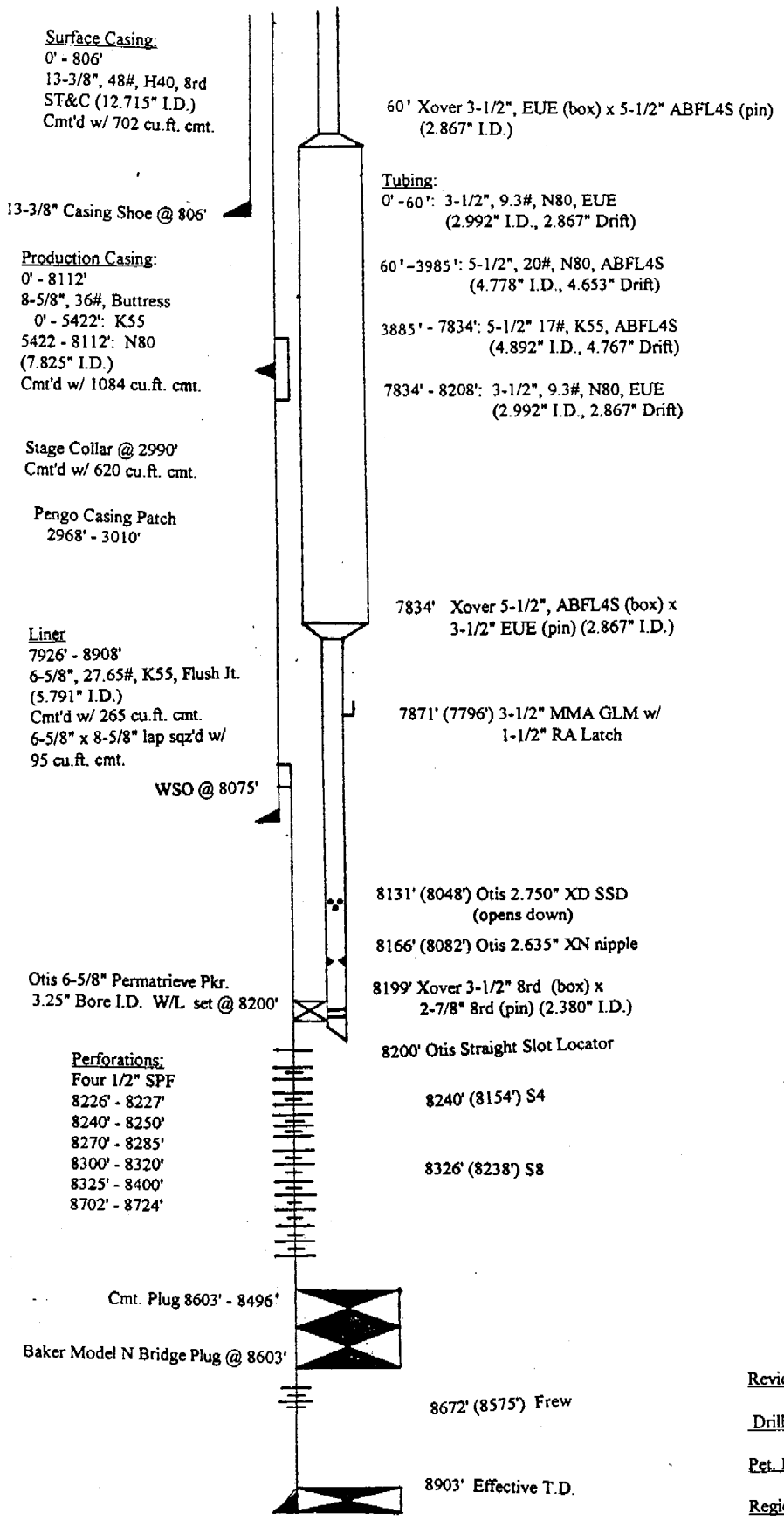
Daily	$ 13,353
Cumulative	$ 37,807

12/16/93 Mueller

Day 4. Attempted to kill well. While pumping 540 Bbls of inhibited 2% KCl @ 2100 psi. Stopped pumping. Well was not dead. Secured well.

MWO 99732

Daily	$ 2,801
Cumulative	$ 40,608



Well Name: Standard Sesnon 25A

Field: Aliso Canyon

Status: Injection/Withdrawal

Flow Regime: Large Tubing Flow

Elevation: 2927' G.L.
15' K.B.

Surf. Loc.: 814' South and 5373' West of Station 84, Sec. 28, T3N, R16W.

Btm.Hole Loc: 965' North & 6.32' East of surface @ 8805' TVD.

11/2/72-12/7/72: Well spudded and completed.

7/9/76-7/22/76: Cleaned out to 8603', permanent bridge plug moved up hole, plugged back to 8496' and reperfed with jets, tbg. w/ SSSV.

10/19/81-10/29/81: Installed casing patch across leaking collar from 2968'-3010'.

4/20/83-4/27/83: Installed 5-1/2" large tubing with annulus inhibited with fluid to prevent gas leakage through casing patch.

12/4/93-12/22/93: Replace 5-1/2" large tubing due to externally aligned pitting.

Volumes	Bbls	Cu.Ft.
Tubing	177	991
Annulus	247	1386
Csg./Liner	4	20
Total	424	2397

Reviewed	By	Date
Drilling		2/3/94
Pet. Eng.		2/3/94
Region		2/2/94

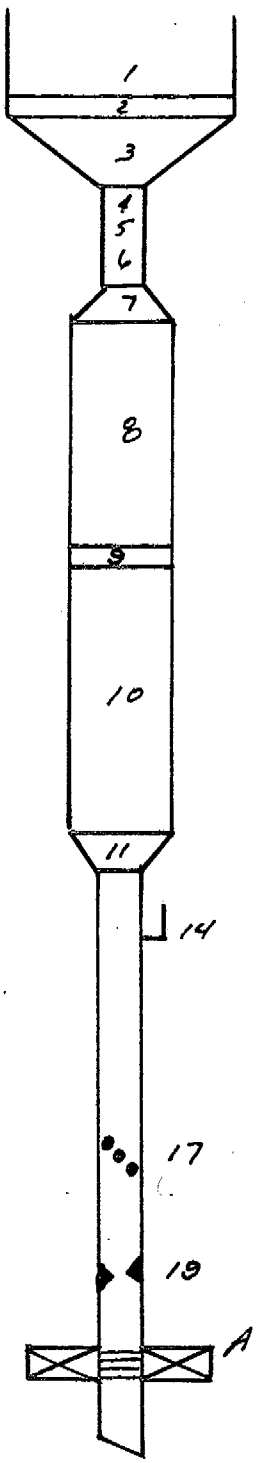
SED 01792
AC_CPUC_0000883

TUBING DETAIL

WELL: Standard Sesnon 25A
FIELD: Aliso Canyon

STATUS: Injection/Withdrawal
DATE: 12/22/93

DIAGRAM



	TUBING	TUBING	TUBING
SIZE	3-1/2"	5-1/2"	3-1/2"
WEIGHT	9.3#	20# & 17#	9.3#
GRADE	N80	N80 & K55	N80
THREAD	EUE 8rd	ABFL4S	EUE 8rd
DEPTH	60'	3985' & 7834'	8208'
I.D.	2.992"	4.778" & 4.892"	2.992"
DRIFT	2.867"	4.653" & 4.767"	2.867"
O.D.	4.500"	5.500"	4.500"

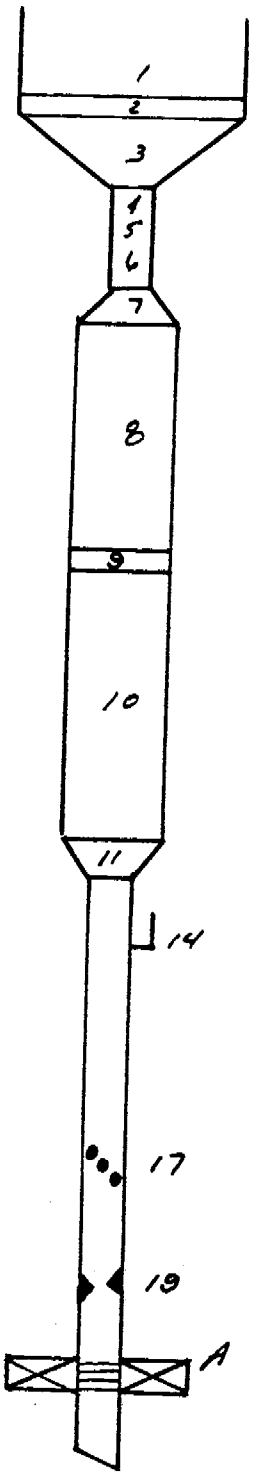
	DESCRIPTION	LENGTH	DEPTH
1	K.B.	15.00	15.00
2	Tbg. Head to G.L.	-2.50	12.50
3	Donut 3-1/2" x 3-1/2" EUE 8rd	.46	12.96
4	3-1/2" N80 Pup Jt.	7.55	20.51
5	3-1/2" N80 Pup Jt.	8.13	28.64
6	1Jt. 3-1/2" N80 Tbg.	31.65	60.29
7	X-over 3-1/2" 8rd x 5-1/2" ABFL4S	1.14	61.43
8	100 Jts. 5-1/2", 20#, N80 ABFL4S	3923.54	3984.97
9	X-over 5-1/2", 20# x 5-1/2", 17# ABFL4S	1.00	3985.97
10	93 Jts. 5-1/2", 17#, K55 ABFL4S	3848.09	7834.06
11	X-over 5-1/2", 17# x 3-1/2", 9.3#	.98	7835.04
12	1 Jt. 3-1/2" N80 Tbg.	31.50	7866.54
13	3-1/2" N80 Pup Jt.	4.14	7870.68
14	3-1/2" MMA GLM w/ 1-1/2" RA Latch	8.10	7878.78
15	3-1/2" N80 Pup Jt.	1.55	7880.33
16	8 Jts. 3-1/2" N80 Tbg.	250.98	8131.31
17	Otis 2.750" XD SSD (opens down)	3.55	8134.86
18	1 Jt. 3-1/2" N80 Tbg.	31.51	8166.37
19	Otis 2.635" XN no-go nipple	1.43	8167.80
20	1 Jt. 3-1/2" N80 Tbg.	31.50	8199.30
21	X-over 3-1/2" x 2-7/8" 8rd (2.380" I.D.)	.30	8199.60
22	St. Slot Locator (above)	.40	8200.00
	St. Slot Locator (inside)	.75	8200.75
23	4 seal units	4.04	8204.79
24	Production Tube	2.97	8207.76
25	Otis Guide Shoe	.40	8208.16
A.	Otis 6-5/8" Permatrieve Packer		
	w/ 3.25" Bore I.D. wireline set at:		8200.00
	Tubing landed w/ 39,000# on packer		
	Up wt.: 132,000#		
	Dn wt.: 114,000#		

TUBING DETAIL

WELL: Standard Sesnon 25A
FIELD: Aliso Canyon

STATUS: Injection/Withdrawal
DATE: 12/22/93

DIAGRAM



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	Up wt.: 132,000#		
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SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Standard Sesnon #25A, Sec. 28, T 3N, R 16W, S.B. & M.
A.P.I. No. 037-21322 Name M. A. Woiemberghe (Person submitting report) Title Agent (President, Secretary or Agent)
Date January 31 19 94

Signature J. A. Hemmerly for M. A. Woiemberghe

P. O. Box 3249 Los Angeles, CA 90051-1249 (213) 244-2687
(Address) (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date	
1993	
12/03	Moved rig from Montebello to Aliso Canyon for SS-25A workover.
12/04	Continued rigging up. Mixed fluids. Bled casing from 500 psi to zero psi. Pumped 40 Bbls and bled gas from well. Repeated until full. Tubing still at 500 psi. Bled to zero. Pumped 40 Bbls and vented gas. Repeated until full. Pumped down tubing and had returns from casing at 300 psi. Well stood full. Set BPV. Removed xmas tree. Installed Class III 5000 psi BOPE. Tested casing against packer to 500 psi for 20 minutes on recorder. Tested BOPE.
12/06	Changed pipe rams to 5-1/2". Unlanded 3-1/2" x 5-1/2" large diameter tubing with 170,000 lbs. of pull, and pulled up to 210,000 lbs. Laid down 3-1/2" tubing. Visually inspected and laid down 5-1/2" 20# Hydril Triple Seal pipe. Approximately 40 joints out of 120 joints are estimated to need repair. Some scale and pitting was also found while visually inspecting 5-1/2" pipe.
12/07	Inspected and laid down 5-1/2" Hydril TS casing and 3-1/2" 8rd EUE tubing. Ran 66 jts. of 2-7/8" 8rd EUE tubing for a kill string. Suspended workover operations pending the inspection and repair of tubing.
12/16	Attempted to kill well by pumping 540 Bbls of inhibited 2% KCl @ 2100 psi. Well was not dead at the completion of pumping.

D.O.G. 2/2/94

OG103 (6/91/GSR1/5M)

12/17 Killed well with 390 Bbls of 2% KCl. Circulated 195 Bbls. While laying down kill string, well started flowing. Closed well in. CSIP: 150 psi. Could not run in well with kill string. Pumped 371 Bbls of 2% KCl and circulated 50 Bbls. Closed well in with 0 psi on tubing and casing. Picked up and ran 2-7/8" tubing kill string to 5000'. Well started flowing. Circulated 300 Bbls 2% KCl. Closed well in with 0 psi pressure on both tubing and casing. Picked up and ran in well to 7750' with kill string.

12/20 Circulated 380 Bbls of 2% KCl water. Pulled out of well and laid down 2-7/8" kill string. Picked up and internally pressure tested 3-1/2" 9.3#, N-80, 8rd tubing w/ AB-modified 8rd collars and 3-1/2" production equipment in well. Picked up and internally pressure tested 5-1/2" 17#, K-55 Atlas Bradford FL4S large diameter tubing in well to 5000 psi.

12/21 Picked up and internally pressure tested 5-1/2" large diameter tubing in well to 5000 psi. (total of 93 joints of 17# and 100 joints of 20# run in well).

12/22 Hydrotested remainder of large diameter tubing in the well. Spaced out large diameter tubing and landed with 39,000 lbs of compression on packer. Removed BOPE. Installed xmas tree and tested to 5000 psi. Released rig at 1:00 p.m., 12/22/93.

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Standard Sesnon #25A, Sec. 28, T 3N, R 16W, S.B. & M.
A.P.I. No. 037-21322 Name M. A. Woiemberghe (Person submitting report) Title Agent (President, Secretary or Agent)
Date January 31, 19 94

Signature J. A. Hemmerly for M. A. Woiemberghe

P. O. Box 3249 Los Angeles, CA 90051-1249 (213) 244-2687
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12/16	Attempted to kill well by pumping 540 Bbls of inhibited 2% KCl @ 2100 psi. Well was not dead at the completion of pumping.

D.O.G. 2/2/94

OG103 (6/91/GSR1/SM)

dist/comp. 2/14/94

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12/22 Hydrotested remainder of large diameter tubing in the well. Spaced out large diameter tubing and landed with 39,000 lbs of compression on packer. Removed BOPE. Installed xmas tree and tested to 5000 psi. Released rig at 1:00 p.m., 12/22/93.

Report Date: 11/08/95

DAILY WELL ACTIVITIES SS 25A (IW69)

DATE	ACTIVITY/REMARKS
12/04/91	Shot sonic fluid levels: T - 8264', C - 1150', SITP = 2550 psig, SICP = 35 psig. Ran blanking plug to 2.75 XN no-go (8176')
12/13/91	Ran noise log, no apparent leakage or gas flow outside of pipe, suspected tubing leak @ 460', blanking plug in no-go @ 8176', OK (Inv - 47.1 BCF)
12/20/91	Pulled plug from 2.75 XN no-go (8176')
05/18/92	Ran temperature survey, anomalous behavior below 6500', monitor, PU - 8445' (Inv - 17.3 BCF)
08/04/92	Ran temperature survey, temp. break @ 8200' with subtle anomaly @ 8050', OK based on 12/13/91 N.L., PU - 8450' (Inv - 43.771 BCF)
08/05/92	Wellhead service: Tested all tubing head and casing head langes to 5000 psig, all tested OK on this date.
09/02/92	Wellhead sevice: packed off Type 63 seals and tested seal flanges, top of casing head to bottom of Type 63 seal flange tested OK to 5000 psig, top of seal flange to bottom of tubing head would only hold 4200 psig, top of tubing head and bottom of xmas tree flange tested OK to 5000 psig.
09/16/93	Ran temperature survey, tubing leak @ approx 460', csg venting; subtle cooling @ 7500' was quiet during noise log in 12/13/91.
12/04/93	Workover to replace 5-1/2" large tubing due to externally aligned pitting (12/4/93-12/22/93).
01/25/94	Ran temperature survey, OK
01/23/95	Sandtest: SIWHP NA, FWHP 740, FWHT 91, SC 1.100, ER .6, Q 40 MMcf/d.
10/12/95	Ran temperature survey, OK, TbgP 2340#; CsgP 760#; Inv. 61.5 Bcf.

WELLHEAD DESCRIPTION

Well No. IW-69 Standard Sesnon 25A

Field Aliso

Date Prepared 7-16-84 / 1-26-94

Wellhead Mfgr Shaffer

1. Casing Head Shaffer Size 13 5/8"x13 3/8" Type KD

   Slips & Pack-off 13 5/8"x8 5/8" 5000 psi

   A. Surface Csg. Size 13 3/8" Wt 48# Grade H-40

   B. Casing Head Valve Marpac Size 2" 3000 psi Fig.No. CSB-790-JN

2. Seal Flange Shaffer Size 13 5/8" x 10" 5000 psi

   A. Type Seal Lockscrew Ring BX-160 & R-54

3. Tubing Head Shaffer Size 10" x 8" 5000 psi Type

   Ring R-54 & Ring R-50

   Outlets 2-3" 5000 psi Sec.Seal Lockscrew

   Valve Removal Thrd 2-1/2" API

   A. Tubing Hanger Shaffer Size 8" x 3 1/2" Type AJO

   B.P.V. Size 3 1/2" Thrd EUE 8rd

   B. Tubing Head Valves McEvoy Size 3" 5000 psi Fig.No. 129

   C. Automatic Csg. Valve WKM Size 3" 5000psi Fig.No. 114522

4. Adapter Seal Flange Shaffer Size 8" x 3" Type AJO

   A. Ring Size R-50 & R-35

5. Master Valve McEvoy Size 3" 5000 Fig.No. 129

6. Xmas Tree Cross Shaffer Size 3 1/8" x 3 1/8" x 2 1/16" x 2 1/16" Thru 3 1/8" Bore

7. Tubing Wing Valves Rockwell Size 3" 5000 psi Fig.No. Across 2 1/16"

   A. Automatic Tbg. Valve WKM Size 3" 5000psi Fig.No. 114522

8. Unibolt Size 3" 5000 psi Inside Thrds 8rd

9. Wt. Landed in Csg. Head 290,000 Wt. 36# Grade K-55

10. Wt. Landed on Doughnut 93,000 3 1/2" x 5 1/2" Wt. Grade

11. Tubing Head to Ground Level 2.50

SS-25A Fluid level shot.
January 31, 1997

Tubing pressure- 1410#.
Casing pressure- 855#.

Casing shot has an echo around 7172'-7183' depending on acoustic velocity used.
Tubing shot has an echo at 7195'.

Temperature survey indicates a cooling break from 7173' to 7323'.
Pressure survey shows a gas gradient from surface to p/u. with no apparent fluid in the well.

Run a spinner w/ Csg/Tbg SI.
" " " " Csg flowing / blow down.

1/29: Psurvey- gas gradient to p/u.

	Tbg	Csg
2/4/97	1420	780

Report Date: 08/20/97

DAILY WELL ACTIVITIES SS 25A (IW69)

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12/04/91	Shot sonic fluid levels: T - 8264', C - 1150', SITP = 2550 psig, SICP = 35 psig. Ran blanking plug to 2.75 XN no-go (8176')
12/13/91	Ran noise log, no apparent leakage or gas flow outside of pipe, suspected tubing leak @ 460', blanking plug in no-go @ 8176', OK (Inv - 47.1 BCF)
12/20/91	Pulled plug from 2.75 XN no-go (8176')
05/18/92	Ran temperature survey, anomalous behavior below 6500', monitor, PU - 8445' (Inv - 17.3 BCF)
08/04/92	Ran temperature survey, temp. break @ 8200' with subtle anomaly @ 8050', OK based on 12/13/91 N.L., PU - 8450' (Inv - 43.771 BCF)
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12/04/93	Workover to replace 5-1/2" large tubing due to externally aligned pitting (12/4/93-12/22/93).
01/25/94	Ran temperature survey, OK
01/23/95	Sandtest: SIWHP NA, FWHP 740, FWHT 91, SC 1.100, ER .6, Q 40 MMcf/d.
10/12/95	Ran temperature survey, OK, TbgP 2340#; CsgP 760#; Inv. 61.5 Bcf.
02/02/96	Removed 1.10" Merla choke, installed 1.30" Merla choke, back in service. Inv. 28.2 Bcf.
05/16/96	Removed 1.30" tubing Merla choke, installed 1.1", back in service. Inv. 33.0 Bcf.
12/20/96	Removed 1.10" tubing choke, installed 1.30" Merla tubing choke, back in service.
01/13/97	Ran temperature survey, OK, TbgP 1480#; CsgP 760#; P/U 8455'. Note-beforehand, had to dissolve hydrates on the master valve and the tubing withdrawal wing valve. Inv. 17.9 Bcf.
01/29/97	Ran temperature survey, OK, TbgP 1420#; CsgP 780#; P/U 8454'. Ran pressure survey, OK, TbgP 1420#; CsgP 780#; P/U 8454'. Inv. 9.7 Bcf.
03/12/97	Ran temperature survey, OK, TbgP 1400#, CsgP 760#, P/U 8454'. Made unibolt repairs to alleviate tree
07/08/97	Removed 1.30" Merla tubing choke, installed 1.10" choke. Back in service.

Report Date: 08/20/97

DAILY WELL ACTIVITIES SS 25A (IW69)

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01/25/94	Ran temperature survey, OK
01/23/95	Sandtest: SIWHP NA, FWHP 740, FWHT 91, SC 1.100, ER .6, Q 40 MMcf/d.
10/12/95	Ran temperature survey, OK, TbgP 2340#; CsgP 760#; Inv. 61.5 Bcf.
02/02/96	Removed 1.10" Merla choke, installed 1.30" Merla choke, back in service. Inv. 28.2 Bcf.
05/16/96	Removed 1.30" tubing Merla choke, installed 1.1", back in service. Inv. 33.0 Bcf.
12/20/96	Removed 1.10" tubing choke, installed 1.30" Merla tubing choke, back in service.
01/13/97	Ran temperature survey, OK, TbgP 1480#; CsgP 760#; P/U 8455'. Note-beforehand, had to dissolve hydrates on the master valve and the tubing withdrawal wing valve. Inv. 17.9 Bcf.
01/29/97	Ran temperature survey, OK, TbgP 1420#; CsgP 780#; P/U 8454'. Ran pressure survey, OK, TbgP 1420#; CsgP 780#; P/U 8454'. Inv. 9.7 Bcf.
03/12/97	Ran temperature survey, OK, TbgP 1400#, CsgP 760#, P/U 8454'. Made unibolt repairs to alleviate tree
07/08/97	Removed 1.30" Merla tubing choke, installed 1.10" choke. Back in service.

8/26

SS-25
2320/2340 ✓

SS-25A
1860/1940 ✓

SS-25
2340/2340 ✓

The Gas Company™
Energy Transportation Services

Interoffice Memo

To: **Shift Operations**

From: **S. Cardiff**

Date: **August 26, 1998**

Subject: **SS 25A Temporary Casing Withdrawal Installation**

A temporary 3/16" stainless steel line has been installed from the casing kill to casing withdrawal in order to float the casing on withdrawal pressure. SS 25A has a casing patch which appears to be slightly leaking when casing pressures increase. K. Calkins and M. Dozier are supervising installation of a new pump plug to isolate the tubing and casing. Once this wireline work is complete, the casing should remain on withdrawal pressure in order to recover any gas which may have leaked out the casing patch.

M. Dozier will generate a MAXIMO order for Field Maintenance to install a permanent jumper line. If you have any questions, please let me know.

C:\FILES\SGCFILES\SS25A.DOC

cc: A. Thomas
J. Cerulle
W. Getze
T. Schroeder
J. Walsh

SED 01804
AC_CPUC_0000898

SSaSA

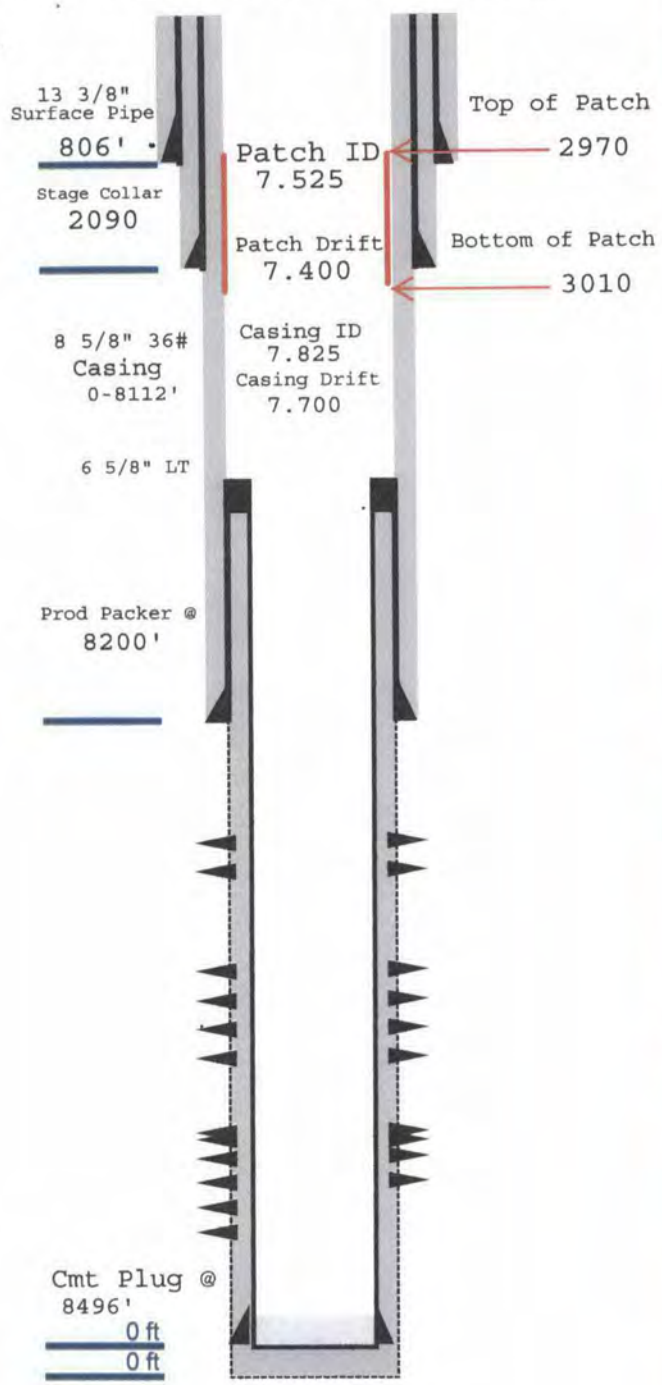
If you wish to calculate a worst case scenerio (can also be used as a screening tool) enter data in the cells below and the defect will be treated as a retangular area of corrosion.	
Wall Thickness	**0.4** inches
External Diameter	**8.625** inches
Flow Stress	**65,000** psi
Axial length of corrosion (ss)	**480.00** inches
Circumferential length of corrosion (cs)	**3.60** inches
Maximum depth of corrosion (ds)	**0.200** inches
Internal Pressure	**3,200** psi
Axial Force	**200,000** lbs
Curvature of String	**3** degrees
Temperature Change	**-20** F
Average Joint Length	**40** feet
Modulus (E)	**2.950E+07** psi
Thermal expansion (alpha)	**6.510E-06** in/in/deg F
Predicted failure pressure	**3,437 psi**

Weatherford/Homco Ca[illegible]g Patch

Set 9/08/2010 By Justin Medina

So[illegible]A. Gas Company

Wel[illegible] # SS 25A



HALLIBURTON

HALLIBURTON COMPLETION SERVICES

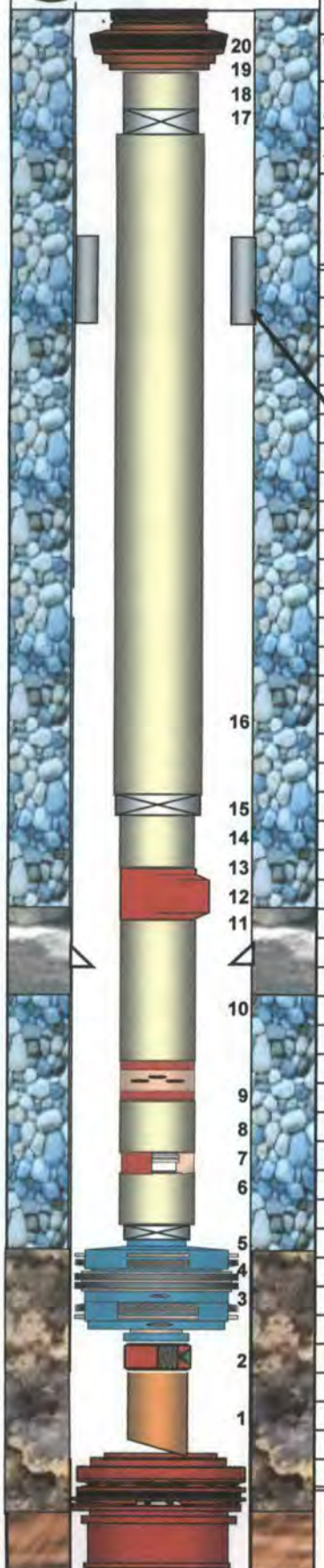
☐ Shoot & Pull | NEW

Company	Co. Representative	DATE
SO CAL GAS CO.	MIKE VOLKMAR // RON CARLSON	10/27/2010

Well Name	Field Name	County	STATE
SS 25 A	ALISO CANYON	LOS ANGELES	CA

	Size	Weight	Depth		Stage	TOL	FLUID WT.
Casing	6 5/8"	28#		C.O.E. 8180.59	1	7,926	N/A
	Size	Weight	Thread	BHA Length	Fluid Level in Tubing		FLUID TYPE
Tubing	5 1/2"	20#	A-B FL4S	370.93	FULL		N/A

Perforations	Gun Size	SPF	Charge Type	BHP	BHT	DEVIATION
to				NA		
	Phasing		Explosve Type		Charge Case	



Item	Description	OD	ID	Length	Depth
	NOTE: Up wt 158k Down wt 134K.				
	Packer set with 12k compression. Ball Catcher sub sheared				
	at 2450 psi.				
	HOMCO CASING PATCH 2970-3010				
29					
28					
27					
26					
25					
24					0.00
23					0.00
22	Slack off on packer for compression			-0.58	-0.58
21	KB			15.00	14.42
20	HANGER		2.867	0.46	14.88
19	3 1/2" eue 8rd N-80 2 ft pup with no collar	4.470	2.867	1.58	16.46
18	3 1/2" eue 8rd N-80 9.3# = **1 JOINT**	4.470	2.867	31.1	47.56
17	5 1/2" A-B FL4S pin X 3 1/2" eue 8rd box	5.510	2.867	1.25	48.81
16	5 1/2" 20# A-B FL4S Tubing = **202 JOINTS**	6.020	4.653	7795.31	7844.12
15	3 1/2" eue 8rd pin X 5 1/2" A-B FL4S	6.060	2.867	1.26	7845.38
14	3 1/2" eue 8rd N-80 9.3# = **1 JOINT**	4.470	2.867	31.18	7876.56
13	3 1/2" eue 8rd N-80 4 ft pup	4.470	2.687	3.70	7880.26
12	**3 1/2" Gas Lift Mandrel**	**5.188**	**2.687**	**6.12**	**7886.38**
11	3 1/2" eue 8rd N-80 4 ft pup	4.470	2.687	4.20	7890.58
10	3 1/2" eue 8rd N-80 9.3# = **7 JOINTS**	4.470	2.867	218.21	8108.79
9	**2 7/8" Slidding Sleeve (opens Down : closes Up)**	**4.470**	**2.813**	**4.25**	**8113.04**
8	3 1/2" eue 8rd N-80 9.3# = **1 JOINT**	4.470	2.867	31.18	8144.22
7	**3 1/2" NX Nipple (profile 2.750" no-go 2.635")**	4.470	2.750	1.40	8145.62
6	3 1/2" eue 8rd N-80 9.3# = **1 JOINT**	4.470	2.867	31.22	8176.84
5	2 7/8" eue 8rd pin X 3 1/2 eue 8rd Box	3.500	2.441	1.10	8177.94
4	**C.O.E.**	**5.515**	**2.365**	**2.65**	**8180.59**
3	6 5/8" 26-32# G-77 Bottom of Packer	5.515	2.365	3.39	8183.98
2	2 7/8" Ball Catcher Seat	3.500	2.441	0.38	8184.36
1	2 7/8" eue 8rd N-80 tubing with 45 cut out= **1 JOINTS**	3.687	2.441	30.69	8215.05
	Note: Top of 6 5/8" Perma-Trieve packer				8200.00

Prepared By: JESUS SOLORIO	Office: OXNARD	Phone: 805-271-1400

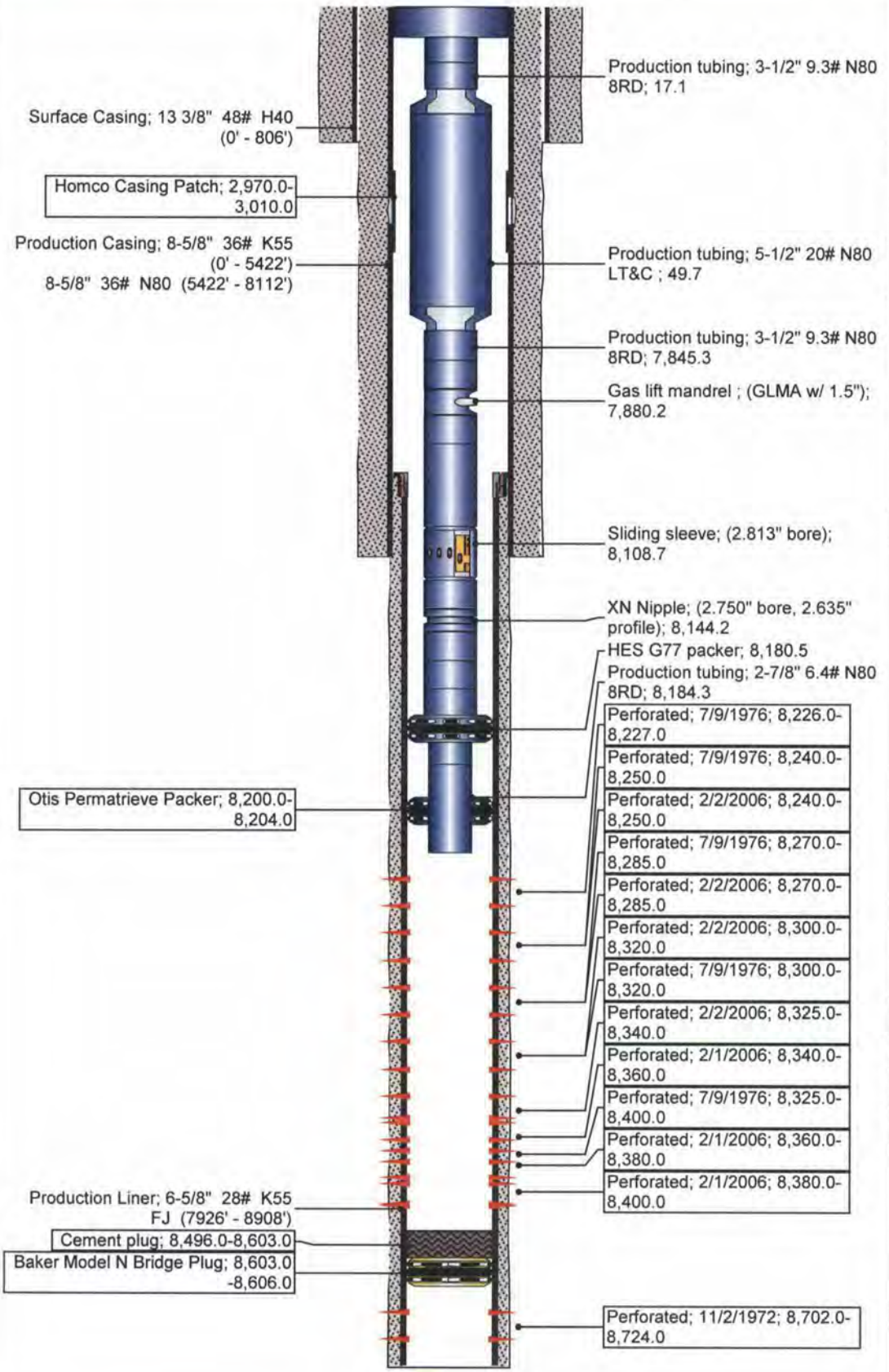
Standard Sesnon 25 A

Wellbore Schematic

Operator	Field Name	API	Well Type	Original KB Elevation (ft)	KB-Ground Distance (ft)	Total Depth (ftKB)
Southern California Gas Company	Aliso Canyon	03721322	Gas Storage	2,942.00	15.00	8,917.0

Main Hole, 11/29/2010 2:19:43 PM

Vertical schematic (actual)



Start Date	Summary
11/2/1972	Well spudded and completed.
7/9/1976	Cleaned out to 8603. Permanent bridge plug moved up hole. Plugged back to 8496' and re-perfed storage zone. Installed tubing with SSSV.
10/19/1981	Installed Pengo casing patch across leak from 2968' to 3010'.
4/20/1983	Installed 5-1/2" x 3-1/2" tubing with annulus inhibited with fluid to prevent gas leakage through casing patch.
12/4/1993	Replaced 5-1/2" x 3-1/3" tubing due to externally aligned pitting.
1/18/2006	Reperfed storage zone
8/2/2010	Replaced 5-1/2" x 3-1/2" tubing string due to external corrosion in 3-1/2". Pulled leaking Pengo patch. Ran USIT log. Installed a Homco casing patch (2970' - 3010'). Patch did not pressure test. Completed with 5-1/2" x 3-1/2" tubing.

Formations

Formation Name	Final Top MD (ftKB)
S4	8,240.0
S8	8,326.0
Frew	8,672.0

Standard Sesnon 25 A

Tubing Detail

Operator	Field Name	API	Well Type	Orig KB Elev (ft)	KB-Grd (ft)	TD (max) (ftKB)
Southern California Gas Company	Aliso Canyon	03721322	Gas Storage	2,942.00	15.00	8,917.0

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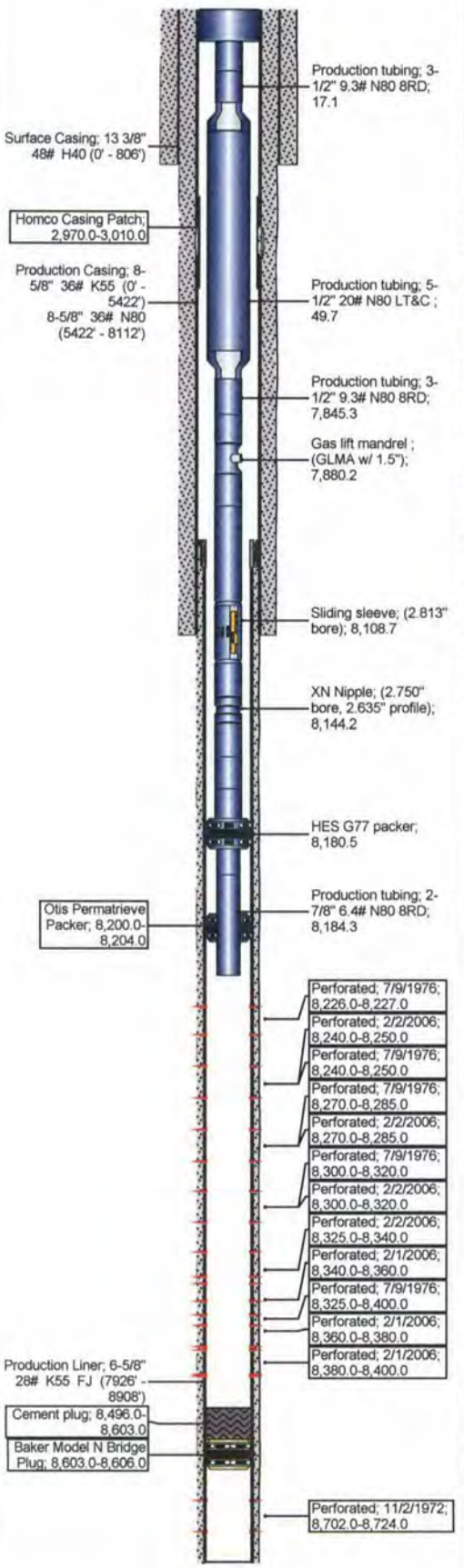

Production tubing set at 8,215.0ftKB on 8/10/2010 11:23

Item #	Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)
2-1		Tubing hanger	7.825	2.867			0.46	15.0	15.5
2-2		Pup joint	3 1/2	2.867	9.30	N80	1.58	15.5	17.1
2-3	1	Production tubing	3 1/2	2.867	9.30	N80	31.10	17.1	48.2
2-4		Cross over (3-1/2" x 5-1/2")	5 1/2	2.867			1.58	48.2	49.7
2-5	202	Production tubing	5 1/2	4.653	20.00	N80	7,794.33	49.7	7,844.1
2-6		Cross over (5-1/2" x 3-1/2")	5 1/2	2.867			1.26	7,844.1	7,845.3
2-7	1	Production tubing	3 1/2	2.867	9.30	N80	31.18	7,845.3	7,876.5
2-8		Pup joint	3 1/2	2.867			3.70	7,876.5	7,880.2
2-9		Gas lift mandrel	3 1/2	2.867			6.12	7,880.2	7,886.3
2-10		Pup joint	3 1/2	2.867			4.20	7,886.3	7,890.5
2-11	7	Production tubing	3 1/2	2.867	9.30	N80	218.21	7,890.5	8,108.7
2-12		Sliding sleeve	3 1/2	2.813			4.25	8,108.7	8,113.0
2-13	1	Production tubing	3 1/2	2.867	9.30	N80	31.18	8,113.0	8,144.2
2-14		XN Nipple	3 1/2	2.635			1.40	8,144.2	8,145.6
2-15	1	Production tubing	3 1/2	2.867	9.30	N80	31.22	8,145.6	8,176.8
2-16		Cross over (3-1/2" x 2-7/8")	3 1/2	2.441			1.10	8,176.8	8,177.9
2-17		COE	3 1/2	2.365			2.65	8,177.9	8,180.5
2-18		HES G77 packer	5 1/2	2.365			3.39	8,180.5	8,183.9
2-19		Ball catcher seat	2 7/8	2.441			0.38	8,183.9	8,184.3
2-20	1	Production tubing	2 7/8	2.441		N80	30.69	8,184.3	8,215.0

Standard Sesnon 25 A

Wellbore Schematic

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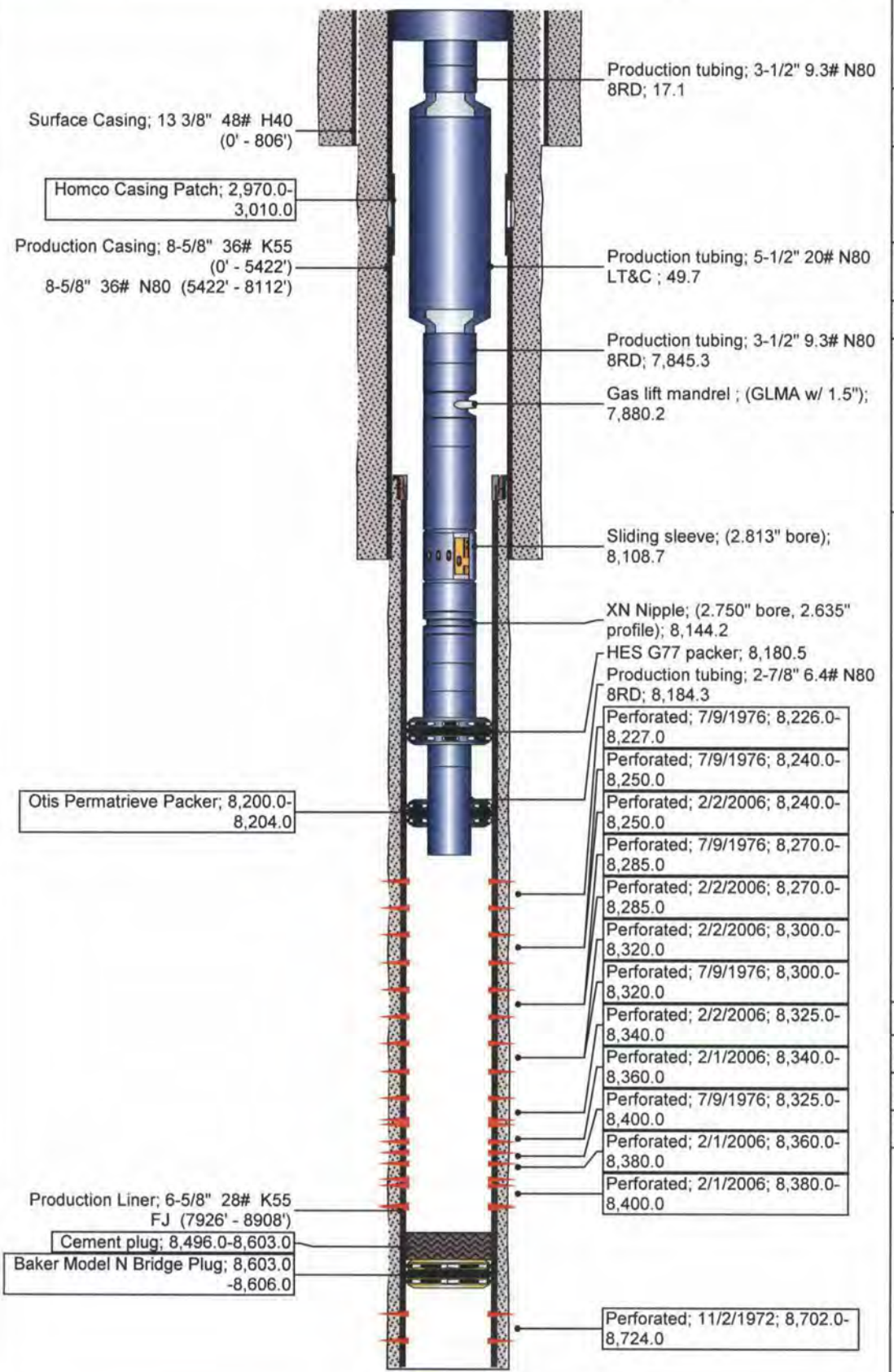

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RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 25 A
A.P.I. No. 03721322

Field: Aliso Canyon
Surface Location: Sec 28 3N 16W S.B.B.M.

County: Los Angeles

Dan Neville
Title: Senior Storage Field...
(President, Secretary, or Agent)

Date: 12/27/2010

Signature: [signature]
(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: 818-700-3810

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment, with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, and initial production data.

Start Date	Ops. DOGGR Rpt
8/3/2010	Opened well (2300 psi on tubing). Rigged up wire line. Pulled PXN plug at 8168'. Rigged down wire line. Rigged up for well kill. Pumped 50 bbls hi-vis polymer pill and displaced with 179 bbls 9.5 ppg KCL. Killed well per schedule with 430 bbl KCL water. Installed back pressure plug. Nippled up Class III BOP. Nippled up choke manifold. Rigged up accumulater and function tested BOP.
8/4/2010	Opened well (0 psi tubing and casing.) Filled well with 22 bbls. Rigged up testers. Tested blind rams to 5000 psi for twenty minutes (3" control valves leaking). Continued testing BOP. Tested pipe rams to 5000 psi and Hydril to 3500 psi for twenty minutes. Repaired control vavles. Tested to 5000 psi (pipe ram shaft seals leaking.) Shut down for repairs.
8/5/2010	Repaired pipe ram shaft packing. Tested to 500 psi (ram packing leaking would not test). Waited on equipment. Replaced pipe ram door. Replaced 3-1/8" control valve. Tested pipe rams to 300 psi low and 5000 psi high for twenty minutes. Tested 3 -1/8" control to 300 psi low and 5000 psi high.
8/6/2010	Tested pipe rams and 3" control valve to 5000 psi for twenty minutes (W. Beil DOGGR witnessed and approved BOP test). Filled well with 10 bbls. Backed out hold down studs. Unlanded tubing at 170,000#. Worked stuck tubing to 190,000#. Worked up 4.5' (Clutches out of adjustment, shut down for repairs).
8/9/2010	Filled well with 31 bbls. Rigged up Tiger wire line, made up free point tools and ran in well. Free at 2800', free at 3400', free at 7800', and free at 8150'. Pulled out of well and made up chemical cutter. Ran in well to 8150' and cut 3-1/2" tubing. Rigged out wire line unit. Rigged up casing tongs. Pulled out of well laying down 5-1/2" tubing to kill sting at 4000'.
8/10/2010	Filled well with 4 bbls. Pulled out of well and layed down 5-1/2" and 3-1/2 " tubing. Rigged out casing tongs. Changed pipe rams. Rigged up tubing equipment. Measured and picked up 3-1/2" work string to kill string at 3202'.
8/11/2010	Filled well with 7 bbls. Measured and picked up 3-1/2" tubing to 8150'. Engaged fish and pulled seals loose. Pulled out of well to 6000'.
8/12/2010	Filled well with 5 bbls. Pulled out of well laying down fish tools (recovered seals , no/go, one joint and 13' cut off of 3-1/2" tubing). Made up 7" spear, bumper sub, jars,(2) 4-3/4" drill collars and intensifer. Ran in well to 2968', engaged top cone of patch and jarred loose. Pulled out of well and layed down fish (recovered top cone). Made up fish tools and ran in well to 2969'. Engaged fish and jarred loose. Pulled to 2800'.
8/13/2010	Filled well with 9 bbls. Pulled out of well with casing patch. Layed down casing patch (recovered 41' casing patch, left 1' and bottom cone in well). Ran in well with kill string to 3000'.
8/16/2010	Filled well with 19 bbls. Pulled out of well with kill string. Made up 7" spear assembly ,bumper sub, jars, (2) 4-3/4" drill collars. Ran in well to fish at 3010'. Engaged fish and jarred loose. Pulled out of well (recovered 1' and bottom cone.) Layed down fishing tools. Made up 8-5/8" casing scraper with bumper sub and ran in well to 7640'.
8/17/2010	Filled well with 7 bbls. Ran in well to liner top at 7926'. Pulled out of well and layed down 8-5/8" scraper. Made up 6-5/8" casing scraper and ran in well to packer at 8200'. Pulled out of well to kill string at 3400'.
8/18/2010	Filled well with 9 bbls. Pulled out of well with kill string and laid down casing scraper. Nippled up shooting flange. Rigged up Schlumberger wireline and ran USIT log from 8200' to surface. Rigged down loggers and nippled down shooting flange. Ran in well with kill string to 3300'.
8/19/2010	Filled well with 5 bbls. Pulled out of well with kill string. Made up mill and (2) 4-3/4" drill collars and ran in well to 2980'. Attempted to work with tongs. (Shut down and wait for power swivel).
8/20/2010	Filled well with 9 bbls. Picked up power swivel and ran in well to 2990'. Cleaned up stage collar with 7-5/8" string mill. Pulled out of well and laid down mill and drill collars. Made up 6-5/8" bridge plug and ran in well to 7700'.
8/23/2010	Filled well with 13 bbls. Ran in well with bridge plug to 8127'. Set BP and tested to 500 psi for twenty minutes. Dumped 2 cu ft sand on BP. Pulled out of well (down 2 hours for rig repairs). Made up 8-5/8" lok-set bridge plug and ran in well to 2812'. Set BP and tested annulus to 1700 psi for twenty minutes (good). Ran in well to 3188' and set BP. Tested annulus to 1600 psi (bled to 0 psi in 13 minutes). Tested below packer to 500 psi for twenty minutes (good). Released BP.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company | Field: Aliso Canyon | County: Los Angeles
Well: Standard Sesnon 25 A | Surface Location: Sec 28 3N 16W S.B.B.M.
A.P.I. No. 03721322 | Dan Neville | Title: Senior Storage Field...
(President, Secretary, or Agent)

Date: 12/27/2010 | Signature: _____
(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300 | Telephone Number: 818-700-3810

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Start Date	Ops. DOGGR Rpt
8/24/2010	Fill well with 2 bbls. Set packer at 3218' and tested below packer to 500 psi for twenty minutes (good). Released packer and ran in well to 5410'. Set packer and tested below packer to 500 psi for twenty minutes (good). Released packer ran in well to 7900'. Set packer and tested to 500 psi for twenty minutes (all tests good). Released packer and pulled to 3200' kill string.
8/26/2010	Filled well with 7 bbls. Ran in well to 3000' and set packer. Tested annulus to 1600' psi (bled down to 0 in 14 minutes). Released packer and moved to 2980'. Tested annulus to 1600 psi for twenty minutes (good). Pulled out of well and laid down packer. Ran in well with 3100' kill string.
8/27/2010	Filled well with 2 bbls. Pulled out of well with kill string. Made up 8-5/8" bridge plug and packer assembly. Ran in well. (change in orders.) Pulled out of well and laid down packer and BP. Made up retrieving tool and ran in well to 8110'. Nippled up PGSR and circulated out sand. Released 6-5/8" bridge plug. Nippled down PGSR and pulled out of well to 6000'.
8/30/2010	Filled well with 40 bbls. Casing started flowing. Circulated well with 80 bbls. Pulled out of well and laid down 6-5/8" bridge plug. Made up 8-5/8" bridge plug and packer. Ran in well to 6000' and set and released from BP. Pulled to 5000' and set packer. Tested from 5000' to 6000' at 1000 psi for twenty minutes (good). Released packer and ran in well to 6000'. Released BP, pulled to 5000' and set BP. Pulled to 4000' and set packer. Tested from 5000' to 4000' to 1430 psi for twenty minutes (good). Released packer and ran in and released BP.
8/31/2010	Filled well with 7 bbls. Pulled to 4000' and set BP. Pulled to 3000' and set packer. Tested to 1870 psi for twenty minutes (good). Pulled to 2980' and set packer. Tested to 2230' (would not test - packer leaking due to not enough weight). Pulled out of well and laid down BP and packer. Picke up 8-5/8" full bore tension set packer. Ran in well to 2980' and set packer. Tested to 2230 for twenty minutes (good). Pulled to 2500' and set packer. Tested to 2450 for twenty minutes. Pulled to 2000' and set packer. Tested to 2670 for twenty minutes. (packer unloader not opening.) Pulled out of well and laid down packer. Ran in well with kill string.
9/1/2010	Filled well with 9 bbls. Pulled out of well with kill string. Made up 8-5/8" full bore packer and ran in well to 1500'. Tested to surface with 2890' for twenty minutes (good). Pulled to 1000' and tested to surface with 3110 psi for twenty minutes (good). Pulled to 500' and tested to surface with 3300 psi for twenty minutes (good) Pulled out of well and laid down packer. Made up 7.750 string mill (2) 4-3/4" drill collars and ran in well to 3180'. Pulled to 2800'. Nippled up PGSR.
9/2/2010	Filled well with 2 bbls. Rigged up power swivel and milled from 2950' to 3130'. Criculated clean. Pulled out of well and laid down mill. Made up casing patch and running tools. Applied expoy on casing patch and ran in well (stopped at 2117' top at 2077'). Attempted to work thru. Pulled out of well and laid down casing patch (while laying down patch crew member shut blind rams on patch). Ran in well with kill string to 3200'.
9/7/2010	Filled well with 27 bbls. Pulled out of well with kill string. Made up 7.75 string mill, 4-3/4" drill collar, 7-3/8" stabilizer, and 4-3/4" drill collar. Ran in well to 2077'. Picked up power swivel and reamed to 2150'. Ran in well to 3127'. Pulled out of well and laid down tools. Measured and picked up (2) jts of 7-3/8" wash pipe ran and in well to 3200' with no obstructions.
9/8/2010	Filled well with 4 bbls. Pulled out of well with kill string and laid down wash pipe. Made up WEA casing patch and ran to 2119'. Worked thru tight spot and ran to 2157'. Worked thru tight spot and ran to 2970' (top) and bottom at 3110'. Rigged up and set patch with pump at 4000 psi. Pulled thru with rig at 60,000#.
9/9/2010	Filled well with 5 bbls. Pulled out of well and laid down setting tools and 4-3/4" drill collars. Made up Baker 6.25" inflatable packer and ran in well to 3122'. Dropped ball and set packer with 1500 psi. Tested annulus to surface with 1870 psi for twenty minutes (100 psi loss in twenty minutes). Blew ball with 2000 psi and waited 30 minutes for element to relax. Pulled to 2935'.
9/10/2010	Filled well with 4 bbls. Pulled out of well and laid down packer. Made up 6-5/8" bridge plug and ran in well to 7978'. Set bridge plug and tested to 500 psi. Released from BP and pulled to 7920'. Landed in tubing hanger. Installed BPV and nippled down Class III BOP. Nippled up production tree.
9/13/2010	Rigged down hoist and loaded out equipment .
10/15/2010	Spotted tanks mud pump. Moved in and rigged up.

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Start Date	Ops. DOGGR Rpt
10/18/2010	Installed BPV plug and nippled down production tree. Nippled up class III BOP. Rigged up working floor and tubing equipment.
10/19/2010	Rigged up tester, installed BPV, and tested blind rams to 300 psi low and 5000 psi high for twenty minutes. Removed BPV and tested pipe rams to 300 psi low and 5000 psi high for twenty minutes. Tested Hydril to 300 psi low and 3000 psi high for twenty minutes. Tested all control valves and inside BOP, TIW valve to 300 psi low and 5000 psi high. (M Davis DOGGR waived witness of BOP test). Unlanded tubing and ran in well to 8025'. Engaged and released bridge plug. Pumped 50 bbls with full circulation (10 bbls to fill). Pulled out of well laying down 3-1/2" tubing to 7500'. Took gas kick circulation out gas cut fluids.
10/20/2010	Filled well with 10 bbls. Pulled out laying down 3-1/2 tubing. Pulled out of well and laid down bridge plug. Made up WEA inflatable test packer and ran in well to 3070'.
10/21/2010	Filled well with 5 bbls. Pulled to 3045', dropped dart and pressured to 2200 psi to set packer. Pressured annulus to 1870 psi for one hour (425 psi loss) Rigged up Western wireline, ran in well and retrieved dart. Pulled out of well with packer to 2950', dropped dart and pressued packer to 2200 psi to set packer. Pressured annulus to 2230 psi for one hour (no psi loss). Ran in well with wire line and retrieved dart. Pulled out of well and laid down packer. Ran in well with kill string to 3172'.
10/25/2010	Filled well with 15 bbls. Pulled out of well laying down kill string (104 jts.). Changed pipe rams to 5-1/2" and rigged up casing tongs. Made up 1 jt 2-7/8" tubing with mule shoe, ball seat, 6-5/8" HES G-77 hydraulic set packer, crossover, 1 jt 3-1/2" tubing, no/go nipple, 1 jt 3-1/2" tubing, 3-1/2" sliding sleeve, 7 jts 3-1/2" tubing, gas lift mandrel, 1 jt 3-1/2" tubing, 3-1/2" x 5-1/2" crossover. Ran in well with 5-1/2" LT&C casing applying seal lube to threads to 3500'.
10/26/2010	Filled well with 2 bbls. Measured and picked up 203 joints of 5-1/2" 20# LT&C casing to 8170'.
10/27/2010	Filled well with 2 bbls. Picked up 1 jt 3-1/2" tubing, spacing pup joints and tubing hanger. Dropped ball to set packer. Pressured tubing to 2000 psi to set packer. Pressured to 2500 psi to blow ballseat. Landed in tubing hanger with 12,000 lbs compression per HES tubing move. Made up hold down studs and tested annulus to 500 psi for twenty minutes (25 psi loss). Nippled down BOP and nippled up production tree.
10/28/2010	Rigged down hoist and loaded out equipment for rig move. Cleaned location.
10/29/2010	Installed laterals and blind flanges. Cleaned location.

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Comparison of water saturation by open hole and cased hole logs.

COMPANY	S. CAL GAS CO.
WELL	IW #69 SS # 25A
FIELD	ALISO CANYON
COUNTY	LOS ANGELES
STATE	CALIFORNIA

S 1	8134 ← Start here for Reservoir Properties
S 2	8180
S 4	8240
S 6	8272
S 8	8326
S 10	No pick
S 12	8436
S 14	8484
HZ	8515
S.S.	8530
Frac	8674
TD	8905

SS-25A
for Reserv. Properties Table
Record:
1. Depth
2. Effective Porosity (%)
3. Volume Shale (%)
4. Permeability (md)

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SED 01814
AC_CPUC_0000964

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Comparison of water saturation by open hole and cased hole logs.

COMPANY	S. CAL GAS CO.
WELL	IW #69 SS # 25A
FIELD	ALISO CANYON
COUNTY	LOS ANGELES
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S 10	No pick
S 12	8436
S 14	8484
HZ	8515
S.S.	8530
Fmw	8674
TD	8905

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Water Sat. Open Hole Cased Hole

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
809.0	11.	42.	100.	100.	1.	855.4	57.5	48.6	33369.
810.0	11.	42.	100.	100.	1.	855.2	57.5	48.6	33369.
811.0	12.	45.	100.	100.	1.	855.1	57.5	48.6	33368.
812.0	12.	44.	100.	100.	1.	855.0	57.5	48.6	33367.
813.0	13.	37.	100.	100.	2.	854.9	57.5	48.6	33366.
814.0	14.	27.	100.	100.	4.	854.8	57.5	48.6	33363.
815.0	15.	24.	100.	100.	5.	854.6	57.5	48.6	33359.
816.0	13.	34.	100.	100.	2.	854.5	57.5	48.6	33355.
817.0	13.	39.	100.	100.	2.	854.3	57.5	48.6	33352.
818.0	13.	40.	100.	100.	1.	854.2	57.5	48.6	33351.
819.0	13.	38.	100.	100.	2.	854.1	57.5	48.6	33350.
820.0	13.	35.	100.	100.	2.	854.0	57.5	48.6	33348.
821.0	14.	32.	100.	100.	3.	853.8	57.5	48.6	33345.
822.0	14.	33.	100.	100.	3.	853.7	57.5	48.6	33342.
823.0	13.	36.	100.	100.	2.	853.5	57.5	48.6	33340.
824.0	12.	42.	100.	100.	1.	853.4	57.5	48.6	33338.
965.0	13.	47.	100.	100.	1.	843.7	57.5	48.6	33329.
1004.0	17.	34.	100.	100.	5.	840.8	57.5	48.6	33323.
1005.0	21.	20.	100.	97.	19.	840.6	57.5	48.6	33313.
1006.0	16.	44.	100.	100.	2.	840.4	57.5	48.6	33299.
1019.0	13.	50.	100.	100.	1.	839.4	57.5	48.6	33295.
1021.0	13.	50.	100.	100.	1.	839.1	57.5	48.6	33294.
1022.0	13.	50.	100.	100.	1.	839.0	57.5	48	33293.
1038.0	14.	43.	100.	100.	2.	837.7	57.5	48.6	33289.
1039.0	14.	38.	100.	100.	2.	837.5	57.5	48.6	33287.
1040.0	14.	41.	100.	100.	2.	837.4	57.5	48.6	33285.
1041.0	14.	43.	100.	100.	1.	837.3	57.5	48.6	33283.
1042.0	13.	47.	100.	100.	1.	837.1	57.5	48.6	33282.
1043.0	14.	43.	100.	100.	1.	837.0	57.5	48.6	33281.
1044.0	14.	40.	100.	100.	2.	836.9	57.5	48.6	33279.
1045.0	14.	42.	100.	100.	2.	836.7	57.5	48.6	33277.
1046.0	14.	42.	100.	100.	2.	836.6	57.5	48.6	33276.
1047.0	13.	44.	100.	100.	1.	836.4	57.5	48.6	33274.
1172.0	12.	48.	100.	100.	1.	830.3	57.5	48.6	33266.
1173.0	13.	42.	98.	100.	1.	830.2	57.5	48.6	33265.
1174.0	14.	36.	91.	100.	2.	830.1	57.5	48.6	33263.
1175.0	14.	39.	95.	100.	2.	829.9	57.5	48.6	33261.
1176.0	13.	43.	99.	100.	1.	829.8	57.5	48.6	33259.
1177.0	12.	48.	100.	100.	1.	829.6	57.5	48.6	33258.
1185.0	12.	47.	100.	100.	1.	828.9	57.5	48.6	33255.

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DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1186.0	14.	38.	94.	100.	2.	828.8	57.5	48.6	33254.
1187.0	13.	39.	95.	100.	2.	828.6	57.5	48.6	33252.
1188.0	12.	44.	99.	100.	1.	828.5	57.5	48.6	33250.
1189.0	13.	45.	100.	100.	1.	828.4	57.5	48.6	33249.
1190.0	14.	42.	98.	100.	2.	828.2	57.5	48.6	33248.
1191.0	13.	41.	98.	100.	2.	828.1	57.5	48.6	33246.
1192.0	13.	43.	99.	100.	1.	828.0	57.5	48.6	33245.
1193.0	14.	40.	97.	100.	2.	827.8	57.5	48.6	33244.
1194.0	13.	43.	99.	100.	1.	827.7	57.5	48.6	33242.
1197.0	12.	47.	100.	100.	1.	827.3	57.5	48.6	33239.
1198.0	13.	42.	98.	100.	1.	827.2	57.5	48.6	33238.
1222.0	12.	45.	100.	100.	1.	824.9	57.5	48.6	33230.
1227.0	11.	47.	100.	100.	1.	824.4	57.5	48.6	33228.
1228.0	12.	42.	98.	100.	1.	824.3	57.5	48.6	33227.
1229.0	11.	47.	100.	100.	1.	824.2	57.5	48.6	33226.
1231.0	11.	50.	100.	100.	1.	824.0	57.5	48.6	33225.
1405.0	11.	50.	100.	100.	1.	811.9	57.5	48.6	33208.
1447.0	11.	46.	100.	100.	1.	808.3	57.5	48.6	33200.
1474.0	11.	50.	100.	100.	1.	805.9	57.5	48.6	33194.
1478.0	10.	49.	100.	100.	1.	805.5	57.5	48.6	33192.
1483.0	12.	46.	100.	100.	1.	805.1	57.5	48.6	33191.
1484.0	13.	39.	95.	100.	2.	804.9	57.5	48.6	33189.
1485.0	13.	39.	95.	100.	2.	804.8	57.5	48.6	33188.
1486.0	15.	31.	80.	100.	3.	804.7	57.5	48.6	33185.
1487.0	14.	34.	86.	100.	2.	804.5	57.4	48.6	33182.
1488.0	14.	35.	89.	100.	2.	804.4	57.4	48.6	33180.
1489.0	14.	38.	94.	100.	2.	804.2	57.4	48.6	33177.
1490.0	13.	41.	98.	100.	1.	804.1	57.4	48.6	33175.
1491.0	12.	46.	100.	100.	1.	804.0	57.4	48.6	33174.
1492.0	12.	48.	100.	100.	1.	803.9	57.4	48.6	33173.
1493.0	12.	48.	100.	100.	1.	803.7	57.4	48.6	33172.
1494.0	12.	46.	100.	100.	1.	803.6	57.4	48.6	33172.
1495.0	12.	49.	100.	100.	1.	803.5	57.4	48.6	33171.
1496.0	13.	43.	99.	100.	1.	803.4	57.4	48.6	33170.
1497.0	14.	36.	90.	100.	2.	803.2	57.4	48.6	33168.
1498.0	14.	35.	89.	100.	3.	803.1	57.4	48.6	33165.
1499.0	14.	35.	88.	100.	3.	803.0	57.3	48.6	33163.
1500.0	14.	35.	88.	100.	3.	802.8	57.3	48.6	33160.
1501.0	15.	34.	87.	100.	3.	802.7	57.3	48.6	33157.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1502.0	15.	31.	80.	100.	4.	802.5	57.3	48.6	33154.
1503.0	15.	33.	84.	100.	3.	802.4	57.3	48.6	33150.
1504.0	14.	39.	95.	100.	2.	802.2	57.2	48.6	33148.
1505.0	12.	49.	100.	100.	1.	802.1	57.2	48.6	33146.
1507.0	12.	48.	100.	100.	1.	801.9	57.2	48.6	33145.
1508.0	12.	50.	100.	100.	1.	801.7	57.2	48.6	33144.
1509.0	11.	50.	100.	100.	1.	801.6	57.2	48.6	33144.
1510.0	11.	50.	100.	100.	1.	801.5	57.2	48.6	33143.
1511.0	12.	49.	100.	100.	1.	801.4	57.2	48.6	33142.
1512.0	13.	41.	97.	100.	2.	801.3	57.2	48.6	33141.
1513.0	13.	43.	99.	100.	1.	801.2	57.2	48.6	33140.
1514.0	13.	44.	99.	100.	1.	801.0	57.2	48.6	33138.
1515.0	14.	41.	98.	100.	2.	800.9	57.2	48.6	33137.
1516.0	13.	43.	99.	100.	1.	800.8	57.2	48.6	33135.
1517.0	13.	42.	98.	100.	2.	800.6	57.2	48.6	33134.
1518.0	14.	38.	94.	100.	2.	800.5	57.2	48.6	33132.
1519.0	14.	36.	90.	100.	2.	800.3	57.2	48.6	33130.
1520.0	14.	38.	93.	100.	2.	800.2	57.2	48.6	33128.
1521.0	12.	44.	99.	100.	1.	800.1	57.2	48.6	33126.
1522.0	12.	47.	100.	100.	1.	799.9	57.2	48.6	33125.
1523.0	12.	45.	99.	100.	1.	799.8	57.2	48.6	33124.
1528.0	11.	49.	100.	100.	1.	799.3	57.2	48.6	33121.
1529.0	12.	47.	100.	100.	1.	799.2	57.2	48.6	33121.
1530.0	12.	47.	100.	100.	1.	799.0	57.2	48.6	33120.
1531.0	13.	45.	100.	100.	1.	798.9	57.2	48.6	33119.
1532.0	13.	41.	98.	100.	2.	798.8	57.2	48.6	33118.
1533.0	13.	43.	99.	100.	1.	798.7	57.2	48.6	33116.
1534.0	12.	47.	100.	100.	1.	798.5	57.2	48.6	33115.
1535.0	12.	49.	100.	100.	1.	798.4	57.2	48.6	33114.
1536.0	12.	49.	100.	100.	1.	798.3	57.2	48.6	33113.
1540.0	11.	49.	100.	100.	1.	797.8	57.2	48.6	33111.
1541.0	11.	47.	100.	100.	1.	797.7	57.2	48.6	33110.
1545.0	12.	49.	100.	100.	1.	797.3	57.2	48.6	33109.
1554.0	12.	47.	100.	100.	1.	796.3	57.2	48.6	33104.
1555.0	13.	45.	100.	100.	1.	796.2	57.2	48.6	33103.
1556.0	13.	46.	100.	100.	1.	796.1	57.2	48.6	33102.
1558.0	12.	49.	100.	100.	1.	795.8	57.2	48.6	33101.
1560.0	13.	46.	100.	100.	1.	795.6	57.2	48.6	33099.
1561.0	13.	44.	99.	100.	1.	795.5	57.2	48.6	33098.
1562.0	12.	48.	100.	100.	1.	795.3	57.2	48.6	33097.
1563.0	13.	43.	99.	100.	1.	795.2	57.2	48.6	33096.

Schlumberger
SED 01818
AC_CPUC_0000968

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1564.0	14.	35.	88.	100.	3.	795.1	57.2	48.6	33094.
1565.0	12.	42.	98.	100.	1.	794.9	57.2	48.6	33092.
1577.0	12.	48.	100.	100.	1.	793.7	57.2	48.6	33087.
1578.0	12.	49.	100.	100.	1.	793.6	57.2	48.6	33086.
1579.0	12.	48.	100.	100.	1.	793.4	57.2	48.6	33085.
1582.0	13.	46.	100.	100.	1.	793.1	57.2	48.6	33083.
1583.0	12.	47.	100.	100.	1.	793.0	57.2	48.6	33082.
1584.0	12.	49.	100.	100.	1.	792.8	57.2	48.6	33081.
1585.0	12.	49.	100.	100.	1.	792.7	57.2	48.6	33080.
1673.0	12.	50.	100.	100.	1.	789.6	57.2	48.6	33072.
1674.0	13.	44.	99.	100.	1.	789.5	57.2	48.6	33071.
1675.0	14.	42.	98.	100.	2.	789.4	57.2	48.6	33070.
1676.0	14.	39.	94.	100.	2.	789.2	57.2	48.6	33068.
1677.0	14.	36.	89.	100.	3.	789.1	57.1	48.6	33066.
1678.0	14.	35.	88.	100.	2.	788.9	57.1	48.6	33063.
1679.0	11.	47.	100.	100.	1.	788.8	57.1	48.6	33061.
1687.0	12.	47.	100.	100.	1.	788.2	57.1	48.6	33059.
1688.0	12.	46.	100.	100.	1.	788.0	57.1	48.6	33058.
1694.0	12.	45.	99.	100.	1.	787.4	57.1	48.6	33056.
1695.0	11.	48.	100.	100.	1.	787.3	57.1	48.6	33055.
1696.0	12.	46.	100.	100.	1.	787.2	57.1	48.6	33054.
1697.0	13.	42.	98.	100.	2.	787.1	57.1	48.6	33053.
1698.0	14.	41.	97.	100.	2.	787.0	57.1	48.6	33052.
1699.0	15.	35.	89.	100.	3.	786.8	57.1	48.6	33049.
1700.0	15.	35.	88.	100.	3.	786.7	57.1	48.6	33046.
1701.0	16.	31.	79.	100.	4.	786.5	57.1	48.6	33043.
1702.0	15.	33.	84.	100.	3.	786.3	57.0	48.6	33038.
1703.0	13.	42.	98.	100.	2.	786.2	57.0	48.6	33035.
1704.0	12.	49.	100.	100.	1.	786.1	57.0	48.6	33034.
1705.0	13.	47.	100.	100.	1.	785.9	57.0	48.6	33033.
1706.0	13.	42.	98.	100.	1.	785.8	57.0	48.6	33032.
1707.0	14.	41.	97.	100.	2.	785.7	57.0	48.6	33030.
1708.0	14.	39.	95.	100.	2.	785.5	57.0	48.6	33028.
1709.0	14.	40.	96.	100.	2.	785.4	57.0	48.6	33026.
1710.0	14.	36.	91.	100.	3.	785.3	57.0	48.6	33024.
1711.0	14.	41.	97.	100.	2.	785.1	57.0	48.6	33022.
1712.0	14.	40.	96.	100.	2.	785.0	57.0	48.6	33020.
1713.0	14.	38.	93.	100.	2.	784.8	57.0	48.6	33018.
1714.0	14.	40.	97.	100.	2.	784.7	57.0	48.6	33016.
1716.0	12.	50.	100.	100.	1.	784.5	57.0	48.6	33014.
1717.0	12.	48.	100.	100.	1.	784.3	57.0	48.6	33013.
1720.0	12.	44.	99.	100.	1.	784.0	57.0	48.6	33011.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1721.0	14.	39.	95.	100.	2.	783.9	56.9	48.6	33010.
1722.0	15.	35.	88.	100.	3.	783.7	56.9	48.6	33008.
1723.0	15.	35.	89.	100.	3.	783.6	56.9	48.6	33005.
1724.0	15.	35.	89.	100.	3.	783.4	56.9	48.6	33002.
1725.0	15.	31.	80.	100.	4.	783.3	56.9	48.6	32999.
1726.0	15.	36.	90.	100.	3.	783.1	56.9	48.6	32995.
1727.0	15.	37.	93.	100.	3.	783.0	56.8	48.6	32993.
1728.0	14.	42.	98.	100.	2.	782.8	56.8	48.6	32990.
1729.0	13.	47.	100.	100.	1.	782.7	56.8	48.6	32989.
1730.0	13.	48.	100.	100.	1.	782.6	56.8	48.6	32988.
1731.0	13.	46.	100.	100.	1.	782.4	56.8	48.6	32987.
1732.0	12.	49.	100.	100.	1.	782.3	56.8	48.6	32986.
1733.0	13.	48.	100.	100.	1.	782.2	56.8	48.6	32985.
1734.0	13.	46.	100.	100.	1.	782.1	56.8	48.6	32984.
1735.0	13.	46.	100.	100.	1.	781.9	56.8	48.6	32983.
1736.0	14.	42.	98.	100.	2.	781.8	56.8	48.6	32981.
1737.0	14.	41.	98.	100.	2.	781.6	56.8	48.6	32980.
1738.0	14.	41.	97.	100.	2.	781.5	56.8	48.6	32978.
1739.0	14.	43.	98.	100.	2.	781.4	56.8	48.6	32976.
1740.0	14.	41.	97.	100.	2.	781.2	56.8	48.6	32974.
1741.0	13.	45.	100.	100.	1.	781.1	56.8	48.6	32972.
1748.0	13.	45.	100.	100.	1.	780.4	56.8	48.6	32970.
1749.0	14.	39.	95.	100.	2.	780.3	56.8	48.6	32968.
1750.0	14.	39.	96.	100.	2.	780.1	56.8	48.6	32966.
1751.0	13.	46.	100.	100.	1.	780.0	56.8	48.6	32964.
1757.0	12.	47.	100.	100.	1.	779.5	56.8	48.6	32963.
1758.0	13.	45.	100.	100.	1.	779.4	56.8	48.6	32962.
1759.0	13.	43.	99.	100.	1.	779.3	56.8	48.6	32961.
1760.0	12.	47.	100.	100.	1.	779.1	56.8	48.6	32960.
1768.0	14.	42.	98.	100.	2.	778.3	56.8	48.6	32957.
1769.0	15.	38.	94.	100.	2.	778.2	56.8	48.6	32955.
1770.0	14.	43.	99.	100.	2.	778.0	56.8	48.6	32953.
1771.0	14.	40.	96.	100.	2.	777.9	56.8	48.6	32951.
1772.0	14.	39.	95.	100.	2.	777.8	56.8	48.6	32949.
1773.0	13.	43.	99.	100.	1.	777.6	56.8	48.6	32947.
1774.0	13.	44.	99.	100.	1.	777.5	56.8	48.6	32946.
1775.0	12.	49.	100.	100.	1.	777.4	56.8	48.6	32944.
1784.0	12.	48.	100.	100.	1.	776.5	56.8	48.6	32942.
1787.0	12.	47.	100.	100.	1.	776.2	56.8	48.6	32940.
1791.0	15.	39.	95.	100.	2.	775.7	56.8	48.6	32937.
1792.0	16.	27.	73.	100.	6.	775.5	56.8	48.6	32934.
1793.0	16.	30.	78.	100.	5.	775.4	56.7	48.6	32928.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1794.0	17.	26.	72.	100.	7.	775.2	56.7	48.6	32923.
1795.0	18.	19.	63.	100.	12.	775.0	56.6	48.6	32914.
1796.0	16.	27.	73.	100.	6.	774.9	56.6	48.6	32904.
1797.0	15.	34.	85.	100.	3.	774.7	56.5	48.6	32898.
1798.0	14.	37.	92.	100.	2.	774.5	56.5	48.6	32895.
1799.0	13.	40.	96.	100.	2.	774.4	56.5	48.6	32893.
1800.0	14.	41.	98.	100.	2.	774.3	56.5	48.6	32891.
1801.0	15.	37.	93.	100.	2.	774.1	56.5	48.6	32890.
1802.0	15.	34.	87.	100.	3.	774.0	56.5	48.6	32887.
1803.0	15.	35.	88.	100.	3.	773.8	56.5	48.6	32884.
1804.0	15.	37.	92.	100.	3.	773.7	56.4	48.6	32881.
1805.0	15.	36.	91.	100.	3.	773.5	56.4	48.6	32878.
1806.0	14.	39.	95.	100.	2.	773.4	56.4	48.6	32875.
1807.0	13.	45.	100.	100.	1.	773.2	56.4	48.6	32874.
1812.0	13.	46.	100.	100.	1.	772.7	56.4	48.6	32871.
1813.0	15.	39.	95.	100.	2.	772.6	56.4	48.6	32870.
1814.0	16.	30.	78.	100.	5.	772.4	56.4	48.6	32867.
1815.0	15.	33.	85.	100.	3.	772.3	56.4	48.6	32863.
1816.0	13.	38.	94.	100.	2.	772.1	56.3	48.6	32860.
1817.0	14.	35.	89.	100.	3.	772.0	56.3	48.6	32858.
1818.0	14.	42.	98.	100.	2.	771.8	56.3	48.6	32855.
1819.0	14.	40.	97.	100.	2.	771.7	56.3	48.6	32854.
1820.0	14.	40.	96.	100.	2.	771.6	56.3	48.6	32852.
1821.0	15.	39.	95.	100.	2.	771.4	56.3	48.6	32850.
1822.0	15.	38.	94.	100.	2.	771.3	56.3	48.6	32847.
1823.0	14.	41.	98.	100.	2.	771.1	56.3	48.6	32845.
1824.0	13.	47.	100.	100.	1.	771.0	56.3	48.6	32843.
1827.0	13.	45.	100.	100.	1.	770.6	56.3	48.6	32841.
1828.0	15.	39.	95.	100.	2.	770.5	56.3	48.6	32839.
1829.0	15.	38.	93.	100.	3.	770.3	56.3	48.6	32837.
1830.0	15.	36.	91.	100.	3.	770.2	56.3	48.6	32834.
1831.0	15.	36.	90.	100.	3.	770.0	56.2	48.6	32832.
1832.0	15.	35.	88.	100.	3.	769.9	56.2	48.6	32828.
1833.0	15.	33.	85.	100.	4.	769.7	56.2	48.6	32825.
1834.0	16.	31.	79.	100.	4.	769.6	56.2	48.6	32821.
1835.0	15.	35.	87.	100.	3.	769.4	56.2	48.6	32817.
1836.0	14.	38.	94.	100.	2.	769.3	56.1	48.6	32814.
1837.0	13.	43.	99.	100.	1.	769.1	56.1	48.6	32812.
1844.0	14.	41.	98.	100.	2.	768.4	56.1	48.6	32809.
1845.0	15.	30.	77.	100.	4.	768.2	56.1	48.6	32807.
1846.0	15.	31.	79.	100.	4.	768.1	56.1	48.6	32802.
1847.0	16.	29.	76.	100.	5.	767.9	56.0	48.6	32798.
1848.0	15.	34.	87.	100.	3.	767.8	56.0	48.6	32794.
1849.0	14.	41.	97.	100.	2.	767.6	56.0	48.6	32791.
1850.0	16.	30.	78.	100.	5.	767.5	56.0	48.6	32788.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1851.0	16.	28.	75.	100.	6.	767.3	55.9	48.6	32783.
1852.0	16.	30.	77.	100.	5.	767.2	55.9	48.6	32777.
1853.0	17.	28.	74.	100.	6.	767.0	55.9	48.6	32771.
1854.0	16.	27.	74.	100.	6.	766.8	55.8	48.6	32765.
1855.0	15.	34.	86.	100.	4.	766.7	55.8	48.6	32760.
1856.0	14.	41.	98.	100.	2.	766.5	55.8	48.6	32757.
1857.0	14.	44.	99.	100.	2.	766.4	55.8	48.6	32755.
1858.0	13.	48.	100.	100.	1.	766.2	55.8	48.6	32754.
1859.0	13.	48.	100.	100.	1.	766.1	55.8	48.6	32753.
1860.0	13.	46.	100.	100.	1.	766.0	55.8	48.6	32751.
1861.0	13.	46.	100.	100.	1.	765.8	55.8	48.6	32750.
1862.0	14.	43.	99.	100.	2.	765.7	55.8	48.6	32749.
1863.0	15.	42.	98.	100.	2.	765.6	55.8	48.6	32747.
1864.0	14.	44.	99.	100.	2.	765.4	55.8	48.6	32745.
1865.0	14.	42.	98.	100.	2.	765.3	55.8	48.6	32744.
1866.0	15.	37.	92.	100.	3.	765.1	55.8	48.6	32741.
1867.0	15.	40.	96.	100.	2.	765.0	55.7	48.6	32739.
1868.0	16.	35.	89.	100.	3.	764.8	55.7	48.6	32736.
1869.0	16.	34.	85.	100.	4.	764.7	55.7	48.6	32733.
1870.0	15.	37.	92.	100.	3.	764.5	55.7	48.6	32729.
1871.0	15.	37.	92.	100.	3.	764.4	55.7	48.6	32727.
1872.0	14.	42.	98.	100.	2.	764.2	55.7	48.6	32724.
1874.0	12.	50.	100.	100.	1.	764.0	55.7	48.6	32722.
1875.0	13.	46.	100.	100.	1.	763.8	55.7	48.6	32721.
1876.0	13.	41.	98.	100.	2.	763.7	55.7	48.6	32720.
1877.0	13.	41.	97.	100.	2.	763.6	55.7	48.6	32718.
1878.0	15.	35.	88.	100.	3.	763.4	55.7	48.6	32716.
1879.0	15.	37.	92.	100.	3.	763.3	55.6	48.6	32713.
1880.0	14.	42.	98.	100.	2.	763.1	55.6	48.6	32711.
1881.0	13.	46.	100.	100.	1.	763.0	55.6	48.6	32710.
1884.0	13.	45.	100.	100.	1.	762.7	55.6	48.6	32707.
1899.0	15.	40.	96.	100.	2.	761.1	55.6	48.6	32702.
1900.0	16.	33.	84.	100.	4.	761.0	55.6	48.6	32699.
1901.0	14.	39.	95.	100.	2.	760.8	55.6	48.6	32695.
1908.0	12.	49.	100.	100.	1.	760.0	55.6	48.6	32691.
1909.0	12.	47.	100.	100.	1.	759.9	55.6	48.6	32690.
1910.0	13.	47.	100.	100.	1.	759.8	55.6	48.6	32689.
1911.0	14.	43.	99.	100.	2.	759.7	55.6	48.6	32688.
1912.0	14.	42.	98.	100.	2.	759.5	55.6	48.6	32686.
1913.0	14.	43.	99.	100.	2.	759.4	55.6	48.6	32684.
1914.0	14.	43.	99.	100.	2.	759.2	55.6	48.6	32683.
1915.0	16.	32.	83.	100.	4.	759.1	55.6	48.6	32681.
1916.0	18.	19.	78.	99.	12.	758.9	55.5	48.6	32675.
1917.0	17.	23.	68.	100.	9.	758.7	55.5	48.6	32663.

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DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
1918.0	14.	36.	90.	100.	2.	758.6	55.4	48.6	32655.
1919.0	15.	34.	87.	100.	3.	758.4	55.4	48.6	32653.
1920.0	15.	38.	93.	100.	3.	758.3	55.4	48.6	32650.
1921.0	15.	38.	93.	100.	3.	758.1	55.4	48.6	32647.
1922.0	13.	46.	100.	100.	1.	758.0	55.4	48.6	32645.
1923.0	13.	47.	100.	100.	1.	757.9	55.4	48.6	32644.
1924.0	13.	46.	100.	100.	1.	757.7	55.4	48.6	32643.
1925.0	14.	43.	99.	100.	2.	757.6	55.4	48.6	32642.
1926.0	15.	38.	94.	100.	3.	757.5	55.4	48.6	32640.
1927.0	16.	35.	88.	100.	3.	757.3	55.4	48.6	32637.
1928.0	16.	33.	83.	100.	4.	757.1	55.4	48.6	32633.
1929.0	15.	37.	92.	100.	3.	757.0	55.3	48.6	32629.
1930.0	14.	43.	99.	100.	2.	756.8	55.3	48.6	32626.
1931.0	13.	48.	100.	100.	1.	756.7	55.3	48.6	32625.
1933.0	13.	47.	100.	100.	1.	756.5	55.3	48.6	32624.
1934.0	14.	42.	98.	100.	2.	756.3	55.3	48.6	32622.
1935.0	14.	41.	98.	100.	2.	756.2	55.3	48.6	32621.
1936.0	14.	43.	99.	100.	2.	756.0	55.3	48.6	32619.
1937.0	15.	33.	84.	100.	4.	755.9	55.3	48.6	32617.
1938.0	15.	32.	82.	100.	4.	755.8	55.3	48.6	32613.
1939.0	14.	36.	90.	100.	3.	755.6	55.3	48.6	32610.
1940.0	14.	36.	90.	100.	2.	755.5	55.2	48.6	32607.
1941.0	16.	31.	80.	100.	4.	755.3	55.2	48.6	32604.
1942.0	18.	22.	79.	96.	11.	755.1	55.2	48.6	32599.
1943.0	20.	10.	93.	85.	33.	755.0	55.2	48.5	32583.
1944.0	20.	8.	90.	85.	37.	754.8	55.1	48.5	32548.
1945.0	20.	11.	77.	82.	32.	754.6	55.1	48.5	32510.
1946.0	19.	18.	70.	92.	16.	754.4	55.1	48.4	32481.
1947.0	18.	23.	68.	96.	10.	754.2	55.0	48.4	32466.
1948.0	17.	28.	75.	100.	6.	754.0	55.0	48.4	32457.
1949.0	17.	29.	75.	100.	6.	753.8	54.9	48.4	32451.
1950.0	16.	33.	84.	100.	4.	753.7	54.9	48.4	32445.
1951.0	14.	42.	98.	100.	2.	753.5	54.9	48.4	32442.
1952.0	14.	40.	96.	100.	2.	753.4	54.9	48.4	32440.
1953.0	14.	41.	97.	100.	2.	753.2	54.8	48.4	32438.
1954.0	14.	39.	95.	100.	2.	753.1	54.8	48.4	32436.
1955.0	15.	36.	91.	100.	3.	752.9	54.8	48.4	32434.
1956.0	15.	39.	95.	100.	2.	752.8	54.8	48.4	32431.
1957.0	15.	40.	96.	100.	2.	752.6	54.8	48.4	32429.
1958.0	13.	45.	100.	100.	1.	752.5	54.8	48.4	32427.
1961.0	13.	43.	99.	100.	1.	752.1	54.8	48.4	32425.
1962.0	14.	39.	95.	100.	2.	752.0	54.8	48.4	32423.
1963.0	15.	34.	85.	100.	4.	751.9	54.8	48.4	32421.
1964.0	15.	31.	79.	100.	4.	751.7	54.8	48.4	32417.
1965.0	14.	38.	94.	100.	2.	751.5	54.7	48.4	32413.
2015.0	13.	46.	100.	100.	1.	748.0	54.7	48.4	32407.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
2094.0	17.	15.	75.	100.	14.	737.9	53.7	48.3	32134.
2095.0	15.	25.	71.	100.	5.	737.7	53.7	48.3	32122.
2096.0	15.	33.	83.	100.	4.	737.6	53.6	48.3	32118.
2097.0	18.	22.	66.	98.	11.	737.4	53.6	48.3	32113.
2098.0	19.	11.	69.	92.	26.	737.2	53.5	48.3	32098.
2099.0	19.	14.	64.	95.	20.	737.0	53.5	48.3	32073.
2100.0	18.	21.	64.	97.	12.	736.8	53.4	48.3	32056.
2101.0	19.	16.	62.	96.	17.	736.6	53.3	48.3	32044.
2102.0	20.	5.	74.	91.	45.	736.5	53.3	48.3	32023.
2103.0	20.	1.	80.	91.	58.	736.3	53.2	48.3	31969.
2104.0	19.	8.	73.	95.	33.	736.1	53.2	48.3	31916.
2105.0	19.	12.	68.	98.	22.	735.9	53.1	48.3	31886.
2106.0	18.	17.	61.	98.	15.	735.7	53.1	48.3	31866.
2107.0	18.	20.	63.	98.	12.	735.5	53.0	48.3	31851.
2108.0	18.	18.	60.	97.	14.	735.3	52.9	48.2	31838.
2109.0	18.	18.	60.	99.	14.	735.1	52.9	48.2	31823.
2110.0	18.	18.	60.	98.	14.	734.9	52.8	48.2	31810.
2111.0	18.	20.	63.	96.	13.	734.8	52.7	48.2	31795.
2112.0	19.	21.	64.	93.	13.	734.6	52.6	48.2	31783.
2113.0	19.	16.	59.	89.	19.	734.4	52.6	48.2	31769.
2114.0	19.	15.	64.	94.	20.	734.2	52.5	48.2	31748.
2115.0	18.	19.	62.	98.	13.	734.0	52.4	48.2	31731.
2116.0	18.	18.	62.	98.	14.	733.8	52.4	48.2	31718.
2117.0	18.	20.	64.	98.	12.	733.7	52.3	48.2	31705.
2118.0	19.	14.	64.	96.	20.	733.5	52.2	48.2	31691.
2119.0	19.	11.	69.	96.	25.	733.3	52.2	48.2	31668.
2120.0	18.	17.	63.	98.	15.	733.1	52.1	48.2	31646.
2121.0	19.	18.	61.	95.	15.	732.9	52.0	48.2	31632.
2122.0	19.	17.	62.	97.	16.	732.7	52.0	48.1	31618.
2123.0	18.	18.	64.	98.	15.	732.5	51.9	48.1	31603.
2124.0	18.	14.	69.	99.	18.	732.4	51.8	48.1	31587.
2125.0	18.	14.	70.	100.	15.	732.2	51.8	48.1	31568.
2126.0	16.	23.	68.	100.	6.	732.0	51.7	48.1	31556.
2127.0	17.	29.	76.	100.	6.	731.8	51.7	48.1	31550.
2128.0	16.	32.	82.	100.	4.	731.7	51.6	48.1	31544.
2129.0	15.	37.	92.	100.	3.	731.5	51.6	48.1	31540.
2130.0	14.	41.	98.	100.	2.	731.4	51.6	48.1	31537.
2134.0	13.	49.	100.	100.	1.	730.9	51.6	48.1	31534.
2135.0	14.	44.	99.	100.	2.	730.7	51.6	48.1	31533.
2136.0	15.	38.	94.	100.	2.	730.6	51.6	48.1	31531.
2137.0	15.	37.	92.	100.	3.	730.4	51.6	48.1	31528.
2138.0	14.	44.	99.	100.	1.	730.3	51.6	48.1	31526.
2139.0	13.	48.	100.	100.	1.	730.2	51.6	48.1	31525.
2140.0	14.	46.	100.	100.	1.	730.0	51.6	48.1	31524.
2141.0	15.	38.	94.	100.	3.	729.9	51.6	48.1	31522.
2142.0	15.	37.	92.	100.	3.	729.7	51.6	48.1	31519.
2143.0	16.	33.	84.	100.	4.	729.6	51.5	48.1	31516.

Schlumberger

SED 01824
AC_CPUC_0000974

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
2192.0	15.	37.	92.	100.	3.	720.9	48.8	47.8	30877.
2193.0	15.	37.	92.	100.	3.	720.7	48.8	47.8	30874.
2194.0	13.	45.	100.	100.	1.	720.6	48.8	47.8	30872.
2204.0	14.	42.	98.	100.	2.	719.5	48.8	47.8	30867.
2205.0	13.	45.	100.	100.	1.	719.4	48.8	47.8	30866.
2241.0	12.	49.	99.	99.	1.	716.2	48.8	47.8	30857.
2242.0	11.	50.	99.	100.	1.	716.1	48.8	47.8	30856.
2721.0	13.	47.	97.	99.	1.	689.4	48.8	47.8	30832.
2722.0	12.	48.	98.	100.	1.	689.3	48.8	47.8	30831.
2723.0	12.	47.	97.	100.	1.	689.2	48.8	47.8	30830.
2724.0	13.	46.	95.	100.	1.	689.1	48.8	47.8	30829.
2725.0	12.	46.	96.	100.	1.	688.9	48.8	47.8	30828.
2726.0	12.	47.	97.	100.	1.	688.8	48.8	47.8	30827.
2727.0	13.	46.	96.	100.	1.	688.7	48.8	47.8	30826.
2728.0	12.	48.	98.	97.	1.	688.6	48.8	47.8	30825.
2729.0	12.	46.	96.	98.	1.	688.4	48.8	47.8	30824.
2730.0	12.	45.	95.	96.	1.	688.3	48.8	47.8	30823.
2731.0	13.	41.	88.	87.	2.	688.2	48.7	47.8	30822.
2732.0	13.	37.	80.	91.	2.	688.1	48.7	47.7	30821.
2733.0	13.	36.	79.	98.	2.	687.9	48.7	47.7	30819.
2734.0	12.	39.	84.	100.	1.	687.8	48.7	47.7	30817.
2735.0	12.	43.	91.	100.	1.	687.7	48.7	47.7	30816.
2736.0	13.	41.	89.	100.	1.	687.6	48.7	47.7	30815.
2737.0	14.	40.	87.	99.	2.	687.4	48.6	47.7	30813.
2738.0	14.	40.	86.	96.	2.	687.3	48.6	47.7	30811.
2739.0	13.	40.	86.	87.	2.	687.2	48.6	47.7	30810.
2740.0	13.	36.	79.	90.	2.	687.0	48.6	47.7	30808.
2741.0	13.	39.	83.	99.	2.	686.9	48.6	47.7	30806.
2742.0	14.	37.	80.	99.	2.	686.8	48.5	47.7	30804.
2743.0	13.	39.	85.	97.	2.	686.6	48.5	47.7	30802.
2744.0	12.	39.	83.	100.	1.	686.5	48.5	47.7	30800.
2745.0	13.	41.	88.	100.	1.	686.4	48.5	47.7	30799.
2749.0	15.	36.	77.	100.	3.	685.9	48.4	47.7	30795.
2750.0	14.	38.	83.	100.	2.	685.8	48.4	47.7	30792.
2751.0	14.	41.	88.	100.	2.	685.6	48.4	47.7	30790.
2752.0	13.	45.	94.	99.	1.	685.5	48.4	47.7	30788.
2753.0	13.	47.	97.	100.	1.	685.4	48.3	47.7	30787.
2754.0	14.	42.	91.	97.	2.	685.2	48.3	47.7	30786.
2755.0	14.	42.	90.	80.	2.	685.1	48.3	47.7	30784.
2756.0	13.	41.	87.	94.	2.	685.0	48.3	47.7	30783.
2757.0	15.	38.	83.	94.	2.	684.8	48.3	47.6	30781.
2758.0	15.	38.	82.	93.	3.	684.7	48.3	47.6	30778.
2759.0	15.	36.	78.	83.	3.	684.5	48.2	47.6	30776.
2760.0	15.	37.	80.	84.	3.	684.4	48.2	47.6	30773.

Schlumberger

DEPTH	EFF	VOL	--SATUR--		PERM	----------INTEGRATIONS---------			
	POR	SH	OH	CH		PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
2860.0	14.	39.	84.	76.	2.	671.3	46.5	46.2	30599.
2861.0	13.	43.	91.	83.	1.	671.1	46.4	46.2	30597.
2862.0	13.	42.	91.	83.	1.	671.0	46.4	46.1	30596.
2863.0	13.	41.	88.	83.	2.	670.9	46.4	46.1	30595.
2864.0	14.	39.	84.	75.	2.	670.7	46.4	46.1	30593.
2865.0	13.	42.	90.	90.	1.	670.6	46.4	46.0	30591.
2866.0	12.	47.	97.	98.	1.	670.5	46.4	46.0	30590.
2867.0	13.	41.	89.	95.	1.	670.3	46.4	46.0	30589.
2868.0	14.	36.	92.	84.	2.	670.2	46.3	46.0	30587.
2869.0	15.	33.	85.	70.	3.	670.1	46.3	46.0	30585.
2870.0	15.	34.	77.	70.	3.	669.9	46.3	46.0	30582.
2871.0	15.	34.	75.	67.	3.	669.8	46.3	45.9	30579.
2872.0	15.	35.	76.	70.	3.	669.6	46.2	45.9	30575.
2873.0	15.	38.	81.	68.	2.	669.5	46.2	45.8	30573.
2874.0	15.	36.	78.	67.	3.	669.3	46.2	45.8	30570.
2875.0	14.	37.	79.	69.	2.	669.2	46.1	45.7	30568.
2876.0	14.	37.	80.	70.	2.	669.0	46.1	45.7	30565.
2877.0	14.	37.	80.	79.	2.	668.9	46.1	45.6	30563.
2878.0	13.	45.	95.	92.	1.	668.8	46.1	45.6	30561.
2879.0	12.	49.	99.	100.	1.	668.6	46.1	45.6	30560.
2880.0	11.	50.	99.	100.	1.	668.5	46.0	45.6	30559.
2881.0	13.	44.	93.	83.	1.	668.4	46.0	45.6	30558.
2882.0	14.	40.	86.	71.	2.	668.3	46.0	45.6	30557.
2883.0	14.	36.	78.	70.	3.	668.1	46.0	45.5	30555.
2884.0	15.	34.	75.	70.	3.	668.0	46.0	45.5	30552.
2885.0	14.	37.	79.	76.	2.	667.8	45.9	45.5	30549.
2886.0	14.	39.	85.	76.	2.	667.7	45.9	45.4	30547.
2887.0	14.	40.	86.	69.	2.	667.6	45.9	45.4	30545.
2888.0	14.	37.	80.	73.	2.	667.4	45.9	45.3	30543.
2889.0	13.	41.	87.	84.	2.	667.3	45.9	45.3	30541.
2890.0	13.	43.	92.	89.	1.	667.1	45.8	45.3	30540.
2891.0	13.	45.	95.	87.	1.	667.0	45.8	45.3	30538.
2892.0	13.	44.	93.	90.	1.	666.9	45.8	45.3	30537.
2893.0	12.	45.	95.	98.	1.	666.8	45.8	45.2	30536.
2894.0	13.	43.	93.	93.	1.	666.6	45.8	45.2	30535.
2895.0	13.	42.	91.	90.	1.	666.5	45.8	45.2	30534.
2896.0	13.	43.	93.	96.	1.	666.4	45.8	45.2	30532.
2897.0	12.	43.	93.	99.	1.	666.3	45.8	45.2	30531.
2898.0	12.	45.	95.	100.	1.	666.1	45.8	45.2	30530.
2899.0	12.	47.	97.	97.	1.	666.0	45.8	45.2	30529.
2900.0	13.	43.	92.	81.	1.	665.9	45.8	45.2	30528.
2901.0	13.	40.	87.	81.	2.	665.8	45.7	45.2	30527.
2902.0	13.	43.	91.	91.	1.	665.6	45.7	45.2	30525.
2903.0	13.	46.	96.	84.	1.	665.5	45.7	45.1	30524.
2904.0	13.	43.	91.	81.	1.	665.4	45.7	45.1	30523.
2905.0	13.	42.	90.	87.	1.	665.2	45.7	45.1	30521.
2906.0	12.	46.	96.	93.	1.	665.1	45.7	45.1	30520.
2907.0	12.	49.	98.	84.	1.	665.0	45.7	45.1	30519.

SED 01826
AC_CPUC_0000976

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
2908.0	13.	46.	96.	79.	1.	664.9	45.7	45.0	30518.
2909.0	13.	44.	94.	87.	1.	664.7	45.7	45.0	30517.
2910.0	12.	47.	97.	93.	1.	664.6	45.7	45.0	30516.
2911.0	13.	48.	98.	92.	1.	664.5	45.7	45.0	30515.
2912.0	13.	48.	98.	97.	1.	664.4	45.7	45.0	30514.
2915.0	12.	50.	99.	98.	1.	664.0	45.7	45.0	30512.
2919.0	11.	48.	98.	100.	1.	663.5	45.7	45.0	30509.
2920.0	12.	41.	88.	100.	1.	663.4	45.6	45.0	30508.
2921.0	12.	44.	93.	100.	1.	663.3	45.6	45.0	30507.
2928.0	12.	47.	97.	99.	1.	662.5	45.6	45.0	30503.
2929.0	12.	47.	97.	100.	1.	662.4	45.6	45.0	30502.
2930.0	12.	46.	96.	100.	1.	662.3	45.6	45.0	30501.
2931.0	12.	46.	96.	98.	1.	662.1	45.6	45.0	30501.
2932.0	12.	49.	98.	99.	1.	662.0	45.6	45.0	30500.
2933.0	12.	48.	98.	100.	1.	661.9	45.6	45.0	30499.
2934.0	12.	49.	98.	100.	1.	661.8	45.6	45.0	30498.
2935.0	12.	45.	95.	95.	1.	661.7	45.6	45.0	30497.
2936.0	12.	47.	97.	100.	1.	661.5	45.6	45.0	30496.
2937.0	12.	45.	95.	97.	1.	661.4	45.6	45.0	30495.
2938.0	12.	45.	95.	99.	1.	661.3	45.6	45.0	30494.
2939.0	13.	42.	91.	96.	1.	661.2	45.6	45.0	30493.
2940.0	12.	46.	96.	98.	1.	661.1	45.6	44.9	30492.
2942.0	13.	48.	98.	97.	1.	660.8	45.6	44.9	30491.
2943.0	12.	48.	98.	91.	1.	660.7	45.6	44.9	30490.
2944.0	12.	47.	97.	89.	1.	660.6	45.6	44.9	30489.
2945.0	12.	48.	97.	95.	1.	660.4	45.6	44.9	30488.
2948.0	12.	48.	97.	98.	1.	660.1	45.6	44.9	30486.
2949.0	13.	42.	91.	96.	1.	660.0	45.5	44.9	30485.
2950.0	12.	44.	93.	100.	1.	659.8	45.5	44.9	30483.
2951.0	11.	50.	99.	100.	1.	659.7	45.5	44.9	30482.
2954.0	12.	49.	98.	99.	1.	659.4	45.5	44.9	30481.
2958.0	12.	46.	96.	100.	1.	658.9	45.5	44.9	30478.
2959.0	12.	44.	93.	97.	1.	658.8	45.5	44.9	30477.
2960.0	13.	41.	88.	96.	1.	658.7	45.5	44.9	30476.
2961.0	12.	43.	91.	100.	1.	658.6	45.5	44.9	30475.
2965.0	12.	49.	98.	99.	1.	658.1	45.5	44.9	30472.
2967.0	12.	49.	99.	99.	1.	657.9	45.5	44.9	30470.
2968.0	12.	48.	98.	100.	1.	657.7	45.5	44.9	30470.
2975.0	12.	48.	98.	100.	1.	657.0	45.5	44.9	30467.

Schlumberger

SED 01827
AC_CPUC_0000977

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
2976.0	12.	44.	94.	98.	1.	656.9	45.5	44.9	30466.
2977.0	12.	46.	96.	99.	1.	656.7	45.5	44.9	30465.
2981.0	12.	48.	98.	99.	1.	656.3	45.5	44.9	30462.
2982.0	12.	46.	96.	100.	1.	656.2	45.5	44.9	30461.
2983.0	12.	47.	97.	98.	1.	656.1	45.4	44.9	30461.
2984.0	13.	43.	93.	97.	1.	655.9	45.4	44.9	30460.
2985.0	12.	46.	96.	100.	1.	655.8	45.4	44.9	30459.
2986.0	12.	50.	99.	100.	1.	655.7	45.4	44.9	30458.
2991.0	12.	49.	99.	100.	1.	655.1	45.4	44.9	30455.
2992.0	12.	48.	98.	98.	1.	655.0	45.4	44.9	30454.
2993.0	12.	47.	97.	100.	1.	654.9	45.4	44.9	30453.
2994.0	11.	48.	98.	100.	1.	654.8	45.4	44.9	30452.
2999.0	12.	44.	93.	100.	1.	654.3	45.4	44.9	30451.
3000.0	12.	43.	92.	100.	1.	654.2	45.4	44.9	30449.
3001.0	11.	48.	98.	100.	1.	654.1	45.4	44.9	30449.
3009.0	11.	49.	99.	100.	1.	653.3	45.4	44.9	30446.
3010.0	12.	46.	96.	100.	1.	653.1	45.4	44.9	30445.
3011.0	12.	43.	92.	100.	1.	653.0	45.4	44.9	30444.
3012.0	12.	45.	95.	100.	1.	652.9	45.4	44.9	30443.
3013.0	12.	46.	95.	100.	1.	652.8	45.4	44.9	30442.
3014.0	12.	46.	96.	100.	1.	652.7	45.4	44.9	30441.
3015.0	12.	42.	91.	99.	1.	652.5	45.4	44.9	30440.
3016.0	12.	40.	86.	100.	1.	652.4	45.3	44.9	30439.
3017.0	12.	40.	87.	100.	1.	652.3	45.3	44.9	30438.
3018.0	12.	43.	92.	100.	1.	652.2	45.3	44.9	30436.
3019.0	12.	42.	89.	100.	1.	652.1	45.3	44.9	30435.
3020.0	11.	39.	85.	100.	1.	651.9	45.3	44.9	30434.
3021.0	12.	42.	90.	100.	1.	651.8	45.3	44.9	30433.
3022.0	11.	48.	98.	100.	1.	651.7	45.3	44.9	30432.
3023.0	11.	47.	97.	100.	1.	651.6	45.3	44.9	30432.
3024.0	12.	42.	90.	100.	1.	651.5	45.3	44.9	30431.
3025.0	12.	40.	86.	100.	1.	651.4	45.2	44.9	30430.
3026.0	12.	42.	91.	100.	1.	651.2	45.2	44.9	30428.
3027.0	12.	46.	96.	100.	1.	651.1	45.2	44.9	30427.
3028.0	12.	46.	96.	100.	1.	651.0	45.2	44.9	30427.
3029.0	13.	44.	93.	100.	1.	650.9	45.2	44.9	30426.
3030.0	12.	44.	93.	100.	1.	650.8	45.2	44.9	30424.
3031.0	13.	43.	91.	100.	1.	650.6	45.2	44.9	30423.
3032.0	14.	42.	90.	97.	2.	650.5	45.2	44.9	30422.
3033.0	13.	44.	93.	95.	1.	650.4	45.2	44.9	30421.
3034.0	12.	46.	96.	100.	1.	650.3	45.2	44.9	30419.
3035.0	13.	45.	95.	100.	1.	650.1	45.2	44.9	30418.
3036.0	12.	46.	96.	100.	1.	650.0	45.1	44.9	30417.
3041.0	13.	46.	96.	89.	1.	649.5	45.1	44.8	30415.

Schlumberger
SED 01828
AC_CPUC_0000978

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3042.0	13.	42.	90.	93.	1.	649.4	45.1	44.8	30414.
3043.0	12.	45.	95.	97.	1.	649.2	45.1	44.8	30413.
3044.0	12.	48.	97.	98.	1.	649.1	45.1	44.8	30412.
3046.0	12.	47.	97.	97.	1.	648.9	45.1	44.8	30410.
3047.0	13.	41.	89.	94.	1.	648.7	45.1	44.8	30409.
3048.0	12.	44.	93.	99.	1.	648.6	45.1	44.8	30408.
3049.0	12.	45.	94.	99.	1.	648.5	45.1	44.8	30407.
3050.0	12.	44.	93.	100.	1.	648.4	45.1	44.8	30406.
3051.0	11.	47.	97.	100.	1.	648.3	45.1	44.8	30405.
3052.0	12.	48.	98.	100.	1.	648.1	45.1	44.8	30404.
3053.0	12.	46.	96.	99.	1.	648.0	45.1	44.8	30403.
3054.0	12.	45.	95.	99.	1.	647.9	45.1	44.8	30402.
3055.0	12.	48.	98.	100.	1.	647.8	45.1	44.8	30402.
3056.0	12.	48.	98.	99.	1.	647.7	45.1	44.8	30401.
3057.0	12.	50.	99.	99.	1.	647.6	45.1	44.8	30400.
3058.0	12.	47.	97.	90.	1.	647.4	45.1	44.8	30399.
3059.0	13.	42.	91.	94.	1.	647.3	45.0	44.8	30398.
3060.0	13.	38.	81.	91.	2.	647.2	45.0	44.8	30397.
3061.0	13.	39.	83.	93.	2.	647.1	45.0	44.8	30395.
3062.0	13.	37.	80.	94.	2.	646.9	45.0	44.8	30393.
3063.0	13.	37.	80.	94.	2.	646.8	45.0	44.7	30391.
3064.0	13.	39.	84.	94.	2.	646.7	44.9	44.7	30389.
3065.0	13.	40.	85.	88.	2.	646.5	44.9	44.7	30388.
3066.0	13.	40.	86.	87.	2.	646.4	44.9	44.7	30386.
3067.0	13.	39.	85.	91.	2.	646.3	44.9	44.7	30385.
3068.0	13.	39.	85.	95.	2.	646.1	44.9	44.7	30383.
3069.0	13.	41.	88.	96.	1.	646.0	44.8	44.7	30381.
3070.0	13.	41.	89.	94.	1.	645.9	44.8	44.7	30380.
3071.0	13.	43.	93.	96.	1.	645.7	44.8	44.7	30378.
3072.0	12.	46.	96.	98.	1.	645.6	44.8	44.7	30377.
3073.0	12.	47.	97.	100.	1.	645.5	44.8	44.7	30376.
3078.0	12.	45.	95.	100.	1.	645.0	44.8	44.7	30375.
3079.0	12.	44.	93.	100.	1.	644.9	44.8	44.7	30374.
3080.0	12.	46.	96.	100.	1.	644.8	44.8	44.7	30373.
3088.0	13.	44.	93.	79.	1.	644.0	44.8	44.7	30370.
3089.0	14.	40.	86.	78.	2.	643.9	44.8	44.6	30369.
3090.0	13.	42.	90.	89.	1.	643.8	44.7	44.6	30367.
3091.0	12.	49.	99.	98.	1.	643.6	44.7	44.6	30366.
3093.0	12.	49.	98.	87.	1.	643.4	44.7	44.6	30365.
3094.0	13.	43.	92.	79.	1.	643.3	44.7	44.6	30364.
3095.0	14.	41.	88.	74.	2.	643.2	44.7	44.5	30363.
3096.0	14.	39.	84.	72.	2.	643.0	44.7	44.5	30361.
3097.0	14.	40.	87.	73.	2.	642.9	44.7	44.5	30359.
3098.0	14.	42.	90.	75.	2.	642.7	44.7	44.4	30357.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3203.0	14.	41.	87.	74.	2.	627.8	41.5	40.0	30039.
3204.0	15.	33.	77.	67.	3.	627.6	41.5	40.0	30037.
3205.0	16.	22.	81.	60.	8.	627.5	41.5	39.9	30033.
3206.0	16.	22.	74.	63.	7.	627.3	41.4	39.9	30025.
3207.0	17.	24.	62.	53.	8.	627.1	41.4	39.8	30018.
3208.0	17.	20.	60.	54.	10.	627.0	41.3	39.7	30009.
3209.0	17.	22.	62.	56.	8.	626.8	41.3	39.6	29999.
3210.0	17.	23.	61.	53.	9.	626.6	41.2	39.6	29991.
3211.0	17.	25.	64.	57.	7.	626.5	41.1	39.5	29982.
3212.0	17.	26.	66.	56.	6.	626.3	41.1	39.4	29976.
3213.0	16.	27.	67.	57.	6.	626.1	41.0	39.3	29969.
3214.0	16.	26.	66.	58.	6.	626.0	41.0	39.3	29963.
3215.0	16.	25.	69.	61.	6.	625.8	40.9	39.2	29957.
3216.0	15.	30.	77.	71.	4.	625.7	40.9	39.1	29952.
3217.0	13.	38.	83.	84.	2.	625.5	40.8	39.1	29948.
3218.0	14.	37.	80.	81.	2.	625.4	40.8	39.1	29947.
3219.0	16.	29.	77.	64.	5.	625.2	40.8	39.0	29944.
3220.0	16.	28.	75.	62.	5.	625.1	40.7	39.0	29939.
3221.0	16.	27.	72.	62.	6.	624.9	40.7	38.9	29934.
3222.0	16.	26.	74.	65.	5.	624.8	40.6	38.9	29929.
3223.0	15.	28.	74.	66.	5.	624.6	40.6	38.8	29923.
3224.0	16.	27.	72.	62.	6.	624.5	40.6	38.8	29918.
3225.0	16.	23.	74.	61.	7.	624.3	40.5	38.7	29912.
3226.0	16.	26.	69.	61.	6.	624.1	40.5	38.6	29905.
3227.0	16.	27.	70.	64.	5.	624.0	40.4	38.6	29900.
3228.0	15.	29.	75.	66.	4.	623.8	40.4	38.5	29895.
3229.0	15.	28.	82.	68.	5.	623.7	40.4	38.5	29890.
3230.0	15.	27.	78.	66.	5.	623.5	40.3	38.4	29885.
3231.0	15.	25.	75.	67.	5.	623.4	40.3	38.4	29880.
3232.0	15.	30.	70.	69.	4.	623.2	40.2	38.3	29875.
3233.0	15.	31.	71.	70.	4.	623.1	40.2	38.3	29871.
3234.0	15.	28.	68.	67.	5.	622.9	40.2	38.2	29867.
3235.0	16.	26.	66.	65.	5.	622.8	40.1	38.2	29863.
3236.0	16.	27.	66.	65.	5.	622.6	40.1	38.1	29857.
3237.0	15.	28.	68.	71.	4.	622.4	40.0	38.1	29852.
3238.0	15.	29.	69.	68.	4.	622.3	40.0	38.0	29848.
3239.0	15.	32.	72.	65.	4.	622.1	39.9	38.0	29844.
3240.0	15.	34.	75.	70.	3.	622.0	39.9	37.9	29840.
3241.0	13.	43.	92.	81.	1.	621.8	39.8	37.9	29838.
3399.0	17.	34.	77.	100.	4.	610.6	39.8	37.9	29820.
3400.0	17.	33.	75.	100.	5.	610.4	39.8	37.9	29816.
3401.0	19.	29.	70.	100.	8.	610.2	39.7	37.9	29810.
3402.0	18.	29.	71.	98.	7.	610.0	39.7	37.9	29802.
3403.0	18.	31.	72.	97.	6.	609.8	39.6	37.9	29795.
3404.0	18.	31.	72.	95.	6.	609.7	39.6	37.9	29789.
3405.0	18.	30.	72.	87.	6.	609.5	39.5	37.8	29783.
3406.0	18.	29.	70.	80.	7.	609.3	39.5	37.8	29777.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3407.0	17.	29.	70.	79.	7.	609.1	39.4	37.8	29769.
3408.0	17.	30.	71.	85.	6.	609.0	39.4	37.7	29763.
3409.0	16.	31.	72.	83.	5.	608.8	39.3	37.7	29757.
3410.0	17.	29.	70.	79.	6.	608.6	39.3	37.7	29752.
3411.0	16.	32.	74.	89.	5.	608.5	39.2	37.7	29747.
3412.0	17.	32.	74.	93.	5.	608.3	39.2	37.6	29742.
3413.0	17.	31.	73.	95.	5.	608.1	39.2	37.6	29738.
3414.0	17.	31.	73.	95.	6.	608.0	39.1	37.6	29732.
3415.0	17.	31.	73.	96.	6.	607.8	39.1	37.6	29727.
3416.0	17.	30.	71.	92.	6.	607.6	39.0	37.6	29721.
3417.0	16.	31.	73.	94.	5.	607.5	39.0	37.6	29716.
3418.0	16.	31.	73.	98.	4.	607.3	38.9	37.6	29711.
3419.0	16.	31.	73.	97.	5.	607.1	38.9	37.6	29707.
3420.0	16.	32.	74.	99.	4.	607.0	38.8	37.6	29702.
3421.0	15.	34.	76.	100.	3.	606.8	38.8	37.6	29698.
3422.0	14.	34.	76.	100.	3.	606.7	38.8	37.6	29695.
3423.0	15.	32.	74.	99.	3.	606.5	38.7	37.6	29692.
3424.0	15.	34.	76.	98.	3.	606.4	38.7	37.6	29689.
3425.0	15.	33.	76.	98.	3.	606.2	38.7	37.6	29685.
3426.0	16.	33.	75.	96.	4.	606.1	38.6	37.6	29682.
3427.0	16.	32.	74.	93.	4.	605.9	38.6	37.6	29677.
3428.0	16.	33.	75.	95.	4.	605.7	38.5	37.5	29673.
3429.0	15.	33.	75.	98.	4.	605.6	38.5	37.5	29669.
3430.0	16.	33.	75.	100.	4.	605.4	38.5	37.5	29665.
3431.0	15.	34.	77.	100.	3.	605.3	38.4	37.5	29662.
3432.0	14.	37.	83.	100.	2.	605.1	38.4	37.5	29659.
3433.0	15.	37.	82.	99.	3.	605.0	38.4	37.5	29657.
3434.0	15.	37.	81.	97.	3.	604.8	38.3	37.5	29654.
3435.0	15.	36.	81.	94.	3.	604.7	38.3	37.5	29651.
3436.0	15.	35.	79.	91.	3.	604.5	38.3	37.5	29648.
3437.0	16.	34.	76.	94.	4.	604.4	38.2	37.5	29645.
3438.0	16.	35.	78.	96.	3.	604.2	38.2	37.5	29641.
3439.0	16.	35.	78.	92.	4.	604.1	38.2	37.5	29638.
3440.0	15.	35.	78.	90.	3.	603.9	38.1	37.5	29634.
3441.0	15.	36.	80.	93.	3.	603.8	38.1	37.5	29631.
3442.0	15.	35.	79.	90.	3.	603.6	38.1	37.4	29628.
3443.0	16.	33.	75.	92.	4.	603.4	38.0	37.4	29625.
3444.0	15.	34.	77.	95.	3.	603.3	38.0	37.4	29621.
3445.0	15.	37.	81.	94.	3.	603.1	38.0	37.4	29618.
3446.0	16.	33.	75.	87.	4.	603.0	37.9	37.4	29615.
3447.0	15.	35.	78.	92.	3.	602.8	37.9	37.4	29611.
3448.0	14.	40.	89.	98.	2.	602.7	37.9	37.4	29608.
3449.0	14.	44.	94.	100.	1.	602.5	37.9	37.4	29606.
3450.0	14.	44.	95.	100.	1.	602.4	37.8	37.4	29605.
3451.0	13.	46.	97.	100.	1.	602.3	37.8	37.4	29603.
3456.0	13.	49.	99.	100.	1.	601.7	37.8	37.4	29600.
3457.0	13.	46.	97.	96.	1.	601.6	37.8	37.4	29599.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3458.0	14.	40.	88.	97.	2.	601.4	37.8	37.4	29598.
3459.0	14.	41.	91.	98.	2.	601.3	37.8	37.4	29596.
3460.0	13.	45.	96.	98.	1.	601.1	37.8	37.4	29594.
3461.0	14.	44.	95.	91.	2.	601.0	37.8	37.3	29593.
3462.0	16.	34.	77.	78.	4.	600.9	37.8	37.3	29591.
3463.0	17.	27.	68.	81.	6.	600.7	37.7	37.3	29586.
3464.0	15.	37.	82.	94.	3.	600.5	37.7	37.3	29581.
3465.0	14.	44.	95.	98.	1.	600.4	37.7	37.3	29578.
3466.0	12.	49.	99.	100.	1.	600.3	37.7	37.3	29577.
3480.0	13.	46.	97.	99.	1.	598.8	37.7	37.3	29572.
3481.0	15.	35.	79.	94.	3.	598.6	37.7	37.3	29570.
3482.0	15.	35.	78.	98.	3.	598.5	37.6	37.3	29567.
3483.0	11.	50.	99.	100.	1.	598.4	37.6	37.3	29565.
3489.0	17.	33.	75.	73.	5.	597.7	37.6	37.2	29562.
3490.0	20.	15.	81.	65.	23.	597.6	37.5	37.2	29554.
3491.0	21.	10.	75.	67.	36.	597.4	37.5	37.1	29527.
3492.0	21.	8.	64.	65.	45.	597.2	37.5	37.1	29489.
3493.0	21.	7.	61.	64.	51.	596.9	37.4	37.0	29441.
3494.0	21.	3.	63.	66.	70.	596.7	37.3	36.9	29386.
3495.0	22.	0.	67.	65.	93.	596.5	37.2	36.8	29310.
3496.0	21.	0.	71.	64.	78.	596.3	37.1	36.8	29219.
3497.0	21.	0.	69.	65.	86.	596.1	37.1	36.7	29140.
3498.0	22.	0.	68.	64.	90.	595.9	37.0	36.6	29050.
3499.0	21.	0.	70.	66.	80.	595.7	36.9	36.5	28964.
3500.0	21.	2.	67.	68.	66.	595.4	36.9	36.5	28884.
3501.0	20.	7.	61.	69.	41.	595.2	36.8	36.4	28828.
3502.0	20.	7.	57.	70.	39.	595.0	36.7	36.3	28788.
3503.0	19.	12.	57.	73.	25.	594.8	36.6	36.3	28752.
3504.0	17.	21.	61.	84.	10.	594.7	36.6	36.2	28731.
3505.0	15.	40.	88.	91.	2.	594.5	36.5	36.2	28723.
3506.0	14.	46.	97.	93.	1.	594.3	36.5	36.2	28722.
3512.0	14.	42.	93.	100.	2.	593.6	36.5	36.2	28718.
3514.0	15.	39.	86.	100.	2.	593.4	36.5	36.2	28716.
3515.0	14.	39.	86.	100.	2.	593.3	36.5	36.2	28714.
3516.0	14.	41.	90.	100.	2.	593.1	36.4	36.2	28712.
3525.0	14.	43.	93.	97.	2.	592.4	36.4	36.2	28709.
3526.0	13.	48.	98.	99.	1.	592.3	36.4	36.2	28708.
3527.0	13.	48.	99.	95.	1.	592.1	36.4	36.2	28707.
3530.0	14.	44.	95.	93.	2.	591.8	36.4	36.2	28704.
3531.0	13.	46.	97.	100.	1.	591.6	36.4	36.2	28703.
3539.0	15.	44.	95.	83.	2.	590.9	36.4	36.1	28701.

SED 01832
AC_CPUC_0000982

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3540.0	17.	36.	81.	82.	4.	590.8	36.4	36.1	28698.
3541.0	17.	32.	74.	81.	5.	590.6	36.4	36.1	28694.
3542.0	18.	30.	71.	84.	6.	590.4	36.3	36.1	28688.
3543.0	18.	28.	69.	81.	8.	590.2	36.3	36.0	28682.
3544.0	19.	28.	69.	81.	9.	590.1	36.2	36.0	28673.
3545.0	18.	29.	71.	92.	6.	589.9	36.1	36.0	28665.
3546.0	17.	31.	72.	97.	5.	589.7	36.1	36.0	28659.
3547.0	16.	31.	73.	96.	5.	589.5	36.0	35.9	28653.
3548.0	18.	29.	70.	87.	7.	589.4	36.0	35.9	28648.
3549.0	19.	28.	69.	82.	9.	589.2	35.9	35.9	28641.
3550.0	19.	28.	69.	78.	9.	589.0	35.9	35.9	28632.
3551.0	18.	29.	71.	77.	7.	588.8	35.8	35.8	28624.
3552.0	18.	29.	70.	82.	8.	588.6	35.8	35.8	28617.
3553.0	18.	32.	74.	86.	6.	588.5	35.7	35.8	28610.
3557.0	16.	35.	79.	96.	4.	587.9	35.7	35.7	28601.
3558.0	17.	33.	75.	85.	5.	587.8	35.6	35.7	28597.
3559.0	18.	29.	70.	83.	8.	587.6	35.6	35.7	28592.
3560.0	19.	26.	67.	78.	10.	587.4	35.5	35.7	28584.
3561.0	20.	25.	65.	74.	12.	587.2	35.5	35.6	28573.
3562.0	19.	26.	67.	77.	10.	587.0	35.4	35.6	28561.
3563.0	18.	28.	69.	80.	7.	586.8	35.3	35.5	28552.
3564.0	17.	30.	71.	82.	6.	586.6	35.3	35.5	28545.
3565.0	17.	31.	72.	78.	5.	586.5	35.2	35.5	28539.
3566.0	18.	26.	67.	74.	8.	586.3	35.2	35.4	28534.
3567.0	18.	24.	64.	73.	9.	586.1	35.1	35.4	28526.
3568.0	18.	23.	63.	74.	10.	585.9	35.1	35.3	28516.
3569.0	19.	19.	63.	70.	15.	585.8	35.0	35.3	28505.
3570.0	18.	18.	66.	76.	14.	585.6	34.9	35.2	28488.
3571.0	17.	28.	69.	85.	6.	585.4	34.9	35.2	28476.
3572.0	17.	29.	70.	79.	6.	585.2	34.8	35.2	28470.
3573.0	17.	29.	70.	75.	6.	585.1	34.8	35.1	28464.
3574.0	18.	23.	63.	74.	10.	584.9	34.7	35.1	28457.
3575.0	17.	23.	64.	80.	9.	584.7	34.6	35.0	28447.
3576.0	17.	30.	71.	82.	5.	584.5	34.6	35.0	28440.
3577.0	16.	31.	72.	93.	4.	584.4	34.5	35.0	28435.
3578.0	15.	33.	75.	97.	3.	584.2	34.5	35.0	28431.
3579.0	16.	34.	76.	95.	4.	584.1	34.5	35.0	28427.
3580.0	16.	37.	83.	95.	3.	583.9	34.4	35.0	28423.
3581.0	14.	41.	90.	94.	2.	583.8	34.4	35.0	28421.
3582.0	15.	39.	87.	91.	2.	583.6	34.4	34.9	28418.
3583.0	14.	42.	92.	89.	2.	583.5	34.4	34.9	28416.
3584.0	14.	44.	95.	94.	1.	583.3	34.4	34.9	28414.
3585.0	13.	49.	99.	100.	1.	583.2	34.3	34.9	28413.
3630.0	13.	50.	99.	99.	1.	579.9	34.3	34.9	28407.
3631.0	13.	49.	99.	97.	1.	579.8	34.3	34.9	28406.
3633.0	13.	48.	98.	100.	1.	579.5	34.3	34.9	28404.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3634.0	13.	47.	98.	100.	1.	579.4	34.3	34.9	28403.
3635.0	12.	49.	99.	100.	1.	579.3	34.3	34.9	28402.
3637.0	13.	48.	99.	100.	1.	579.0	34.3	34.9	28401.
3641.0	13.	47.	98.	100.	1.	578.6	34.3	34.9	28399.
3642.0	15.	41.	91.	100.	2.	578.5	34.3	34.9	28397.
3643.0	15.	40.	89.	98.	2.	578.3	34.3	34.9	28395.
3644.0	14.	43.	94.	96.	2.	578.2	34.3	34.9	28393.
3645.0	14.	45.	96.	98.	1.	578.0	34.3	34.9	28392.
3646.0	13.	46.	97.	99.	1.	577.9	34.3	34.9	28390.
3647.0	13.	48.	99.	100.	1.	577.8	34.3	34.9	28389.
3648.0	13.	47.	98.	100.	1.	577.6	34.3	34.9	28388.
3649.0	13.	48.	98.	100.	1.	577.5	34.3	34.9	28387.
3650.0	14.	42.	92.	99.	2.	577.4	34.3	34.9	28386.
3651.0	14.	41.	90.	100.	2.	577.2	34.3	34.9	28384.
3652.0	13.	46.	97.	100.	1.	577.1	34.3	34.9	28383.
3653.0	14.	44.	96.	99.	1.	577.0	34.3	34.9	28382.
3654.0	13.	45.	96.	99.	1.	576.8	34.2	34.9	28380.
3655.0	13.	45.	96.	100.	1.	576.7	34.2	34.9	28379.
3656.0	14.	43.	94.	99.	2.	576.6	34.2	34.9	28378.
3657.0	15.	41.	90.	93.	2.	576.4	34.2	34.9	28376.
3658.0	15.	42.	92.	93.	2.	576.3	34.2	34.9	28373.
3659.0	15.	41.	90.	95.	2.	576.1	34.2	34.9	28371.
3660.0	16.	40.	89.	88.	3.	576.0	34.2	34.9	28369.
3661.0	15.	41.	91.	94.	2.	575.8	34.2	34.8	28367.
3662.0	14.	42.	93.	95.	2.	575.7	34.2	34.8	28365.
3663.0	15.	42.	93.	95.	2.	575.5	34.1	34.8	28363.
3664.0	15.	43.	93.	98.	2.	575.4	34.1	34.8	28361.
3665.0	15.	43.	94.	97.	2.	575.2	34.1	34.8	28360.
3666.0	15.	43.	93.	97.	2.	575.1	34.1	34.8	28358.
3667.0	15.	42.	93.	98.	2.	574.9	34.1	34.8	28356.
3668.0	16.	41.	90.	96.	3.	574.8	34.1	34.8	28354.
3669.0	15.	41.	91.	98.	2.	574.6	34.1	34.8	28351.
3670.0	15.	43.	94.	100.	2.	574.5	34.1	34.8	28349.
3697.0	14.	45.	96.	95.	1.	571.6	34.1	34.8	28339.
3698.0	15.	39.	86.	80.	3.	571.4	34.1	34.8	28337.
3699.0	18.	22.	96.	73.	11.	571.3	34.0	34.7	28333.
3700.0	19.	13.	100.	73.	22.	571.1	34.0	34.7	28319.
3701.0	19.	12.	98.	74.	23.	570.9	34.0	34.6	28297.
3702.0	18.	16.	92.	76.	16.	570.7	34.0	34.6	28275.
3703.0	18.	23.	73.	74.	10.	570.5	34.0	34.5	28262.
3704.0	18.	25.	73.	79.	9.	570.3	33.9	34.5	28252.
3705.0	17.	30.	73.	90.	6.	570.2	33.9	34.5	28244.
3706.0	13.	45.	96.	100.	1.	570.0	33.9	34.5	28239.
3742.0	14.	45.	96.	100.	1.	566.5	33.9	34.5	28231.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
3743.0	14.	45.	96.	100.	1.	566.4	33.9	34.5	28229.
3744.0	15.	44.	95.	100.	2.	566.3	33.8	34.5	28228.
3745.0	15.	44.	95.	100.	2.	566.1	33.8	34.5	28226.
3748.0	16.	41.	91.	96.	3.	565.7	33.8	34.4	28223.
3749.0	16.	40.	89.	92.	3.	565.6	33.8	34.4	28220.
3750.0	16.	42.	91.	91.	2.	565.4	33.8	34.4	28218.
3751.0	15.	43.	93.	94.	2.	565.3	33.8	34.4	28215.
3752.0	15.	44.	95.	97.	2.	565.1	33.8	34.4	28213.
3776.0	15.	44.	96.	98.	2.	562.5	33.8	34.4	28205.
3787.0	14.	48.	99.	87.	1.	561.3	33.8	34.4	28200.
3788.0	15.	41.	91.	74.	2.	561.2	33.8	34.4	28199.
3789.0	17.	34.	77.	74.	4.	561.0	33.7	34.3	28196.
3790.0	18.	24.	84.	69.	10.	560.9	33.7	34.3	28190.
3791.0	19.	21.	78.	65.	15.	560.7	33.7	34.2	28179.
3792.0	19.	19.	79.	69.	16.	560.5	33.6	34.1	28162.
3793.0	20.	18.	75.	73.	20.	560.3	33.6	34.1	28146.
3794.0	20.	17.	75.	76.	21.	560.1	33.5	34.0	28126.
3795.0	20.	18.	77.	83.	18.	559.9	33.5	34.0	28106.
3796.0	18.	20.	85.	88.	13.	559.7	33.5	34.0	28090.
3797.0	19.	19.	77.	79.	16.	559.5	33.4	33.9	28076.
3798.0	20.	19.	72.	72.	18.	559.3	33.4	33.9	28060.
3799.0	20.	20.	73.	72.	16.	559.1	33.3	33.8	28042.
3800.0	19.	20.	74.	75.	15.	558.9	33.3	33.8	28027.
3801.0	19.	23.	75.	83.	12.	558.7	33.2	33.7	28012.
3802.0	18.	27.	78.	90.	8.	558.5	33.2	33.7	28000.
3803.0	17.	35.	77.	99.	4.	558.3	33.1	33.7	27993.
3804.0	15.	43.	94.	100.	2.	558.2	33.1	33.7	27990.
3811.0	17.	41.	90.	100.	3.	557.5	33.1	33.7	27986.
3812.0	17.	40.	88.	100.	3.	557.3	33.1	33.7	27983.
3813.0	16.	40.	88.	100.	3.	557.2	33.1	33.7	27980.
3814.0	17.	39.	87.	100.	3.	557.0	33.0	33.7	27977.
3815.0	17.	39.	86.	99.	3.	556.8	33.0	33.7	27974.
3816.0	16.	40.	88.	99.	3.	556.6	33.0	33.7	27970.
3817.0	17.	39.	87.	98.	3.	556.5	33.0	33.7	27967.
3818.0	17.	39.	87.	96.	3.	556.3	32.9	33.7	27964.
3819.0	16.	40.	89.	96.	3.	556.2	32.9	33.7	27961.
3820.0	16.	38.	85.	94.	3.	556.0	32.9	33.7	27959.
3821.0	16.	37.	83.	92.	3.	555.8	32.9	33.6	27955.
3822.0	16.	37.	82.	83.	3.	555.7	32.9	33.6	27952.
3823.0	16.	36.	80.	90.	3.	555.5	32.8	33.6	27949.
3824.0	17.	34.	76.	88.	5.	555.4	32.8	33.6	27945.
3825.0	17.	35.	78.	91.	4.	555.2	32.8	33.6	27940.
3826.0	15.	39.	86.	98.	3.	555.0	32.7	33.6	27937.
3827.0	14.	42.	92.	100.	2.	554.9	32.7	33.6	27934.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4037.0	14.	45.	100.	100.	2.	542.7	32.3	33.4	27657.
4038.0	15.	40.	100.	100.	3.	542.5	32.3	33.4	27655.
4039.0	16.	37.	100.	100.	3.	542.4	32.3	33.4	27653.
4040.0	18.	30.	100.	100.	7.	542.2	32.3	33.4	27649.
4041.0	18.	28.	100.	100.	7.	542.0	32.3	33.4	27642.
4042.0	17.	27.	100.	100.	7.	541.8	32.3	33.4	27635.
4043.0	19.	24.	100.	100.	10.	541.7	32.3	33.4	27628.
4044.0	19.	22.	100.	100.	14.	541.5	32.3	33.4	27616.
4045.0	19.	22.	100.	100.	13.	541.3	32.3	33.4	27602.
4046.0	18.	23.	100.	100.	10.	541.1	32.3	33.4	27590.
4047.0	15.	35.	100.	100.	3.	540.9	32.3	33.4	27582.
4048.0	15.	38.	100.	100.	3.	540.8	32.3	33.4	27579.
4049.0	15.	37.	100.	100.	3.	540.6	32.3	33.4	27577.
4050.0	15.	37.	100.	100.	3.	540.5	32.3	33.4	27574.
4051.0	16.	38.	100.	100.	3.	540.3	32.3	33.4	27571.
4052.0	13.	46.	100.	100.	1.	540.2	32.3	33.4	27569.
4056.0	13.	49.	100.	100.	1.	539.7	32.3	33.4	27566.
4060.0	13.	48.	100.	100.	1.	539.2	32.3	33.4	27564.
4061.0	14.	41.	100.	100.	2.	539.1	32.3	33.4	27562.
4062.0	14.	44.	100.	100.	2.	538.9	32.3	33.4	27560.
4063.0	14.	45.	100.	100.	1.	538.8	32.3	33.4	27559.
4064.0	14.	45.	100.	100.	2.	538.7	32.3	33.4	27557.
4065.0	14.	44.	100.	100.	2.	538.5	32.3	33.4	27556.
4066.0	13.	48.	100.	100.	1.	538.4	32.3	33.4	27554.
4072.0	14.	46.	100.	100.	1.	537.8	32.3	33.4	27553.
4073.0	15.	40.	100.	100.	2.	537.7	32.3	33.4	27551.
4074.0	16.	37.	100.	100.	3.	537.6	32.3	33.4	27549.
4075.0	16.	35.	100.	100.	4.	537.4	32.3	33.4	27545.
4076.0	17.	30.	100.	100.	6.	537.2	32.3	33.4	27541.
4077.0	17.	29.	100.	100.	6.	537.1	32.3	33.4	27535.
4078.0	17.	31.	100.	100.	6.	536.9	32.3	33.4	27529.
4079.0	17.	31.	100.	100.	6.	536.7	32.3	33.4	27523.
4080.0	17.	32.	100.	100.	6.	536.5	32.3	33.4	27518.
4081.0	17.	31.	100.	100.	5.	536.4	32.3	33.4	27512.
4082.0	17.	33.	100.	100.	5.	536.2	32.3	33.4	27507.
4083.0	17.	36.	100.	100.	4.	536.0	32.3	33.4	27503.
4084.0	16.	39.	100.	100.	3.	535.9	32.3	33.4	27499.
4085.0	16.	41.	100.	100.	3.	535.7	32.3	33.4	27496.
4086.0	14.	47.	100.	100.	1.	535.5	32.3	33.4	27494.
4089.0	14.	47.	100.	100.	1.	535.2	32.3	33.4	27491.
4090.0	16.	40.	100.	100.	3.	535.0	32.3	33.4	27490.
4091.0	18.	30.	100.	100.	7.	534.9	32.3	33.4	27486.
4092.0	18.	31.	100.	100.	6.	534.7	32.3	33.4	27479.
4093.0	17.	33.	100.	100.	5.	534.5	32.3	33.4	27474.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4094.0	18.	28.	100.	100.	7.	534.3	32.3	33.4	27469.
4095.0	18.	28.	100.	100.	8.	534.2	32.3	33.4	27461.
4096.0	17.	30.	100.	100.	5.	534.0	32.3	33.4	27454.
4097.0	16.	31.	100.	100.	5.	533.8	32.3	33.4	27449.
4098.0	16.	33.	100.	100.	4.	533.7	32.3	33.4	27445.
4099.0	15.	39.	100.	100.	3.	533.5	32.3	33.4	27441.
4100.0	16.	35.	100.	100.	4.	533.3	32.3	33.4	27438.
4101.0	16.	33.	100.	100.	4.	533.2	32.3	33.4	27434.
4102.0	15.	34.	100.	100.	3.	533.0	32.3	33.4	27430.
4103.0	14.	36.	100.	100.	2.	532.9	32.3	33.4	27427.
4104.0	15.	25.	100.	99.	6.	532.7	32.3	33.4	27424.
4105.0	17.	24.	100.	88.	7.	532.6	32.3	33.4	27418.
4106.0	17.	29.	100.	83.	5.	532.4	32.3	33.4	27411.
4107.0	17.	30.	100.	77.	6.	532.2	32.3	33.3	27406.
4108.0	18.	25.	100.	73.	8.	532.1	32.3	33.3	27399.
4109.0	18.	23.	100.	75.	9.	531.9	32.3	33.2	27390.
4110.0	17.	25.	100.	78.	8.	531.7	32.3	33.2	27381.
4111.0	17.	27.	100.	79.	7.	531.6	32.3	33.2	27374.
4112.0	16.	28.	100.	88.	6.	531.4	32.3	33.1	27367.
4113.0	14.	39.	100.	99.	2.	531.2	32.3	33.1	27362.
4129.0	15.	44.	83.	96.	2.	529.6	32.3	33.1	27357.
4130.0	16.	33.	68.	85.	4.	529.5	32.3	33.1	27355.
4131.0	17.	27.	62.	75.	7.	529.3	32.2	33.1	27350.
4132.0	17.	25.	59.	80.	8.	529.2	32.1	33.0	27342.
4133.0	16.	31.	66.	91.	5.	529.0	32.1	33.0	27335.
4134.0	15.	33.	68.	97.	4.	528.8	32.0	33.0	27331.
4135.0	14.	33.	69.	100.	3.	528.7	32.0	33.0	27328.
4136.0	15.	35.	71.	99.	3.	528.5	31.9	33.0	27325.
4137.0	15.	38.	75.	98.	2.	528.4	31.9	33.0	27322.
4138.0	14.	45.	86.	100.	1.	528.2	31.9	33.0	27319.
4142.0	13.	49.	94.	100.	1.	527.7	31.8	33.0	27316.
4144.0	13.	50.	94.	100.	1.	527.5	31.8	33.0	27315.
4145.0	13.	47.	90.	100.	1.	527.4	31.8	33.0	27314.
4146.0	13.	49.	93.	100.	1.	527.2	31.8	33.0	27313.
4147.0	13.	48.	92.	100.	1.	527.1	31.8	33.0	27312.
4148.0	13.	50.	94.	100.	1.	527.0	31.8	33.0	27311.
4153.0	13.	48.	92.	100.	1.	526.4	31.8	33.0	27307.
4166.0	20.	23.	57.	100.	13.	525.4	31.7	33.0	27297.
4167.0	19.	26.	60.	100.	10.	525.2	31.6	33.0	27285.
4168.0	21.	24.	58.	100.	14.	525.0	31.5	33.0	27274.
4169.0	20.	22.	56.	100.	15.	524.8	31.5	33.0	27259.
4170.0	19.	23.	58.	99.	12.	524.6	31.4	33.0	27243.
4171.0	19.	24.	58.	93.	11.	524.4	31.3	33.0	27230.

SED 01837
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DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4172.0	16.	32.	68.	99.	4.	524.2	31.2	33.0	27220.
4173.0	14.	41.	79.	100.	2.	524.0	31.2	33.0	27217.
4194.0	14.	50.	94.	100.	1.	523.1	31.1	33.0	27216.
4195.0	14.	48.	92.	100.	1.	522.9	31.1	33.0	27215.
4196.0	15.	44.	84.	100.	2.	522.8	31.1	33.0	27214.
4197.0	15.	42.	85.	100.	2.	522.6	31.1	33.0	27212.
4198.0	14.	45.	86.	100.	1.	522.5	31.1	33.0	27210.
4201.0	14.	50.	95.	100.	1.	522.2	31.1	33.0	27208.
4202.0	16.	44.	84.	100.	2.	522.0	31.0	33.0	27207.
4203.0	20.	30.	88.	100.	9.	521.8	31.0	33.0	27203.
4204.0	21.	25.	97.	100.	14.	521.6	31.0	33.0	27192.
4205.0	21.	24.	99.	100.	15.	521.4	31.0	33.0	27178.
4206.0	21.	24.	99.	100.	15.	521.2	31.0	33.0	27163.
4207.0	21.	24.	99.	100.	15.	521.0	31.0	33.0	27148.
4208.0	21.	24.	99.	100.	15.	520.8	31.0	33.0	27133.
4209.0	21.	23.	98.	100.	16.	520.6	31.0	33.0	27117.
4210.0	21.	23.	99.	100.	15.	520.4	31.0	33.0	27101.
4211.0	21.	23.	99.	100.	17.	520.2	31.0	33.0	27084.
4212.0	22.	22.	96.	100.	20.	520.0	31.0	33.0	27066.
4213.0	20.	26.	99.	100.	12.	519.7	31.0	33.0	27047.
4214.0	17.	35.	100.	100.	4.	519.5	31.0	33.0	27037.
4218.0	14.	47.	100.	100.	1.	519.0	31.0	33.0	27032.
4219.0	19.	29.	100.	100.	9.	518.9	31.0	33.0	27030.
4220.0	20.	26.	100.	100.	11.	518.7	31.0	33.0	27020.
4221.0	20.	26.	100.	100.	11.	518.5	31.0	33.0	27009.
4222.0	19.	28.	100.	100.	9.	518.3	31.0	33.0	26999.
4223.0	18.	30.	100.	100.	7.	518.1	31.0	33.0	26991.
4224.0	19.	29.	100.	100.	8.	517.9	31.0	33.0	26984.
4225.0	20.	21.	100.	100.	17.	517.7	31.0	33.0	26971.
4226.0	20.	22.	100.	100.	16.	517.5	31.0	33.0	26955.
4227.0	19.	26.	100.	100.	9.	517.3	31.0	33.0	26941.
4228.0	17.	34.	100.	100.	4.	517.1	31.0	33.0	26933.
4229.0	14.	45.	100.	100.	2.	517.0	31.0	33.0	26930.
4230.0	14.	46.	100.	100.	2.	516.8	31.0	33.0	26928.
4231.0	16.	37.	100.	100.	3.	516.7	31.0	33.0	26926.
4232.0	18.	31.	100.	100.	6.	516.5	31.0	33.0	26922.
4233.0	17.	30.	100.	100.	6.	516.3	31.0	33.0	26916.
4234.0	16.	37.	100.	100.	3.	516.2	31.0	33.0	26910.
4235.0	13.	49.	100.	100.	1.	516.0	31.0	33.0	26908.
4367.0	13.	47.	100.	100.	1.	511.8	31.0	33.0	26904.
4368.0	16.	38.	100.	100.	3.	511.7	31.0	33.0	26902.
4369.0	17.	31.	100.	100.	5.	511.5	31.0	33.0	26898.
4370.0	17.	31.	100.	100.	6.	511.3	31.0	33.0	26893.
4371.0	17.	31.	100.	92.	5.	511.1	31.0	33.0	26887.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4722.0	15.	23.	52.	67.	6.	491.4	30.7	31.7	26564.
4723.0	15.	23.	52.	67.	5.	491.3	30.6	31.7	26558.
4724.0	13.	27.	56.	77.	3.	491.1	30.5	31.6	26554.
4725.0	13.	30.	60.	86.	3.	491.0	30.5	31.6	26551.
4726.0	15.	30.	60.	79.	4.	490.9	30.4	31.6	26548.
4727.0	17.	25.	54.	87.	7.	490.7	30.4	31.5	26543.
4728.0	17.	29.	58.	87.	6.	490.5	30.3	31.5	26535.
4729.0	17.	28.	57.	83.	7.	490.4	30.2	31.5	26529.
4730.0	13.	39.	69.	96.	2.	490.2	30.1	31.5	26523.
4731.0	14.	36.	66.	99.	3.	490.1	30.1	31.5	26522.
4732.0	16.	32.	62.	94.	4.	489.9	30.0	31.5	26517.
4733.0	16.	32.	62.	91.	4.	489.8	30.0	31.4	26513.
4734.0	14.	40.	70.	97.	2.	489.6	29.9	31.4	26509.
4735.0	16.	33.	63.	90.	4.	489.5	29.9	31.4	26507.
4736.0	16.	32.	62.	83.	4.	489.3	29.8	31.4	26503.
4737.0	16.	30.	59.	79.	4.	489.2	29.8	31.4	26498.
4738.0	16.	28.	58.	78.	5.	489.0	29.7	31.4	26494.
4739.0	17.	26.	56.	75.	6.	488.8	29.6	31.3	26489.
4740.0	17.	25.	55.	72.	7.	488.7	29.5	31.3	26482.
4741.0	17.	24.	52.	71.	8.	488.5	29.5	31.2	26475.
4742.0	16.	24.	53.	69.	7.	488.3	29.4	31.2	26467.
4743.0	16.	25.	54.	70.	7.	488.2	29.3	31.1	26460.
4744.0	17.	25.	55.	68.	7.	488.0	29.2	31.1	26453.
4745.0	16.	27.	56.	65.	6.	487.8	29.2	31.0	26447.
4746.0	16.	27.	56.	63.	5.	487.7	29.1	31.0	26441.
4747.0	16.	25.	54.	64.	6.	487.5	29.0	30.9	26436.
4748.0	17.	21.	49.	63.	9.	487.4	29.0	30.9	26429.
4749.0	17.	18.	48.	60.	12.	487.2	28.9	30.8	26419.
4750.0	17.	17.	52.	57.	12.	487.0	28.8	30.7	26406.
4751.0	17.	16.	51.	58.	13.	486.9	28.7	30.6	26395.
4752.0	18.	14.	49.	56.	17.	486.7	28.6	30.6	26381.
4753.0	19.	14.	49.	59.	19.	486.5	28.5	30.5	26364.
4754.0	19.	12.	48.	55.	23.	486.3	28.4	30.4	26343.
4755.0	18.	13.	51.	59.	16.	486.1	28.3	30.3	26322.
4756.0	18.	12.	49.	63.	21.	485.9	28.2	30.3	26305.
4757.0	20.	10.	46.	58.	29.	485.8	28.1	30.2	26282.
4758.0	20.	11.	46.	58.	29.	485.6	28.0	30.1	26252.
4759.0	20.	11.	45.	58.	31.	485.4	27.9	30.0	26221.
4760.0	20.	12.	43.	56.	31.	485.2	27.8	29.9	26189.
4761.0	20.	13.	44.	55.	27.	485.0	27.7	29.8	26159.
4762.0	20.	13.	44.	54.	24.	484.8	27.6	29.8	26133.
4763.0	19.	13.	46.	54.	22.	484.6	27.5	29.7	26110.
4764.0	19.	13.	45.	55.	23.	484.4	27.4	29.6	26088.
4765.0	20.	12.	45.	54.	27.	484.2	27.3	29.5	26063.
4766.0	20.	11.	45.	54.	28.	484.0	27.1	29.4	26035.
4767.0	20.	12.	45.	54.	28.	483.8	27.0	29.3	26006.
4768.0	20.	12.	45.	55.	25.	483.6	26.9	29.2	25978.
4769.0	20.	13.	44.	60.	24.	483.4	26.8	29.1	25953.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4770.0	20.	13.	42.	61.	28.	483.2	26.7	29.1	25927.
4771.0	19.	14.	45.	67.	20.	483.0	26.6	29.0	25900.
4772.0	20.	13.	44.	65.	27.	482.8	26.5	28.9	25879.
4773.0	21.	12.	43.	59.	34.	482.6	26.4	28.8	25850.
4774.0	21.	12.	43.	59.	33.	482.4	26.3	28.8	25816.
4775.0	21.	11.	43.	61.	33.	482.2	26.1	28.7	25784.
4776.0	21.	11.	43.	59.	34.	482.0	26.0	28.6	25751.
4777.0	21.	11.	43.	57.	35.	481.8	25.9	28.5	25717.
4778.0	21.	11.	42.	58.	36.	481.5	25.8	28.4	25681.
4779.0	20.	12.	44.	57.	30.	481.3	25.7	28.3	25647.
4780.0	20.	12.	43.	57.	29.	481.1	25.5	28.2	25617.
4781.0	20.	13.	44.	57.	26.	480.9	25.4	28.2	25589.
4782.0	19.	13.	44.	53.	23.	480.7	25.3	28.1	25562.
4783.0	19.	15.	45.	54.	18.	480.5	25.2	28.0	25541.
4784.0	19.	16.	44.	54.	18.	480.4	25.1	27.9	25522.
4785.0	19.	16.	45.	54.	17.	480.2	25.0	27.8	25504.
4786.0	18.	17.	46.	57.	14.	480.0	24.9	27.7	25488.
4787.0	17.	18.	47.	63.	12.	479.8	24.8	27.6	25475.
4788.0	19.	18.	45.	56.	15.	479.6	24.7	27.6	25462.
4789.0	19.	18.	45.	51.	15.	479.4	24.6	27.5	25446.
4790.0	18.	19.	47.	50.	13.	479.3	24.5	27.4	25432.
4791.0	17.	22.	50.	49.	9.	479.1	24.4	27.3	25421.
4792.0	17.	21.	50.	51.	10.	478.9	24.3	27.2	25411.
4793.0	18.	20.	48.	52.	12.	478.7	24.2	27.1	25401.
4794.0	18.	18.	46.	55.	14.	478.6	24.1	27.1	25389.
4795.0	19.	17.	45.	57.	18.	478.4	24.0	27.0	25375.
4796.0	20.	15.	43.	58.	22.	478.2	23.9	26.9	25356.
4797.0	20.	16.	43.	55.	22.	478.0	23.8	26.8	25334.
4798.0	20.	15.	42.	56.	22.	477.8	23.7	26.7	25312.
4799.0	19.	14.	44.	59.	20.	477.6	23.6	26.6	25291.
4800.0	20.	13.	43.	57.	25.	477.4	23.5	26.6	25270.
4801.0	20.	13.	43.	55.	27.	477.2	23.4	26.5	25244.
4802.0	20.	14.	46.	55.	23.	477.0	23.3	26.4	25218.
4803.0	20.	13.	45.	57.	27.	476.8	23.2	26.3	25195.
4804.0	21.	12.	42.	54.	32.	476.6	23.0	26.2	25166.
4805.0	21.	12.	42.	53.	30.	476.4	22.9	26.1	25133.
4806.0	20.	13.	43.	53.	29.	476.2	22.8	26.0	25104.
4807.0	20.	13.	44.	54.	26.	476.0	22.7	25.9	25076.
4808.0	20.	13.	44.	57.	24.	475.8	22.6	25.8	25050.
4809.0	19.	14.	45.	58.	21.	475.6	22.5	25.7	25027.
4810.0	18.	15.	46.	60.	17.	475.4	22.4	25.7	25007.
4811.0	20.	15.	44.	53.	22.	475.2	22.3	25.6	24990.
4812.0	20.	15.	44.	48.	21.	475.0	22.2	25.5	24966.
4813.0	18.	16.	48.	49.	16.	474.8	22.1	25.4	24947.
4814.0	19.	15.	46.	49.	20.	474.6	22.0	25.3	24930.
4815.0	19.	15.	45.	50.	20.	474.4	21.9	25.2	24910.
4816.0	19.	15.	47.	51.	19.	474.3	21.7	25.1	24890.
4817.0	18.	16.	48.	55.	15.	474.1	21.6	25.0	24872.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4818.0	18.	15.	48.	53.	16.	473.9	21.6	24.9	24857.
4819.0	19.	13.	45.	51.	23.	473.7	21.5	24.9	24840.
4820.0	21.	14.	44.	49.	28.	473.5	21.4	24.8	24815.
4821.0	19.	15.	46.	48.	21.	473.3	21.2	24.7	24789.
4822.0	20.	14.	44.	49.	22.	473.1	21.1	24.6	24769.
4823.0	20.	14.	42.	50.	26.	472.9	21.0	24.5	24746.
4824.0	21.	14.	42.	51.	28.	472.7	20.9	24.4	24721.
4825.0	21.	14.	42.	50.	27.	472.5	20.8	24.3	24694.
4826.0	20.	15.	41.	52.	25.	472.3	20.7	24.2	24668.
4827.0	20.	14.	41.	50.	26.	472.1	20.5	24.1	24642.
4828.0	20.	15.	42.	50.	22.	471.9	20.4	24.0	24618.
4829.0	19.	16.	44.	50.	18.	471.7	20.3	23.9	24597.
4830.0	19.	18.	45.	50.	16.	471.5	20.2	23.8	24580.
4831.0	19.	19.	46.	48.	15.	471.3	20.1	23.7	24563.
4832.0	19.	19.	47.	49.	16.	471.1	20.0	23.6	24548.
4833.0	19.	19.	47.	49.	15.	470.9	19.9	23.5	24532.
4834.0	18.	20.	48.	49.	12.	470.7	19.8	23.4	24517.
4835.0	18.	20.	48.	49.	12.	470.6	19.7	23.3	24505.
4836.0	19.	20.	49.	51.	13.	470.4	19.6	23.2	24492.
4837.0	19.	20.	48.	51.	15.	470.2	19.5	23.1	24479.
4838.0	19.	21.	50.	52.	12.	470.0	19.4	23.0	24464.
4839.0	19.	21.	50.	53.	13.	469.8	19.3	22.9	24452.
4840.0	19.	21.	50.	52.	13.	469.6	19.2	22.8	24438.
4841.0	18.	22.	50.	49.	11.	469.4	19.1	22.7	24426.
4842.0	17.	24.	53.	50.	8.	469.3	19.0	22.6	24416.
4843.0	17.	24.	53.	51.	9.	469.1	19.0	22.6	24408.
4844.0	18.	25.	54.	48.	9.	468.9	18.9	22.5	24399.
4845.0	17.	28.	57.	51.	6.	468.7	18.8	22.4	24392.
4846.0	16.	31.	60.	50.	5.	468.6	18.7	22.3	24386.
4847.0	15.	34.	64.	52.	3.	468.4	18.7	22.2	24382.
4848.0	15.	34.	64.	58.	4.	468.3	18.6	22.2	24378.
4849.0	13.	40.	70.	67.	2.	468.1	18.6	22.1	24375.
4850.0	14.	39.	69.	62.	2.	468.0	18.5	22.0	24374.
4851.0	15.	36.	66.	51.	3.	467.8	18.5	22.0	24371.
4852.0	15.	33.	64.	49.	4.	467.7	18.4	21.9	24368.
4853.0	15.	31.	69.	51.	4.	467.5	18.4	21.8	24365.
4854.0	15.	29.	71.	51.	5.	467.4	18.3	21.8	24361.
4855.0	16.	27.	73.	49.	5.	467.2	18.3	21.7	24356.
4856.0	16.	25.	75.	49.	6.	467.1	18.2	21.6	24350.
4857.0	16.	28.	68.	47.	5.	466.9	18.2	21.5	24344.
4858.0	16.	29.	65.	47.	5.	466.8	18.2	21.4	24339.
4859.0	16.	29.	64.	46.	5.	466.6	18.1	21.4	24334.
4860.0	16.	29.	64.	46.	5.	466.4	18.0	21.3	24329.
4861.0	16.	28.	63.	46.	5.	466.3	18.0	21.2	24324.
4862.0	16.	30.	62.	46.	5.	466.1	17.9	21.1	24318.
4863.0	16.	30.	62.	44.	5.	465.9	17.9	21.0	24313.
4864.0	17.	26.	67.	45.	7.	465.8	17.8	20.9	24308.
4865.0	16.	26.	72.	49.	6.	465.6	17.8	20.8	24301.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4914.0	15.	33.	85.	57.	3.	458.4	15.6	17.4	24145.
4915.0	15.	34.	84.	55.	3.	458.2	15.6	17.4	24142.
4916.0	15.	35.	87.	58.	3.	458.1	15.6	17.3	24138.
4917.0	15.	34.	86.	58.	3.	457.9	15.5	17.3	24136.
4918.0	15.	31.	89.	60.	4.	457.8	15.5	17.2	24132.
4919.0	15.	32.	91.	61.	4.	457.6	15.5	17.1	24128.
4920.0	15.	32.	90.	62.	4.	457.5	15.5	17.1	24125.
4921.0	15.	33.	82.	60.	4.	457.3	15.5	17.0	24121.
4922.0	15.	34.	81.	58.	3.	457.2	15.4	16.9	24118.
4923.0	16.	33.	76.	58.	4.	457.0	15.4	16.9	24114.
4924.0	16.	33.	76.	57.	4.	456.9	15.4	16.8	24111.
4925.0	15.	34.	82.	56.	3.	456.7	15.3	16.8	24107.
4926.0	15.	33.	85.	56.	3.	456.6	15.3	16.7	24104.
4927.0	15.	32.	88.	57.	3.	456.4	15.3	16.6	24101.
4928.0	15.	31.	89.	63.	4.	456.3	15.3	16.6	24097.
4929.0	15.	30.	90.	65.	4.	456.1	15.2	16.5	24094.
4930.0	15.	30.	89.	68.	4.	456.0	15.2	16.5	24089.
4931.0	16.	29.	89.	76.	5.	455.8	15.2	16.4	24085.
4932.0	14.	30.	98.	84.	4.	455.7	15.2	16.4	24080.
4933.0	14.	30.	98.	69.	4.	455.5	15.2	16.3	24077.
4934.0	16.	25.	87.	66.	7.	455.4	15.2	16.3	24073.
4935.0	17.	22.	84.	66.	9.	455.2	15.2	16.2	24065.
4936.0	18.	21.	86.	67.	10.	455.0	15.1	16.2	24055.
4937.0	18.	20.	82.	65.	13.	454.8	15.1	16.1	24044.
4938.0	18.	20.	85.	62.	12.	454.7	15.1	16.1	24032.
4939.0	17.	20.	92.	62.	11.	454.5	15.1	16.0	24020.
4940.0	17.	20.	92.	63.	10.	454.3	15.0	15.9	24009.
4941.0	17.	21.	96.	67.	9.	454.1	15.0	15.9	23999.
4942.0	16.	24.	99.	73.	6.	454.0	15.0	15.8	23991.
4943.0	16.	25.	97.	71.	6.	453.8	15.0	15.8	23985.
4944.0	17.	25.	90.	68.	7.	453.7	15.0	15.7	23979.
4945.0	16.	28.	93.	68.	5.	453.5	15.0	15.7	23972.
4946.0	15.	29.	93.	71.	4.	453.3	15.0	15.6	23968.
4947.0	15.	29.	91.	72.	4.	453.2	15.0	15.6	23964.
4948.0	15.	29.	87.	74.	5.	453.0	15.0	15.5	23960.
4949.0	16.	27.	83.	72.	6.	452.9	14.9	15.5	23955.
4950.0	16.	26.	86.	73.	6.	452.7	14.9	15.4	23949.
4951.0	16.	26.	86.	75.	6.	452.6	14.9	15.4	23943.
4952.0	17.	25.	79.	72.	7.	452.4	14.9	15.4	23937.
4953.0	17.	24.	77.	70.	8.	452.2	14.8	15.3	23929.
4954.0	18.	24.	76.	69.	9.	452.1	14.8	15.3	23921.
4955.0	17.	24.	80.	70.	9.	451.9	14.7	15.2	23912.
4956.0	17.	23.	83.	70.	9.	451.7	14.7	15.2	23903.
4957.0	17.	23.	88.	69.	8.	451.5	14.7	15.1	23894.
4958.0	18.	22.	83.	71.	10.	451.4	14.7	15.1	23885.
4959.0	18.	22.	80.	70.	10.	451.2	14.6	15.0	23875.
4960.0	17.	25.	82.	70.	8.	451.0	14.6	14.9	23866.
4961.0	17.	25.	78.	70.	7.	450.8	14.6	14.9	23858.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
4962.0	16.	26.	81.	74.	6.	450.7	14.5	14.8	23851.
4963.0	17.	26.	74.	71.	7.	450.5	14.5	14.8	23844.
4964.0	17.	25.	75.	74.	7.	450.3	14.4	14.8	23837.
4965.0	18.	23.	71.	76.	9.	450.2	14.4	14.7	23829.
4966.0	18.	22.	69.	73.	11.	450.0	14.3	14.7	23819.
4967.0	18.	22.	70.	76.	10.	449.8	14.3	14.6	23809.
4968.0	17.	24.	73.	79.	7.	449.6	14.2	14.6	23799.
4969.0	15.	27.	79.	91.	5.	449.5	14.2	14.6	23793.
4970.0	15.	28.	78.	85.	4.	449.3	14.2	14.5	23788.
4971.0	15.	29.	77.	86.	4.	449.2	14.1	14.5	23784.
4972.0	14.	31.	82.	97.	3.	449.0	14.1	14.5	23780.
4973.0	14.	30.	81.	99.	3.	448.9	14.1	14.5	23777.
4974.0	15.	29.	75.	100.	4.	448.7	14.1	14.5	23774.
4975.0	16.	28.	67.	98.	6.	448.6	14.0	14.5	23769.
4976.0	17.	27.	60.	87.	7.	448.4	14.0	14.5	23763.
4977.0	17.	29.	58.	73.	6.	448.2	13.9	14.5	23755.
4978.0	15.	32.	62.	75.	4.	448.1	13.8	14.4	23750.
4979.0	16.	32.	62.	69.	4.	447.9	13.8	14.4	23746.
4980.0	15.	32.	61.	69.	4.	447.8	13.7	14.3	23742.
4981.0	17.	29.	59.	68.	6.	447.6	13.6	14.3	23738.
4982.0	18.	26.	57.	67.	8.	447.4	13.6	14.2	23731.
4983.0	17.	26.	58.	68.	7.	447.3	13.5	14.2	23723.
4984.0	17.	27.	57.	68.	7.	447.1	13.4	14.1	23716.
4985.0	18.	26.	56.	66.	8.	446.9	13.3	14.1	23709.
4986.0	17.	27.	57.	63.	7.	446.7	13.3	14.0	23701.
4987.0	17.	28.	58.	66.	6.	446.6	13.2	13.9	23694.
4988.0	19.	24.	54.	66.	11.	446.4	13.1	13.9	23687.
4989.0	19.	24.	55.	65.	10.	446.2	13.0	13.8	23675.
4990.0	18.	27.	56.	67.	8.	446.0	12.9	13.7	23666.
4991.0	17.	27.	56.	66.	7.	445.8	12.9	13.7	23658.
4992.0	17.	28.	58.	69.	6.	445.7	12.8	13.6	23651.
4993.0	17.	28.	57.	67.	6.	445.5	12.7	13.6	23645.
4994.0	17.	28.	58.	69.	6.	445.3	12.7	13.5	23639.
4995.0	16.	29.	59.	73.	5.	445.2	12.6	13.5	23633.
4996.0	16.	30.	60.	73.	5.	445.0	12.5	13.4	23628.
4997.0	16.	30.	61.	73.	5.	444.8	12.5	13.4	23623.
4998.0	16.	30.	62.	75.	5.	444.7	12.4	13.4	23618.
4999.0	16.	30.	60.	75.	5.	444.5	12.3	13.3	23614.
5000.0	16.	31.	60.	73.	5.	444.4	12.3	13.3	23609.
5001.0	15.	34.	64.	74.	3.	444.2	12.2	13.2	23604.
5002.0	15.	35.	65.	68.	3.	444.1	12.2	13.2	23601.
5003.0	13.	40.	71.	73.	1.	443.9	12.1	13.1	23599.
5004.0	12.	41.	74.	87.	1.	443.8	12.1	13.1	23597.
5005.0	12.	41.	71.	80.	1.	443.7	12.0	13.1	23596.
5006.0	14.	39.	69.	74.	2.	443.5	12.0	13.1	23595.
5007.0	15.	38.	68.	71.	2.	443.4	12.0	13.0	23593.
5008.0	14.	40.	70.	67.	2.	443.3	11.9	13.0	23590.
5009.0	14.	40.	70.	69.	2.	443.1	11.9	12.9	23588.

SED 01843
AC_CPUC_0000993

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5106.0	16.	32.	69.	74.	4.	428.9	7.3	9.3	23321.
5107.0	16.	31.	70.	71.	5.	428.8	7.2	9.3	23316.
5108.0	16.	31.	72.	75.	5.	428.6	7.2	9.3	23311.
5109.0	17.	29.	70.	74.	6.	428.5	7.1	9.2	23306.
5110.0	17.	28.	72.	70.	6.	428.3	7.1	9.2	23300.
5111.0	17.	28.	74.	69.	6.	428.1	7.0	9.1	23294.
5112.0	17.	28.	73.	72.	6.	428.0	7.0	9.1	23289.
5113.0	18.	26.	71.	72.	8.	427.8	6.9	9.0	23282.
5114.0	18.	26.	70.	73.	8.	427.6	6.9	9.0	23274.
5115.0	18.	26.	69.	70.	9.	427.4	6.8	8.9	23266.
5116.0	17.	26.	74.	70.	7.	427.3	6.8	8.9	23258.
5117.0	17.	26.	74.	72.	7.	427.1	6.7	8.8	23251.
5118.0	18.	25.	71.	71.	9.	426.9	6.7	8.8	23244.
5119.0	19.	24.	69.	71.	11.	426.7	6.6	8.7	23234.
5120.0	18.	25.	71.	68.	10.	426.5	6.6	8.7	23224.
5121.0	17.	25.	75.	73.	8.	426.4	6.5	8.6	23214.
5122.0	17.	26.	75.	72.	8.	426.2	6.5	8.6	23206.
5123.0	16.	27.	79.	73.	6.	426.0	6.4	8.5	23198.
5124.0	16.	28.	80.	75.	6.	425.8	6.4	8.5	23193.
5125.0	16.	28.	80.	74.	6.	425.7	6.4	8.4	23187.
5126.0	17.	28.	79.	71.	6.	425.5	6.3	8.4	23181.
5127.0	16.	29.	86.	72.	5.	425.4	6.3	8.3	23175.
5128.0	15.	30.	94.	76.	4.	425.2	6.3	8.3	23170.
5129.0	16.	30.	92.	75.	5.	425.0	6.3	8.3	23166.
5130.0	16.	31.	85.	67.	5.	424.9	6.3	8.2	23161.
5131.0	15.	33.	88.	69.	4.	424.7	6.2	8.2	23157.
5132.0	16.	32.	80.	72.	4.	424.6	6.2	8.1	23153.
5133.0	16.	32.	79.	72.	4.	424.4	6.2	8.1	23149.
5134.0	16.	32.	75.	75.	5.	424.3	6.2	8.0	23145.
5135.0	16.	32.	77.	79.	4.	424.1	6.1	8.0	23140.
5136.0	15.	34.	88.	93.	3.	423.9	6.1	8.0	23137.
5137.0	15.	33.	85.	82.	3.	423.8	6.1	8.0	23134.
5138.0	15.	33.	83.	74.	3.	423.6	6.0	7.9	23130.
5139.0	15.	34.	86.	73.	3.	423.5	6.0	7.9	23127.
5140.0	15.	35.	85.	74.	3.	423.3	6.0	7.9	23123.
5141.0	15.	35.	78.	72.	3.	423.2	6.0	7.8	23121.
5142.0	15.	35.	79.	70.	3.	423.0	5.9	7.8	23118.
5143.0	15.	34.	77.	70.	3.	422.9	5.9	7.7	23115.
5144.0	16.	33.	77.	70.	4.	422.7	5.9	7.7	23111.
5145.0	16.	34.	75.	70.	4.	422.6	5.8	7.6	23107.
5146.0	15.	36.	73.	71.	3.	422.4	5.8	7.6	23104.
5147.0	15.	38.	75.	74.	2.	422.3	5.8	7.5	23101.
5148.0	15.	39.	72.	75.	2.	422.1	5.7	7.5	23098.
5149.0	14.	40.	72.	73.	2.	422.0	5.7	7.5	23096.
5150.0	14.	41.	74.	75.	2.	421.8	5.6	7.4	23094.
5151.0	14.	42.	75.	77.	2.	421.7	5.6	7.4	23092.
5152.0	13.	42.	78.	77.	1.	421.6	5.6	7.4	23091.
5153.0	13.	46.	77.	87.	1.	421.4	5.5	7.3	23089.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5154.0	12.	49.	83.	89.	1.	421.3	5.5	7.3	23088.
5161.0	12.	48.	100.	71.	1.	420.7	5.5	7.3	23086.
5162.0	13.	46.	96.	66.	1.	420.6	5.5	7.3	23086.
5163.0	13.	45.	95.	67.	1.	420.4	5.5	7.2	23084.
5164.0	13.	46.	97.	68.	1.	420.3	5.5	7.2	23083.
5165.0	12.	47.	98.	75.	1.	420.2	5.5	7.1	23082.
5166.0	12.	49.	98.	75.	1.	420.1	5.5	7.1	23081.
5168.0	12.	48.	94.	65.	1.	419.8	5.4	7.0	23080.
5169.0	12.	48.	99.	71.	1.	419.7	5.4	7.0	23079.
5170.0	12.	48.	99.	68.	1.	419.6	5.4	6.9	23078.
5171.0	13.	44.	100.	66.	1.	419.4	5.4	6.9	23077.
5172.0	13.	44.	100.	70.	1.	419.3	5.4	6.9	23076.
5173.0	12.	48.	100.	76.	1.	419.2	5.4	6.8	23075.
5174.0	11.	49.	100.	96.	1.	419.1	5.4	6.8	23074.
5197.0	13.	45.	100.	73.	1.	416.8	5.4	6.6	23067.
5198.0	15.	37.	95.	75.	3.	416.6	5.4	6.6	23065.
5199.0	14.	40.	90.	86.	2.	416.5	5.4	6.5	23062.
5200.0	12.	49.	90.	100.	1.	416.4	5.4	6.5	23061.
5276.0	16.	41.	100.	95.	3.	412.9	5.4	6.5	23057.
5277.0	16.	40.	100.	95.	3.	412.8	5.4	6.5	23054.
5278.0	15.	43.	100.	98.	2.	412.6	5.4	6.5	23051.
5285.0	14.	48.	100.	97.	1.	411.7	5.4	6.5	23046.
5286.0	16.	39.	100.	93.	3.	411.6	5.4	6.5	23044.
5287.0	17.	36.	100.	94.	4.	411.4	5.4	6.5	23041.
5288.0	17.	35.	100.	96.	4.	411.3	5.4	6.5	23036.
5289.0	17.	36.	100.	93.	4.	411.1	5.4	6.5	23032.
5290.0	16.	39.	100.	94.	3.	410.9	5.4	6.4	23028.
5291.0	16.	38.	100.	99.	3.	410.8	5.4	6.4	23025.
5292.0	16.	36.	100.	100.	4.	410.6	5.4	6.4	23022.
5293.0	17.	33.	100.	100.	5.	410.4	5.4	6.4	23018.
5294.0	18.	31.	100.	99.	7.	410.3	5.4	6.4	23013.
5295.0	18.	31.	100.	99.	7.	410.1	5.4	6.4	23006.
5296.0	18.	33.	100.	99.	5.	409.9	5.4	6.4	23000.
5297.0	18.	33.	100.	96.	5.	409.7	5.4	6.4	22994.
5298.0	17.	34.	100.	88.	4.	409.6	5.4	6.4	22989.
5299.0	14.	44.	99.	94.	2.	409.4	5.4	6.4	22985.
5303.0	15.	43.	100.	100.	2.	409.0	5.4	6.4	22983.
5304.0	15.	43.	100.	100.	2.	408.8	5.4	6.4	22981.
5305.0	15.	42.	100.	100.	2.	408.7	5.4	6.4	22979.
5306.0	16.	42.	100.	100.	2.	408.5	5.4	6.4	22976.
5307.0	16.	43.	100.	100.	2.	408.4	5.4	6.4	22974.
5310.0	17.	34.	100.	100.	5.	408.0	5.4	6.4	22972.

SED 01845
AC_CPUC_0000995

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5311.0	19.	26.	100.	100.	10.	407.8	5.4	6.4	22965.
5312.0	18.	29.	100.	100.	7.	407.6	5.4	6.4	22955.
5313.0	17.	30.	100.	100.	6.	407.5	5.4	6.4	22948.
5314.0	14.	45.	100.	100.	1.	407.3	5.4	6.4	22942.
5316.0	14.	48.	100.	100.	1.	407.1	5.4	6.4	22942.
5317.0	17.	33.	100.	100.	5.	406.9	5.4	6.4	22939.
5318.0	17.	33.	100.	100.	5.	406.8	5.4	6.4	22934.
5319.0	16.	34.	100.	100.	4.	406.6	5.4	6.4	22929.
5320.0	17.	35.	100.	100.	4.	406.4	5.4	6.4	22925.
5321.0	16.	38.	100.	100.	3.	406.3	5.4	6.4	22921.
5322.0	13.	49.	100.	100.	1.	406.1	5.4	6.4	22918.
5325.0	14.	47.	100.	100.	1.	405.8	5.4	6.4	22917.
5326.0	18.	34.	100.	100.	5.	405.7	5.4	6.4	22915.
5327.0	17.	32.	100.	100.	5.	405.5	5.4	6.4	22910.
5328.0	17.	32.	100.	100.	5.	405.3	5.4	6.4	22905.
5329.0	17.	34.	100.	100.	4.	405.2	5.4	6.4	22900.
5330.0	17.	36.	100.	100.	4.	405.0	5.4	6.4	22896.
5333.0	14.	43.	100.	100.	2.	404.6	5.4	6.4	22892.
5334.0	19.	25.	100.	100.	11.	404.5	5.4	6.4	22888.
5335.0	20.	21.	100.	100.	16.	404.3	5.4	6.4	22876.
5336.0	21.	17.	100.	100.	24.	404.1	5.4	6.4	22859.
5337.0	22.	12.	100.	100.	40.	403.9	5.4	6.4	22833.
5338.0	23.	7.	100.	100.	66.	403.6	5.4	6.4	22779.
5339.0	17.	30.	100.	100.	5.	403.4	5.4	6.4	22720.
5344.0	14.	43.	100.	100.	2.	402.8	5.4	6.4	22715.
5345.0	21.	13.	100.	100.	30.	402.7	5.4	6.4	22712.
5346.0	22.	5.	100.	100.	65.	402.5	5.4	6.4	22670.
5347.0	23.	4.	100.	100.	86.	402.2	5.4	6.4	22601.
5348.0	23.	3.	100.	100.	91.	402.0	5.4	6.4	22512.
5349.0	22.	8.	100.	100.	52.	401.8	5.4	6.4	22423.
5350.0	20.	16.	100.	100.	23.	401.6	5.4	6.4	22381.
5351.0	18.	24.	100.	100.	10.	401.4	5.4	6.4	22362.
5352.0	16.	35.	100.	100.	4.	401.2	5.4	6.4	22354.
5353.0	16.	40.	100.	100.	3.	401.0	5.4	6.4	22351.
5354.0	15.	42.	100.	100.	2.	400.9	5.4	6.4	22349.
5355.0	14.	43.	100.	100.	2.	400.7	5.4	6.4	22347.
5356.0	14.	46.	100.	100.	1.	400.6	5.4	6.4	22345.
5365.0	13.	49.	100.	100.	1.	399.6	5.4	6.4	22341.
5366.0	13.	49.	100.	100.	1.	399.5	5.4	6.4	22340.
5367.0	13.	50.	100.	100.	1.	399.4	5.4	6.4	22339.
5377.0	14.	46.	100.	100.	1.	398.7	5.4	6.4	22337.
5378.0	16.	38.	100.	100.	3.	398.6	5.4	6.4	22335.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5548.0	15.	39.	98.	91.	3.	386.9	5.1	5.6	22078.
5549.0	15.	40.	96.	94.	3.	386.8	5.1	5.5	22075.
5550.0	16.	36.	97.	95.	4.	386.6	5.1	5.5	22073.
5551.0	15.	41.	100.	97.	2.	386.5	5.1	5.5	22069.
5552.0	14.	42.	100.	99.	2.	386.3	5.1	5.5	22067.
5553.0	15.	38.	100.	98.	3.	386.2	5.1	5.5	22065.
5554.0	17.	33.	100.	87.	5.	386.0	5.1	5.5	22062.
5555.0	19.	25.	100.	74.	11.	385.9	5.1	5.5	22057.
5556.0	20.	20.	99.	72.	18.	385.7	5.1	5.4	22044.
5557.0	20.	18.	98.	71.	20.	385.5	5.0	5.4	22024.
5558.0	18.	25.	98.	80.	10.	385.3	5.0	5.3	22006.
5559.0	15.	43.	99.	94.	2.	385.1	5.0	5.3	21999.
5560.0	14.	46.	100.	98.	1.	384.9	5.0	5.3	21997.
5561.0	13.	46.	100.	100.	1.	384.8	5.0	5.3	21996.
5562.0	13.	44.	100.	100.	1.	384.7	5.0	5.3	21995.
5563.0	14.	44.	99.	97.	2.	384.5	5.0	5.3	21993.
5564.0	14.	45.	100.	97.	1.	384.4	5.0	5.3	21992.
5579.0	13.	49.	100.	100.	1.	383.1	5.0	5.3	21989.
5581.0	17.	33.	100.	100.	5.	382.9	5.0	5.3	21985.
5582.0	18.	35.	100.	100.	5.	382.7	5.0	5.3	21980.
5583.0	15.	46.	100.	100.	2.	382.5	5.0	5.3	21976.
5584.0	15.	44.	100.	100.	2.	382.4	5.0	5.3	21975.
5585.0	15.	43.	100.	100.	2.	382.2	5.0	5.3	21973.
5621.0	14.	47.	100.	100.	1.	380.5	5.0	5.3	21969.
5646.0	13.	50.	100.	100.	1.	378.5	5.0	5.3	21964.
5647.0	14.	48.	100.	100.	1.	378.4	5.0	5.3	21963.
5648.0	14.	48.	100.	100.	1.	378.3	5.0	5.3	21962.
5652.0	16.	38.	100.	100.	3.	377.9	5.0	5.3	21960.
5653.0	15.	40.	100.	100.	3.	377.7	5.0	5.3	21957.
5654.0	17.	34.	100.	100.	5.	377.5	5.0	5.3	21954.
5655.0	17.	35.	100.	100.	4.	377.4	5.0	5.3	21949.
5659.0	13.	49.	100.	100.	1.	376.9	5.0	5.3	21946.
5660.0	15.	43.	100.	100.	2.	376.8	5.0	5.3	21944.
5663.0	14.	45.	100.	100.	2.	376.4	5.0	5.3	21942.
5665.0	15.	41.	100.	100.	2.	376.2	5.0	5.3	21940.
5666.0	19.	29.	100.	99.	8.	376.0	5.0	5.3	21936.
5667.0	20.	26.	100.	97.	11.	375.8	5.0	5.3	21927.
5668.0	20.	25.	100.	97.	12.	375.6	5.0	5.3	21916.
5669.0	20.	22.	100.	99.	15.	375.4	5.0	5.3	21903.
5670.0	22.	18.	100.	99.	25.	375.2	5.0	5.3	21887.

Schlumberger

SED 01847
AC_CPUC_0000997

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5671.0	22.	19.	100.	97.	23.	375.0	5.0	5.2	21862.
5672.0	21.	21.	100.	95.	19.	374.8	5.0	5.2	21840.
5673.0	20.	26.	100.	98.	12.	374.6	5.0	5.2	21824.
5674.0	20.	25.	100.	99.	12.	374.4	5.0	5.2	21812.
5675.0	22.	19.	100.	99.	23.	374.2	5.0	5.2	21797.
5676.0	22.	21.	100.	98.	20.	373.9	5.0	5.2	21774.
5677.0	21.	21.	100.	100.	20.	373.7	5.0	5.2	21755.
5678.0	21.	21.	100.	100.	19.	373.5	5.0	5.2	21734.
5679.0	21.	22.	100.	100.	18.	373.3	5.0	5.2	21716.
5680.0	22.	20.	100.	100.	22.	373.1	5.0	5.2	21697.
5681.0	20.	27.	100.	100.	11.	372.9	5.0	5.2	21677.
5682.0	17.	34.	100.	100.	5.	372.7	5.0	5.2	21668.
5683.0	13.	47.	100.	100.	1.	372.5	5.0	5.2	21664.
5696.0	12.	47.	100.	100.	1.	372.1	5.0	5.2	21663.
5697.0	16.	34.	100.	100.	4.	371.9	5.0	5.2	21661.
5699.0	13.	49.	100.	100.	1.	371.6	5.0	5.2	21656.
5700.0	13.	46.	100.	100.	1.	371.5	5.0	5.2	21655.
5701.0	13.	47.	100.	100.	1.	371.4	5.0	5.2	21654.
5702.0	15.	43.	100.	100.	2.	371.2	5.0	5.2	21652.
5717.0	15.	42.	100.	100.	2.	369.6	5.0	5.2	21646.
5718.0	17.	36.	100.	99.	4.	369.5	5.0	5.2	21644.
5719.0	17.	33.	100.	99.	5.	369.3	5.0	5.2	21640.
5720.0	18.	31.	100.	97.	6.	369.1	5.0	5.2	21634.
5721.0	18.	31.	100.	94.	7.	369.0	5.0	5.2	21628.
5722.0	19.	30.	100.	93.	8.	368.8	5.0	5.2	21621.
5723.0	19.	29.	100.	87.	8.	368.6	5.0	5.2	21613.
5724.0	18.	28.	100.	92.	8.	368.4	5.0	5.2	21605.
5725.0	19.	28.	100.	82.	9.	368.2	5.0	5.1	21597.
5726.0	18.	30.	100.	82.	7.	368.0	5.0	5.1	21589.
5727.0	17.	32.	100.	90.	5.	367.9	5.0	5.1	21582.
5728.0	17.	34.	100.	95.	4.	367.7	5.0	5.1	21577.
5729.0	17.	34.	100.	97.	4.	367.5	5.0	5.1	21573.
5730.0	17.	30.	100.	97.	6.	367.4	5.0	5.1	21568.
5731.0	18.	28.	100.	98.	7.	367.2	5.0	5.0	21562.
5732.0	18.	26.	100.	97.	9.	367.0	5.0	5.0	21554.
5733.0	18.	28.	100.	97.	8.	366.8	5.0	5.0	21545.
5734.0	17.	31.	100.	100.	6.	366.6	5.0	5.0	21538.
5735.0	16.	35.	100.	100.	4.	366.5	5.0	5.0	21532.
5743.0	14.	47.	100.	100.	1.	365.9	5.0	5.0	21528.
5748.0	14.	47.	100.	100.	1.	365.3	5.0	5.0	21525.
5749.0	17.	37.	100.	100.	4.	365.2	5.0	5.0	21524.
5750.0	19.	27.	100.	100.	10.	365.0	5.0	5.0	21519.
5751.0	19.	26.	100.	100.	10.	364.8	5.0	5.0	21508.

Schlumberger
SED 01848
AC_CPUC_0000998

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5752.0	19.	26.	100.	100.	10.	364.6	5.0	5.0	21498.
5753.0	19.	28.	100.	100.	8.	364.4	5.0	5.0	21488.
5754.0	17.	36.	100.	100.	4.	364.2	5.0	5.0	21481.
5769.0	14.	44.	100.	100.	2.	363.5	5.0	5.0	21476.
5771.0	15.	43.	100.	100.	2.	363.3	5.0	5.0	21475.
5772.0	16.	38.	100.	100.	3.	363.1	5.0	5.0	21472.
5773.0	15.	44.	100.	100.	2.	362.9	5.0	5.0	21469.
5774.0	14.	46.	100.	100.	1.	362.8	5.0	5.0	21467.
5776.0	13.	48.	100.	100.	1.	362.6	5.0	5.0	21466.
5779.0	14.	45.	100.	100.	1.	362.2	5.0	5.0	21464.
5780.0	14.	42.	100.	100.	2.	362.1	5.0	5.0	21463.
5781.0	18.	29.	100.	100.	7.	361.9	5.0	5.0	21461.
5782.0	18.	28.	100.	100.	7.	361.8	5.0	5.0	21454.
5783.0	18.	27.	100.	100.	8.	361.6	5.0	5.0	21446.
5784.0	18.	28.	100.	100.	8.	361.4	5.0	5.0	21438.
5785.0	16.	37.	100.	100.	3.	361.2	5.0	5.0	21430.
5786.0	15.	40.	100.	100.	2.	361.1	5.0	5.0	21428.
5787.0	17.	34.	100.	100.	4.	360.9	5.0	5.0	21425.
5788.0	18.	28.	100.	100.	8.	360.7	5.0	5.0	21420.
5789.0	17.	32.	100.	100.	6.	360.6	5.0	5.0	21413.
5790.0	17.	31.	100.	100.	5.	360.4	5.0	5.0	21407.
5791.0	19.	22.	100.	100.	12.	360.2	5.0	5.0	21399.
5792.0	16.	35.	100.	100.	4.	360.0	5.0	5.0	21388.
5793.0	13.	45.	100.	100.	1.	359.9	5.0	5.0	21386.
5794.0	14.	42.	100.	100.	2.	359.7	5.0	5.0	21384.
5795.0	15.	36.	100.	100.	3.	359.6	5.0	5.0	21383.
5796.0	16.	34.	100.	100.	4.	359.4	5.0	5.0	21379.
5797.0	17.	29.	100.	100.	6.	359.3	5.0	5.0	21375.
5798.0	18.	30.	100.	100.	7.	359.1	5.0	5.0	21368.
5799.0	16.	36.	100.	100.	3.	358.9	5.0	5.0	21362.
5800.0	17.	36.	100.	100.	4.	358.8	5.0	5.0	21359.
5801.0	18.	30.	100.	100.	7.	358.6	5.0	5.0	21355.
5802.0	18.	29.	100.	100.	7.	358.4	5.0	5.0	21347.
5803.0	18.	29.	100.	100.	6.	358.2	5.0	5.0	21340.
5804.0	19.	25.	100.	100.	11.	358.1	5.0	5.0	21333.
5805.0	21.	20.	100.	100.	19.	357.9	5.0	5.0	21319.
5806.0	20.	23.	100.	100.	14.	357.7	5.0	5.0	21300.
5807.0	20.	23.	100.	100.	13.	357.5	5.0	5.0	21286.
5808.0	20.	21.	100.	100.	15.	357.3	5.0	5.0	21272.
5809.0	19.	21.	100.	100.	14.	357.1	5.0	5.0	21258.
5810.0	20.	23.	100.	100.	13.	356.9	5.0	5.0	21245.
5811.0	20.	22.	100.	100.	15.	356.7	5.0	5.0	21232.
5812.0	21.	19.	100.	100.	20.	356.5	5.0	5.0	21217.
5813.0	22.	18.	100.	100.	24.	356.3	5.0	5.0	21196.

Schlumberger

DEPTH	EFF	VOL	--SATUR--		PERM	----------INTEGRATIONS---------			
	POR	SH	OH	CH		PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
5911.0	19.	19.	100.	100.	16.	337.7	5.0	5.0	19540.
5912.0	19.	19.	100.	100.	15.	337.5	5.0	5.0	19525.
5913.0	19.	17.	100.	100.	19.	337.3	5.0	5.0	19509.
5914.0	20.	13.	100.	100.	25.	337.1	5.0	5.0	19488.
5915.0	20.	10.	100.	100.	35.	336.9	5.0	5.0	19460.
5916.0	20.	9.	100.	100.	35.	336.7	5.0	5.0	19424.
5917.0	20.	10.	100.	100.	33.	336.5	5.0	5.0	19391.
5918.0	19.	14.	100.	100.	21.	336.3	5.0	5.0	19361.
5919.0	16.	30.	100.	100.	5.	336.2	5.0	5.0	19348.
5920.0	17.	33.	100.	100.	5.	336.0	5.0	5.0	19343.
5921.0	17.	30.	100.	100.	6.	335.8	5.0	5.0	19338.
5922.0	17.	28.	100.	100.	6.	335.7	5.0	5.0	19332.
5923.0	17.	31.	100.	100.	5.	335.5	5.0	5.0	19326.
5924.0	16.	36.	100.	100.	4.	335.3	5.0	5.0	19321.
5925.0	16.	39.	100.	100.	3.	335.2	5.0	5.0	19317.
5926.0	16.	38.	100.	100.	3.	335.0	5.0	5.0	19314.
5927.0	16.	36.	100.	100.	4.	334.8	5.0	5.0	19311.
5928.0	17.	35.	100.	100.	4.	334.7	5.0	5.0	19307.
5929.0	16.	36.	100.	100.	4.	334.5	5.0	5.0	19303.
5930.0	15.	40.	100.	100.	2.	334.3	5.0	5.0	19299.
5931.0	14.	47.	100.	100.	1.	334.2	5.0	5.0	19298.
5932.0	12.	50.	100.	100.	1.	334.1	5.0	5.0	19296.
5933.0	12.	49.	100.	100.	1.	333.9	5.0	5.0	19296.
5934.0	13.	46.	100.	100.	1.	333.8	5.0	5.0	19295.
5935.0	17.	34.	100.	100.	4.	333.7	5.0	5.0	19293.
5936.0	18.	29.	100.	100.	8.	333.5	5.0	5.0	19287.
5937.0	18.	29.	100.	100.	7.	333.3	5.0	5.0	19279.
5938.0	15.	40.	100.	100.	2.	333.1	5.0	5.0	19274.
5939.0	14.	42.	100.	100.	2.	333.0	5.0	5.0	19272.
5940.0	16.	36.	100.	100.	4.	332.9	5.0	5.0	19269.
5941.0	14.	44.	100.	100.	2.	332.7	5.0	5.0	19266.
5942.0	13.	45.	100.	100.	1.	332.6	5.0	5.0	19264.
5943.0	16.	35.	100.	100.	4.	332.4	5.0	5.0	19263.
5944.0	15.	36.	100.	100.	3.	332.3	5.0	5.0	19259.
5945.0	15.	38.	100.	100.	3.	332.1	5.0	5.0	19256.
5946.0	19.	24.	100.	100.	11.	331.9	5.0	5.0	19252.
5947.0	19.	22.	100.	100.	11.	331.8	5.0	5.0	19240.
5948.0	18.	22.	100.	100.	11.	331.6	5.0	5.0	19230.
5949.0	17.	29.	100.	100.	6.	331.4	5.0	5.0	19219.
5950.0	15.	38.	100.	100.	2.	331.2	5.0	5.0	19215.
5951.0	17.	29.	100.	100.	6.	331.1	5.0	5.0	19212.
5952.0	18.	25.	100.	100.	9.	330.9	5.0	5.0	19205.
5953.0	18.	23.	100.	100.	10.	330.7	5.0	5.0	19196.
5954.0	19.	24.	100.	100.	10.	330.6	5.0	5.0	19186.
5955.0	19.	25.	100.	100.	11.	330.4	5.0	5.0	19175.
5956.0	19.	25.	100.	100.	10.	330.2	5.0	5.0	19164.
5957.0	19.	24.	100.	100.	11.	330.0	5.0	5.0	19153.
5958.0	19.	23.	100.	100.	12.	329.8	5.0	5.0	19141.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6039.0	14.	43.	100.	100.	2.	319.5	5.0	5.0	18731.
6040.0	14.	40.	100.	100.	2.	319.4	5.0	5.0	18729.
6041.0	14.	39.	100.	100.	2.	319.2	5.0	5.0	18727.
6042.0	14.	36.	100.	100.	2.	319.1	5.0	5.0	18725.
6043.0	16.	29.	100.	100.	5.	319.0	5.0	5.0	18722.
6044.0	16.	27.	100.	100.	6.	318.8	5.0	5.0	18717.
6045.0	17.	26.	100.	100.	7.	318.6	5.0	5.0	18711.
6046.0	17.	26.	100.	100.	6.	318.5	5.0	5.0	18704.
6047.0	16.	29.	100.	100.	5.	318.3	5.0	5.0	18698.
6048.0	16.	31.	100.	100.	5.	318.1	5.0	5.0	18694.
6049.0	16.	33.	100.	100.	4.	318.0	5.0	5.0	18688.
6050.0	15.	39.	100.	100.	2.	317.8	5.0	5.0	18685.
6051.0	15.	40.	100.	100.	2.	317.7	5.0	5.0	18682.
6052.0	15.	38.	100.	100.	3.	317.5	5.0	5.0	18680.
6053.0	18.	28.	100.	100.	7.	317.4	5.0	5.0	18676.
6054.0	19.	23.	100.	100.	12.	317.2	5.0	5.0	18667.
6055.0	19.	21.	100.	100.	14.	317.0	5.0	5.0	18655.
6056.0	20.	19.	100.	100.	18.	316.8	5.0	5.0	18641.
6057.0	22.	18.	100.	100.	25.	316.6	5.0	5.0	18620.
6058.0	21.	19.	100.	100.	21.	316.4	5.0	5.0	18595.
6059.0	20.	21.	100.	100.	16.	316.2	5.0	5.0	18576.
6060.0	20.	22.	100.	100.	15.	316.0	5.0	5.0	18561.
6061.0	18.	27.	100.	100.	8.	315.8	5.0	5.0	18548.
6062.0	18.	30.	100.	100.	6.	315.6	5.0	5.0	18541.
6063.0	16.	34.	100.	100.	4.	315.4	5.0	5.0	18535.
6064.0	12.	48.	100.	100.	1.	315.3	5.0	5.0	18531.
6101.0	16.	43.	99.	100.	2.	312.7	5.0	5.0	18528.
6102.0	19.	29.	99.	100.	9.	312.5	5.0	5.0	18523.
6103.0	18.	32.	100.	100.	6.	312.3	5.0	5.0	18515.
6104.0	15.	40.	100.	100.	3.	312.2	5.0	5.0	18510.
6130.0	16.	40.	100.	100.	3.	310.0	5.0	5.0	18503.
6131.0	17.	37.	100.	100.	4.	309.8	5.0	5.0	18500.
6132.0	17.	35.	100.	100.	4.	309.7	5.0	5.0	18496.
6133.0	18.	32.	100.	100.	6.	309.5	5.0	5.0	18492.
6134.0	19.	31.	100.	100.	8.	309.3	5.0	5.0	18485.
6135.0	20.	28.	100.	100.	10.	309.1	5.0	5.0	18477.
6136.0	21.	24.	100.	100.	14.	308.9	5.0	5.0	18466.
6137.0	20.	25.	100.	100.	13.	308.7	5.0	5.0	18452.
6138.0	20.	26.	100.	100.	12.	308.5	5.0	5.0	18439.
6139.0	19.	27.	100.	100.	10.	308.3	5.0	5.0	18428.
6140.0	19.	28.	100.	100.	9.	308.1	5.0	5.0	18418.
6141.0	18.	34.	100.	100.	5.	307.9	5.0	5.0	18410.
6170.0	15.	45.	100.	100.	2.	305.7	5.0	5.0	18404.
6171.0	17.	39.	97.	100.	3.	305.5	5.0	5.0	18401.
6172.0	15.	44.	99.	100.	2.	305.4	5.0	5.0	18398.

SED 01851
AC_CPUC_0001001

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6175.0	13.	49.	100.	100.	1.	305.0	5.0	5.0	18396.
6176.0	19.	28.	100.	100.	8.	304.9	5.0	5.0	18393.
6177.0	20.	20.	100.	100.	16.	304.7	5.0	5.0	18382.
6178.0	20.	20.	100.	100.	16.	304.5	5.0	5.0	18364.
6179.0	19.	22.	100.	100.	14.	304.3	5.0	5.0	18349.
6180.0	22.	13.	100.	100.	35.	304.1	5.0	5.0	18334.
6181.0	24.	0.	100.	100.	155.	303.8	5.0	5.0	18265.
6182.0	24.	0.	100.	100.	150.	303.6	5.0	5.0	18113.
6183.0	24.	0.	100.	100.	145.	303.4	5.0	5.0	17965.
6184.0	23.	2.	100.	100.	105.	303.1	5.0	5.0	17827.
6185.0	23.	6.	100.	100.	72.	302.9	5.0	5.0	17733.
6186.0	22.	10.	100.	100.	49.	302.7	5.0	5.0	17668.
6187.0	22.	10.	100.	100.	46.	302.4	5.0	5.0	17620.
6188.0	23.	12.	100.	100.	45.	302.2	5.0	5.0	17573.
6189.0	22.	15.	100.	100.	31.	302.0	5.0	5.0	17532.
6190.0	21.	17.	100.	100.	25.	301.8	5.0	5.0	17504.
6191.0	21.	21.	100.	100.	17.	301.6	5.0	5.0	17482.
6192.0	18.	29.	100.	100.	7.	301.4	5.0	5.0	17467.
6193.0	15.	38.	100.	100.	3.	301.2	5.0	5.0	17461.
6194.0	14.	45.	100.	100.	1.	301.0	5.0	5.0	17459.
6195.0	13.	45.	100.	100.	1.	300.9	5.0	5.0	17458.
6196.0	14.	42.	100.	100.	2.	300.8	5.0	5.0	17456.
6197.0	17.	30.	100.	100.	6.	300.6	5.0	5.0	17454.
6198.0	19.	23.	100.	100.	12.	300.4	5.0	5.0	17446.
6199.0	20.	21.	100.	100.	15.	300.2	5.0	5.0	17432.
6200.0	20.	19.	100.	100.	19.	300.0	5.0	5.0	17417.
6201.0	21.	17.	100.	100.	25.	299.8	5.0	5.0	17396.
6202.0	21.	17.	100.	100.	24.	299.6	5.0	5.0	17372.
6203.0	21.	20.	100.	100.	19.	299.4	5.0	5.0	17349.
6204.0	19.	26.	100.	100.	11.	299.2	5.0	5.0	17332.
6205.0	17.	33.	100.	100.	5.	299.0	5.0	5.0	17323.
6206.0	17.	36.	100.	100.	4.	298.8	5.0	5.0	17318.
6207.0	16.	38.	100.	100.	3.	298.7	5.0	5.0	17315.
6208.0	17.	36.	100.	100.	4.	298.5	5.0	5.0	17312.
6209.0	18.	30.	100.	100.	7.	298.4	5.0	5.0	17307.
6210.0	18.	29.	100.	100.	7.	298.2	5.0	5.0	17301.
6211.0	18.	26.	100.	100.	8.	298.0	5.0	5.0	17294.
6212.0	19.	26.	100.	100.	10.	297.8	5.0	5.0	17285.
6213.0	18.	26.	100.	100.	9.	297.6	5.0	5.0	17276.
6214.0	19.	26.	100.	100.	10.	297.5	5.0	5.0	17267.
6215.0	19.	25.	100.	100.	12.	297.3	5.0	5.0	17256.
6216.0	20.	22.	100.	100.	14.	297.1	5.0	5.0	17244.
6217.0	20.	20.	100.	100.	17.	296.9	5.0	5.0	17229.
6218.0	20.	19.	100.	100.	19.	296.7	5.0	5.0	17211.
6219.0	21.	18.	100.	100.	21.	296.5	5.0	5.0	17191.
6220.0	20.	19.	100.	100.	18.	296.3	5.0	5.0	17171.
6221.0	20.	21.	100.	100.	15.	296.1	5.0	5.0	17153.

Schlumberger

SED 01852
AC_CPUC_0001002

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6270.0	20.	27.	100.	100.	11.	287.0	5.0	5.0	16536.
6271.0	19.	28.	100.	100.	9.	286.8	5.0	5.0	16526.
6272.0	18.	27.	100.	100.	8.	286.6	5.0	5.0	16517.
6273.0	18.	26.	100.	100.	9.	286.5	5.0	5.0	16509.
6274.0	18.	26.	100.	100.	8.	286.3	5.0	5.0	16500.
6275.0	19.	24.	100.	100.	12.	286.1	5.0	5.0	16491.
6276.0	20.	24.	100.	100.	14.	285.9	5.0	5.0	16478.
6277.0	20.	24.	100.	100.	13.	285.7	5.0	5.0	16465.
6278.0	20.	22.	100.	100.	15.	285.5	5.0	5.0	16452.
6279.0	21.	21.	100.	100.	19.	285.3	5.0	5.0	16436.
6280.0	21.	20.	100.	100.	19.	285.1	5.0	5.0	16416.
6281.0	21.	19.	100.	100.	20.	284.9	5.0	5.0	16397.
6282.0	20.	20.	100.	100.	17.	284.7	5.0	5.0	16377.
6283.0	21.	21.	100.	100.	17.	284.5	5.0	5.0	16360.
6284.0	21.	20.	100.	100.	19.	284.3	5.0	5.0	16342.
6285.0	21.	20.	100.	100.	18.	284.0	5.0	5.0	16323.
6286.0	20.	23.	100.	100.	14.	283.8	5.0	5.0	16306.
6287.0	19.	28.	100.	100.	9.	283.6	5.0	5.0	16294.
6288.0	18.	33.	100.	100.	6.	283.5	5.0	5.0	16286.
6289.0	17.	38.	100.	100.	3.	283.3	5.0	5.0	16281.
6290.0	16.	40.	100.	100.	3.	283.1	5.0	5.0	16278.
6291.0	16.	40.	100.	100.	3.	283.0	5.0	5.0	16275.
6292.0	16.	38.	100.	100.	3.	282.8	5.0	5.0	16272.
6293.0	14.	46.	100.	100.	1.	282.6	5.0	5.0	16269.
6294.0	13.	49.	100.	100.	1.	282.5	5.0	5.0	16268.
6295.0	14.	47.	100.	100.	1.	282.4	5.0	5.0	16267.
6296.0	18.	33.	100.	100.	5.	282.2	5.0	5.0	16265.
6297.0	20.	24.	100.	100.	14.	282.0	5.0	5.0	16258.
6298.0	21.	20.	100.	100.	20.	281.8	5.0	5.0	16242.
6299.0	21.	18.	100.	100.	21.	281.6	5.0	5.0	16221.
6300.0	21.	18.	100.	100.	21.	281.4	5.0	5.0	16201.
6301.0	21.	17.	100.	100.	24.	281.2	5.0	5.0	16179.
6302.0	20.	20.	100.	100.	17.	281.0	5.0	5.0	16158.
6303.0	19.	25.	100.	100.	11.	280.8	5.0	5.0	16142.
6304.0	19.	27.	100.	100.	9.	280.6	5.0	5.0	16131.
6305.0	17.	28.	100.	100.	7.	280.4	5.0	5.0	16123.
6306.0	18.	29.	100.	100.	7.	280.3	5.0	5.0	16116.
6307.0	20.	21.	100.	100.	15.	280.1	5.0	5.0	16108.
6308.0	20.	21.	100.	100.	16.	279.9	5.0	5.0	16092.
6309.0	20.	21.	100.	100.	16.	279.7	5.0	5.0	16077.
6310.0	20.	21.	100.	100.	16.	279.5	5.0	5.0	16060.
6311.0	20.	23.	100.	100.	15.	279.3	5.0	5.0	16044.
6312.0	21.	22.	100.	100.	16.	279.1	5.0	5.0	16030.
6313.0	20.	27.	100.	100.	11.	278.9	5.0	5.0	16012.
6314.0	20.	27.	100.	100.	11.	278.7	5.0	5.0	16002.
6315.0	20.	23.	100.	100.	14.	278.5	5.0	5.0	15991.
6316.0	21.	20.	100.	100.	20.	278.3	5.0	5.0	15975.
6317.0	22.	19.	100.	100.	23.	278.0	5.0	5.0	15954.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6366.0	23.	12.	100.	100.	47.	267.3	5.0	5.0	14588.
6367.0	23.	9.	100.	100.	62.	267.1	5.0	5.0	14538.
6368.0	24.	4.	100.	100.	97.	266.8	5.0	5.0	14470.
6369.0	26.	2.	100.	100.	155.	266.6	5.0	5.0	14361.
6370.0	26.	2.	100.	100.	160.	266.3	5.0	5.0	14199.
6371.0	25.	4.	100.	100.	110.	266.1	5.0	5.0	14051.
6372.0	24.	7.	100.	100.	75.	265.8	5.0	5.0	13945.
6373.0	24.	9.	100.	100.	71.	265.6	5.0	5.0	13874.
6374.0	25.	9.	100.	100.	80.	265.3	5.0	5.0	13797.
6375.0	24.	11.	100.	100.	57.	265.1	5.0	5.0	13726.
6376.0	23.	12.	100.	100.	45.	264.8	5.0	5.0	13672.
6377.0	22.	15.	100.	100.	34.	264.6	5.0	5.0	13630.
6378.0	23.	15.	100.	100.	36.	264.4	5.0	5.0	13595.
6379.0	23.	15.	100.	100.	36.	264.2	5.0	5.0	13559.
6380.0	22.	18.	100.	100.	26.	263.9	5.0	5.0	13526.
6381.0	20.	23.	100.	100.	15.	263.7	5.0	5.0	13503.
6382.0	20.	23.	100.	100.	14.	263.5	5.0	5.0	13489.
6383.0	21.	20.	100.	100.	19.	263.3	5.0	5.0	13474.
6384.0	22.	18.	100.	100.	26.	263.1	5.0	5.0	13452.
6385.0	21.	22.	100.	100.	17.	262.9	5.0	5.0	13429.
6386.0	21.	19.	100.	100.	21.	262.7	5.0	5.0	13411.
6387.0	21.	19.	100.	100.	22.	262.5	5.0	5.0	13388.
6388.0	21.	18.	100.	100.	22.	262.2	5.0	5.0	13367.
6389.0	21.	14.	100.	100.	29.	262.0	5.0	5.0	13345.
6390.0	23.	12.	100.	100.	42.	261.8	5.0	5.0	13312.
6391.0	22.	13.	100.	100.	37.	261.6	5.0	5.0	13270.
6392.0	20.	19.	100.	100.	19.	261.4	5.0	5.0	13241.
6393.0	22.	17.	100.	100.	28.	261.2	5.0	5.0	13220.
6394.0	22.	18.	100.	100.	26.	260.9	5.0	5.0	13191.
6395.0	21.	18.	100.	100.	24.	260.7	5.0	5.0	13167.
6396.0	21.	17.	100.	100.	26.	260.5	5.0	5.0	13143.
6397.0	21.	18.	100.	100.	23.	260.3	5.0	5.0	13119.
6398.0	21.	18.	100.	100.	20.	260.1	5.0	5.0	13097.
6399.0	21.	18.	100.	100.	22.	259.9	5.0	5.0	13077.
6400.0	22.	19.	100.	100.	23.	259.7	5.0	5.0	13055.
6401.0	22.	19.	100.	100.	23.	259.5	5.0	5.0	13032.
6402.0	22.	18.	100.	100.	25.	259.2	5.0	5.0	13009.
6403.0	22.	16.	100.	100.	28.	259.0	5.0	5.0	12984.
6404.0	22.	15.	100.	100.	31.	258.8	5.0	5.0	12957.
6405.0	22.	13.	100.	100.	40.	258.6	5.0	5.0	12924.
6406.0	23.	12.	100.	100.	43.	258.4	5.0	5.0	12883.
6407.0	23.	12.	100.	100.	42.	258.1	5.0	5.0	12841.
6408.0	22.	13.	100.	100.	38.	257.9	5.0	5.0	12800.
6409.0	22.	13.	100.	100.	37.	257.7	5.0	5.0	12763.
6410.0	22.	13.	100.	100.	38.	257.5	5.0	5.0	12726.
6411.0	22.	14.	100.	100.	32.	257.3	5.0	5.0	12689.
6412.0	21.	16.	100.	100.	27.	257.0	5.0	5.0	12659.
6413.0	21.	18.	100.	100.	23.	256.8	5.0	5.0	12634.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6414.0	21.	19.	100.	100.	21.	256.6	5.0	5.0	12611.
6415.0	21.	20.	100.	100.	19.	256.4	5.0	5.0	12590.
6416.0	20.	23.	100.	100.	14.	256.2	5.0	5.0	12572.
6417.0	21.	23.	100.	100.	15.	256.0	5.0	5.0	12558.
6418.0	21.	21.	100.	100.	18.	255.8	5.0	5.0	12542.
6419.0	21.	21.	100.	100.	17.	255.6	5.0	5.0	12524.
6420.0	20.	22.	100.	100.	16.	255.4	5.0	5.0	12507.
6421.0	22.	19.	100.	100.	23.	255.2	5.0	5.0	12490.
6422.0	21.	19.	100.	100.	22.	255.0	5.0	5.0	12467.
6423.0	21.	19.	100.	100.	22.	254.7	5.0	5.0	12445.
6424.0	21.	22.	100.	100.	16.	254.5	5.0	5.0	12425.
6425.0	21.	22.	100.	100.	17.	254.3	5.0	5.0	12409.
6426.0	22.	18.	100.	100.	28.	254.1	5.0	5.0	12388.
6427.0	22.	18.	100.	100.	25.	253.9	5.0	5.0	12361.
6428.0	22.	18.	100.	100.	24.	253.7	5.0	5.0	12337.
6429.0	22.	15.	100.	100.	31.	253.4	5.0	5.0	12312.
6430.0	22.	14.	100.	100.	32.	253.2	5.0	5.0	12282.
6431.0	22.	15.	100.	100.	31.	253.0	5.0	5.0	12249.
6432.0	22.	18.	100.	100.	23.	252.8	5.0	5.0	12221.
6433.0	20.	23.	100.	100.	14.	252.6	5.0	5.0	12200.
6434.0	17.	34.	100.	100.	5.	252.4	5.0	5.0	12189.
6435.0	17.	33.	100.	100.	5.	252.2	5.0	5.0	12184.
6436.0	20.	27.	100.	100.	11.	252.0	5.0	5.0	12178.
6437.0	18.	31.	100.	100.	7.	251.8	5.0	5.0	12167.
6438.0	17.	36.	100.	100.	4.	251.7	5.0	5.0	12161.
6441.0	16.	39.	100.	100.	3.	251.2	5.0	5.0	12157.
6442.0	19.	28.	100.	100.	9.	251.1	5.0	5.0	12152.
6443.0	20.	22.	100.	100.	15.	250.9	5.0	5.0	12142.
6444.0	21.	22.	100.	100.	17.	250.7	5.0	5.0	12125.
6445.0	21.	21.	100.	100.	18.	250.5	5.0	5.0	12109.
6446.0	20.	24.	100.	100.	14.	250.3	5.0	5.0	12091.
6447.0	20.	23.	100.	100.	14.	250.1	5.0	5.0	12077.
6448.0	21.	20.	100.	100.	19.	249.9	5.0	5.0	12063.
6449.0	22.	18.	100.	100.	25.	249.6	5.0	5.0	12042.
6450.0	21.	18.	100.	100.	23.	249.4	5.0	5.0	12018.
6451.0	20.	23.	100.	100.	13.	249.2	5.0	5.0	11996.
6452.0	19.	28.	100.	100.	9.	249.0	5.0	5.0	11985.
6453.0	19.	27.	100.	100.	10.	248.8	5.0	5.0	11976.
6454.0	19.	31.	100.	100.	7.	248.7	5.0	5.0	11967.
6455.0	18.	35.	100.	100.	5.	248.5	5.0	5.0	11960.
6456.0	16.	40.	100.	100.	3.	248.3	5.0	5.0	11956.
6457.0	13.	49.	100.	100.	1.	248.1	5.0	5.0	11954.
6470.0	15.	40.	100.	100.	2.	247.5	5.0	5.0	11953.
6471.0	15.	43.	100.	100.	2.	247.4	5.0	5.0	11951.
6472.0	15.	42.	100.	100.	2.	247.2	5.0	5.0	11949.
6473.0	17.	33.	100.	100.	5.	247.0	5.0	5.0	11945.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6474.0	18.	32.	100.	100.	6.	246.9	5.0	5.0	11940.
6475.0	17.	37.	100.	100.	4.	246.7	5.0	5.0	11934.
6476.0	17.	38.	100.	100.	3.	246.5	5.0	5.0	11931.
6477.0	18.	34.	100.	100.	5.	246.4	5.0	5.0	11927.
6478.0	19.	29.	100.	100.	8.	246.2	5.0	5.0	11921.
6479.0	20.	26.	100.	100.	12.	246.0	5.0	5.0	11912.
6480.0	21.	23.	100.	100.	17.	245.8	5.0	5.0	11897.
6481.0	21.	21.	100.	100.	18.	245.6	5.0	5.0	11880.
6482.0	21.	22.	100.	100.	17.	245.3	5.0	5.0	11861.
6483.0	21.	22.	100.	100.	18.	245.1	5.0	5.0	11843.
6484.0	21.	23.	100.	100.	17.	244.9	5.0	5.0	11826.
6485.0	19.	33.	100.	100.	6.	244.7	5.0	5.0	11811.
6494.0	15.	46.	100.	100.	1.	244.3	5.0	5.0	11807.
6495.0	21.	23.	100.	100.	15.	244.1	5.0	5.0	11804.
6496.0	21.	23.	100.	100.	16.	243.9	5.0	5.0	11788.
6497.0	20.	28.	100.	100.	10.	243.7	5.0	5.0	11773.
6500.0	18.	31.	100.	100.	7.	243.3	5.0	5.0	11763.
6501.0	18.	35.	100.	100.	5.	243.1	5.0	5.0	11757.
6502.0	17.	39.	100.	100.	3.	242.9	5.0	5.0	11752.
6534.0	18.	39.	98.	100.	4.	241.4	5.0	5.0	11747.
6535.0	19.	35.	100.	100.	6.	241.2	5.0	5.0	11742.
6536.0	18.	35.	100.	100.	5.	241.0	5.0	5.0	11737.
6537.0	17.	37.	100.	100.	4.	240.8	5.0	5.0	11732.
6538.0	17.	38.	99.	100.	4.	240.6	5.0	5.0	11728.
6539.0	18.	37.	99.	100.	4.	240.5	5.0	5.0	11724.
6540.0	18.	36.	96.	100.	5.	240.3	5.0	5.0	11720.
6541.0	16.	43.	99.	100.	2.	240.1	5.0	5.0	11715.
6543.0	14.	48.	100.	100.	1.	239.8	5.0	5.0	11713.
6544.0	14.	47.	100.	100.	1.	239.7	5.0	5.0	11711.
6545.0	13.	49.	100.	100.	1.	239.5	5.0	5.0	11710.
6573.0	15.	46.	100.	100.	2.	238.0	5.0	5.0	11706.
6574.0	17.	38.	100.	100.	4.	237.8	5.0	5.0	11704.
6575.0	17.	38.	100.	100.	4.	237.6	5.0	5.0	11700.
6576.0	17.	37.	100.	100.	4.	237.5	5.0	5.0	11696.
6577.0	18.	34.	99.	100.	6.	237.3	5.0	5.0	11692.
6578.0	18.	33.	100.	100.	6.	237.1	5.0	5.0	11686.
6579.0	19.	31.	100.	100.	7.	236.9	5.0	5.0	11679.
6580.0	19.	30.	100.	100.	8.	236.7	5.0	5.0	11672.
6581.0	20.	28.	100.	100.	10.	236.5	5.0	5.0	11663.
6582.0	19.	29.	99.	100.	9.	236.3	5.0	5.0	11653.
6583.0	17.	34.	100.	100.	5.	236.2	5.0	5.0	11646.
6584.0	16.	39.	100.	100.	3.	236.0	5.0	5.0	11642.
6585.0	16.	41.	97.	100.	3.	235.8	5.0	5.0	11639.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6679.0	15.	43.	100.	100.	2.	225.2	5.0	5.0	10985.
6680.0	15.	41.	100.	100.	2.	225.0	5.0	5.0	10983.
6681.0	16.	36.	100.	100.	3.	224.9	5.0	5.0	10981.
6682.0	18.	27.	100.	100.	8.	224.7	5.0	5.0	10976.
6683.0	19.	22.	100.	100.	13.	224.5	5.0	5.0	10966.
6684.0	20.	19.	100.	100.	17.	224.3	5.0	5.0	10952.
6685.0	19.	23.	100.	100.	11.	224.1	5.0	5.0	10935.
6686.0	19.	25.	100.	100.	10.	223.9	5.0	5.0	10925.
6687.0	19.	23.	100.	100.	13.	223.8	5.0	5.0	10915.
6688.0	19.	25.	100.	100.	10.	223.6	5.0	5.0	10902.
6689.0	17.	28.	100.	100.	7.	223.4	5.0	5.0	10892.
6690.0	17.	28.	100.	100.	6.	223.2	5.0	5.0	10886.
6691.0	19.	21.	100.	100.	13.	223.0	5.0	5.0	10880.
6692.0	18.	25.	100.	100.	9.	222.8	5.0	5.0	10866.
6693.0	14.	42.	100.	100.	2.	222.7	5.0	5.0	10860.
6697.0	18.	28.	100.	100.	7.	222.3	5.0	5.0	10856.
6698.0	18.	26.	100.	100.	9.	222.1	5.0	5.0	10848.
6699.0	18.	28.	100.	100.	8.	222.0	5.0	5.0	10839.
6700.0	16.	38.	100.	100.	3.	221.8	5.0	5.0	10832.
6702.0	17.	35.	100.	100.	4.	221.5	5.0	5.0	10830.
6703.0	20.	24.	100.	100.	12.	221.3	5.0	5.0	10823.
6704.0	20.	23.	100.	100.	13.	221.1	5.0	5.0	10811.
6705.0	19.	26.	100.	100.	10.	220.9	5.0	5.0	10798.
6706.0	18.	32.	100.	100.	6.	220.8	5.0	5.0	10789.
6707.0	16.	38.	100.	100.	3.	220.6	5.0	5.0	10784.
6708.0	15.	38.	100.	100.	3.	220.4	5.0	5.0	10781.
6709.0	16.	36.	100.	100.	3.	220.3	5.0	5.0	10778.
6710.0	16.	37.	100.	100.	3.	220.1	5.0	5.0	10775.
6711.0	15.	40.	100.	100.	2.	220.0	5.0	5.0	10772
6728.0	14.	47.	100.	100.	1.	218.2	5.0	5.0	10766.
6729.0	15.	44.	100.	100.	2.	218.1	5.0	5.0	10764.
6754.0	17.	38.	99.	100.	4.	215.5	5.0	5.0	10754.
6755.0	18.	33.	100.	100.	5.	215.3	5.0	5.0	10751.
6756.0	20.	28.	100.	100.	10.	215.2	5.0	5.0	10744.
6757.0	19.	30.	100.	100.	9.	215.0	5.0	5.0	10735.
6758.0	18.	34.	100.	100.	6.	214.8	5.0	5.0	10727.
6759.0	18.	36.	100.	100.	4.	214.6	5.0	5.0	10721.
6760.0	17.	38.	100.	100.	4.	214.4	5.0	5.0	10717.
6761.0	16.	40.	100.	100.	3.	214.3	5.0	5.0	10714.
6762.0	16.	39.	100.	100.	3.	214.1	5.0	5.0	10711.
6763.0	16.	39.	100.	100.	3.	213.9	5.0	5.0	10708.
6764.0	16.	37.	100.	100.	4.	213.8	5.0	5.0	10705.
6765.0	18.	32.	100.	100.	6.	213.6	5.0	5.0	10701.
6766.0	19.	29.	100.	100.	8.	213.4	5.0	5.0	10695.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6767.0	20.	26.	100.	100.	12.	213.2	5.0	5.0	10686.
6768.0	20.	27.	100.	100.	10.	213.0	5.0	5.0	10675.
6769.0	20.	26.	100.	100.	11.	212.8	5.0	5.0	10664.
6770.0	20.	23.	100.	100.	14.	212.6	5.0	5.0	10653.
6771.0	22.	21.	100.	100.	19.	212.4	5.0	5.0	10637.
6772.0	22.	23.	100.	100.	18.	212.2	5.0	5.0	10618.
6773.0	21.	23.	100.	100.	18.	212.0	5.0	5.0	10600.
6774.0	21.	20.	100.	100.	20.	211.8	5.0	5.0	10581.
6775.0	21.	22.	100.	100.	16.	211.6	5.0	5.0	10562.
6776.0	20.	23.	100.	100.	14.	211.4	5.0	5.0	10546.
6777.0	20.	22.	100.	100.	15.	211.2	5.0	5.0	10531.
6778.0	20.	22.	100.	100.	16.	211.0	5.0	5.0	10516.
6779.0	21.	21.	100.	100.	18.	210.8	5.0	5.0	10500.
6780.0	21.	21.	100.	100.	20.	210.5	5.0	5.0	10482.
6781.0	21.	20.	100.	100.	21.	210.3	5.0	5.0	10461.
6782.0	21.	21.	100.	100.	17.	210.1	5.0	5.0	10441.
6783.0	20.	23.	100.	100.	15.	209.9	5.0	5.0	10425.
6784.0	20.	21.	100.	100.	16.	209.7	5.0	5.0	10410.
6785.0	21.	20.	100.	100.	20.	209.5	5.0	5.0	10392.
6786.0	22.	18.	100.	100.	26.	209.3	5.0	5.0	10370.
6787.0	22.	17.	100.	100.	28.	209.1	5.0	5.0	10343.
6788.0	22.	18.	100.	100.	25.	208.8	5.0	5.0	10316.
6789.0	21.	19.	100.	100.	22.	208.6	5.0	5.0	10292.
6790.0	21.	20.	100.	100.	19.	208.4	5.0	5.0	10271.
6791.0	21.	21.	100.	100.	17.	208.2	5.0	5.0	10252.
6792.0	21.	21.	100.	100.	18.	208.0	5.0	5.0	10235.
6793.0	21.	20.	100.	100.	20.	207.8	5.0	5.0	10216.
6794.0	22.	19.	100.	100.	23.	207.6	5.0	5.0	10196.
6795.0	23.	17.	100.	100.	29.	207.4	5.0	5.0	10171.
6796.0	22.	17.	100.	100.	26.	207.1	5.0	5.0	10143.
6797.0	21.	18.	100.	100.	24.	206.9	5.0	5.0	10118.
6798.0	21.	19.	100.	100.	21.	206.7	5.0	5.0	10095.
6799.0	21.	20.	100.	100.	19.	206.5	5.0	5.0	10075.
6800.0	20.	21.	100.	100.	17.	206.3	5.0	5.0	10057.
6801.0	20.	22.	100.	100.	14.	206.1	5.0	5.0	10040.
6802.0	19.	23.	100.	100.	12.	205.9	5.0	5.0	10026.
6803.0	21.	24.	100.	100.	14.	205.7	5.0	5.0	10013.
6804.0	20.	25.	100.	100.	13.	205.5	5.0	5.0	10000.
6805.0	20.	26.	100.	100.	12.	205.3	5.0	5.0	9987.
6806.0	20.	27.	100.	100.	10.	205.1	5.0	5.0	9976.
6807.0	19.	29.	100.	100.	8.	204.9	5.0	5.0	9966.
6808.0	19.	30.	100.	100.	7.	204.7	5.0	5.0	9958.
6809.0	19.	28.	100.	100.	9.	204.5	5.0	5.0	9951.
6810.0	19.	28.	100.	100.	10.	204.3	5.0	5.0	9940.
6811.0	20.	26.	100.	100.	12.	204.1	5.0	5.0	9930.
6812.0	22.	21.	100.	100.	20.	203.9	5.0	5.0	9918.
6813.0	21.	23.	100.	100.	16.	203.7	5.0	5.0	9899.
6814.0	18.	32.	100.	100.	6.	203.5	5.0	5.0	9885.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6815.0	16.	38.	100.	100.	3.	203.3	5.0	5.0	9880.
6816.0	16.	38.	100.	100.	3.	203.2	5.0	5.0	9877.
6817.0	18.	33.	100.	100.	5.	203.0	5.0	5.0	9873.
6818.0	18.	33.	100.	100.	5.	202.8	5.0	5.0	9867.
6819.0	17.	37.	100.	100.	4.	202.7	5.0	5.0	9862.
6820.0	17.	35.	100.	100.	4.	202.5	5.0	5.0	9859.
6821.0	19.	29.	100.	100.	9.	202.3	5.0	5.0	9853.
6822.0	20.	27.	100.	100.	11.	202.1	5.0	5.0	9843.
6823.0	19.	29.	100.	100.	8.	201.9	5.0	5.0	9833.
6824.0	19.	28.	100.	100.	9.	201.7	5.0	5.0	9824.
6825.0	19.	26.	100.	100.	10.	201.5	5.0	5.0	9815.
6826.0	18.	31.	100.	100.	6.	201.4	5.0	5.0	9806.
6827.0	18.	31.	100.	100.	7.	201.2	5.0	5.0	9800.
6828.0	18.	31.	100.	100.	6.	201.0	5.0	5.0	9793.
6829.0	18.	32.	100.	100.	6.	200.8	5.0	5.0	9787.
6830.0	16.	44.	99.	100.	2.	200.6	5.0	5.0	9781.
6831.0	14.	47.	100.	100.	1.	200.5	5.0	5.0	9779.
6832.0	16.	34.	100.	100.	4.	200.3	5.0	5.0	9778.
6833.0	16.	37.	100.	100.	3.	200.2	5.0	5.0	9774.
6834.0	14.	44.	100.	100.	2.	200.0	5.0	5.0	9772.
6835.0	15.	42.	100.	100.	2.	199.9	5.0	5.0	9770.
6836.0	18.	33.	100.	100.	6.	199.7	5.0	5.0	9768.
6837.0	19.	30.	100.	100.	8.	199.5	5.0	5.0	9761.
6838.0	18.	31.	100.	100.	7.	199.4	5.0	5.0	9754.
6839.0	20.	29.	100.	100.	10.	199.2	5.0	5.0	9746.
6840.0	19.	30.	100.	100.	8.	199.0	5.0	5.0	9736.
6841.0	17.	39.	100.	100.	3.	198.8	5.0	5.0	9730.
6842.0	18.	35.	100.	100.	5.	198.6	5.0	5.0	9727.
6843.0	21.	25.	100.	100.	14.	198.4	5.0	5.0	9717.
6844.0	19.	29.	100.	100.	9.	198.2	5.0	5.0	9704.
6845.0	19.	30.	100.	100.	8.	198.0	5.0	5.0	9696.
6846.0	19.	33.	100.	100.	6.	197.8	5.0	5.0	9688.
6847.0	18.	33.	100.	100.	6.	197.7	5.0	5.0	9682.
6848.0	20.	27.	100.	100.	11.	197.5	5.0	5.0	9675.
6849.0	20.	28.	100.	100.	10.	197.3	5.0	5.0	9664.
6850.0	19.	33.	100.	100.	6.	197.1	5.0	5.0	9655.
6851.0	18.	36.	100.	100.	5.	196.9	5.0	5.0	9649.
6852.0	18.	35.	100.	100.	5.	196.7	5.0	5.0	9644.
6853.0	19.	31.	100.	100.	8.	196.5	5.0	5.0	9638.
6854.0	18.	33.	100.	100.	6.	196.3	5.0	5.0	9631.
6855.0	18.	31.	100.	100.	7.	196.2	5.0	5.0	9625.
6856.0	19.	28.	100.	100.	9.	196.0	5.0	5.0	9617.
6857.0	21.	26.	100.	100.	13.	195.8	5.0	5.0	9607.
6858.0	22.	22.	100.	100.	19.	195.6	5.0	5.0	9592.
6859.0	22.	19.	100.	100.	24.	195.3	5.0	5.0	9571.
6860.0	21.	22.	100.	100.	17.	195.1	5.0	5.0	9549.
6861.0	20.	23.	100.	100.	14.	194.9	5.0	5.0	9533.
6862.0	20.	22.	100.	100.	16.	194.7	5.0	5.0	9520.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6863.0	20.	20.	100.	100.	18.	194.5	5.0	5.0	9503.
6864.0	19.	26.	100.	100.	10.	194.3	5.0	5.0	9487.
6865.0	19.	25.	100.	100.	11.	194.1	5.0	5.0	9476.
6866.0	20.	24.	100.	100.	13.	193.9	5.0	5.0	9465.
6867.0	20.	23.	100.	100.	14.	193.7	5.0	5.0	9452.
6868.0	20.	22.	100.	100.	15.	193.5	5.0	5.0	9438.
6869.0	20.	20.	100.	100.	15.	193.3	5.0	5.0	9423.
6870.0	21.	16.	100.	100.	25.	193.1	5.0	5.0	9405.
6871.0	21.	15.	100.	100.	28.	192.9	5.0	5.0	9379.
6872.0	21.	16.	100.	100.	26.	192.7	5.0	5.0	9350.
6873.0	20.	19.	100.	100.	18.	192.5	5.0	5.0	9327.
6874.0	20.	20.	100.	100.	17.	192.3	5.0	5.0	9310.
6875.0	21.	14.	100.	100.	27.	192.1	5.0	5.0	9292.
6876.0	20.	14.	100.	100.	25.	191.9	5.0	5.0	9264.
6877.0	20.	16.	100.	100.	23.	191.7	5.0	5.0	9240.
6878.0	21.	16.	100.	100.	27.	191.5	5.0	5.0	9216.
6879.0	21.	14.	100.	100.	29.	191.3	5.0	5.0	9187.
6880.0	21.	14.	100.	100.	28.	191.1	5.0	5.0	9158.
6881.0	21.	13.	100.	100.	29.	190.8	5.0	5.0	9129.
6882.0	20.	13.	100.	100.	27.	190.6	5.0	5.0	9101.
6883.0	19.	20.	100.	100.	13.	190.4	5.0	5.0	9076.
6884.0	19.	22.	100.	100.	14.	190.3	5.0	5.0	9063.
6885.0	20.	21.	100.	100.	15.	190.1	5.0	5.0	9049.
6886.0	21.	14.	100.	100.	30.	189.9	5.0	5.0	9027.
6887.0	22.	11.	100.	100.	42.	189.6	5.0	5.0	8994.
6888.0	21.	14.	100.	100.	28.	189.4	5.0	5.0	8956.
6889.0	21.	17.	100.	100.	22.	189.2	5.0	5.0	8929.
6890.0	21.	15.	100.	100.	26.	189.0	5.0	5.0	8906.
6891.0	21.	13.	100.	100.	32.	188.8	5.0	5.0	8878.
6892.0	21.	13.	100.	100.	32.	188.6	5.0	5.0	8846.
6893.0	21.	14.	100.	100.	30.	188.4	5.0	5.0	8814.
6894.0	20.	16.	100.	100.	21.	188.2	5.0	5.0	8787.
6895.0	20.	16.	100.	100.	22.	188.0	5.0	5.0	8767.
6896.0	20.	18.	100.	100.	20.	187.8	5.0	5.0	8745.
6897.0	21.	16.	100.	100.	25.	187.6	5.0	5.0	8724.
6898.0	22.	15.	100.	100.	31.	187.3	5.0	5.0	8696.
6899.0	21.	17.	100.	100.	25.	187.1	5.0	5.0	8666.
6900.0	20.	22.	100.	100.	15.	186.9	5.0	5.0	8645.
6901.0	21.	21.	100.	100.	18.	186.7	5.0	5.0	8630.
6902.0	21.	18.	100.	100.	23.	186.5	5.0	5.0	8609.
6903.0	21.	19.	100.	100.	20.	186.3	5.0	5.0	8588.
6904.0	22.	18.	100.	100.	25.	186.1	5.0	5.0	8567.
6905.0	21.	21.	100.	100.	18.	185.9	5.0	5.0	8542.
6906.0	20.	22.	100.	100.	15.	185.7	5.0	5.0	8525.
6907.0	20.	21.	100.	100.	16.	185.5	5.0	5.0	8510.
6908.0	20.	20.	100.	100.	17.	185.3	5.0	5.0	8494.
6909.0	21.	18.	100.	100.	23.	185.1	5.0	5.0	8475.
6910.0	20.	22.	100.	100.	15.	184.9	5.0	5.0	8455.

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6911.0	21.	20.	100.	100.	19.	184.7	5.0	5.0	8440.
6912.0	22.	17.	100.	100.	28.	184.4	5.0	5.0	8418.
6913.0	22.	16.	100.	100.	29.	184.2	5.0	5.0	8389.
6914.0	21.	19.	100.	100.	22.	184.0	5.0	5.0	8362.
6915.0	20.	23.	100.	100.	14.	183.8	5.0	5.0	8342.
6916.0	19.	23.	100.	100.	12.	183.6	5.0	5.0	8328.
6917.0	21.	18.	100.	100.	20.	183.4	5.0	5.0	8315.
6918.0	20.	22.	100.	100.	15.	183.2	5.0	5.0	8295.
6919.0	19.	22.	100.	100.	13.	183.0	5.0	5.0	8280.
6920.0	18.	25.	100.	100.	9.	182.8	5.0	5.0	8269.
6921.0	18.	28.	100.	100.	8.	182.6	5.0	5.0	8260.
6922.0	19.	28.	100.	100.	10.	182.4	5.0	5.0	8252.
6923.0	22.	18.	100.	100.	25.	182.2	5.0	5.0	8236.
6924.0	21.	18.	100.	100.	21.	182.0	5.0	5.0	8211.
6925.0	20.	22.	100.	100.	14.	181.8	5.0	5.0	8191.
6926.0	19.	26.	100.	100.	9.	181.6	5.0	5.0	8179.
6927.0	19.	27.	100.	100.	9.	181.4	5.0	5.0	8169.
6928.0	19.	28.	100.	100.	10.	181.2	5.0	5.0	8159.
6929.0	20.	23.	100.	100.	15.	181.0	5.0	5.0	8149.
6930.0	23.	14.	100.	100.	40.	180.8	5.0	5.0	8126.
6931.0	24.	13.	100.	100.	45.	180.6	5.0	5.0	8085.
6932.0	23.	16.	100.	100.	37.	180.4	5.0	5.0	8040.
6933.0	23.	19.	100.	100.	26.	180.1	5.0	5.0	8006.
6934.0	22.	20.	100.	100.	22.	179.9	5.0	5.0	7981.
6935.0	22.	19.	100.	100.	25.	179.7	5.0	5.0	7960.
6936.0	23.	19.	100.	100.	27.	179.5	5.0	5.0	7933.
6937.0	21.	21.	100.	100.	19.	179.2	5.0	5.0	7909.
6938.0	21.	21.	100.	100.	19.	179.0	5.0	5.0	7890.
6939.0	21.	21.	100.	100.	19.	178.8	5.0	5.0	7871.
6940.0	21.	23.	100.	100.	18.	178.6	5.0	5.0	7853.
6941.0	21.	24.	100.	100.	15.	178.4	5.0	5.0	7836.
6942.0	20.	26.	100.	100.	12.	178.2	5.0	5.0	7821.
6943.0	20.	29.	100.	100.	10.	178.0	5.0	5.0	7810.
6944.0	20.	31.	100.	100.	9.	177.8	5.0	5.0	7800.
6945.0	20.	32.	100.	100.	7.	177.6	5.0	5.0	7792.
6946.0	19.	34.	100.	100.	6.	177.4	5.0	5.0	7785.
6947.0	19.	31.	100.	100.	7.	177.2	5.0	5.0	7779.
6948.0	21.	23.	100.	100.	16.	177.0	5.0	5.0	7770.
6949.0	22.	23.	100.	100.	17.	176.8	5.0	5.0	7753.
6950.0	21.	25.	100.	100.	13.	176.6	5.0	5.0	7736.
6951.0	19.	26.	100.	100.	10.	176.4	5.0	5.0	7724.
6952.0	20.	24.	100.	100.	13.	176.2	5.0	5.0	7713.
6953.0	20.	25.	100.	100.	13.	176.0	5.0	5.0	7700.
6954.0	20.	25.	100.	100.	12.	175.8	5.0	5.0	7687.
6955.0	20.	24.	100.	100.	13.	175.6	5.0	5.0	7675.
6956.0	20.	21.	100.	100.	15.	175.4	5.0	5.0	7661.
6957.0	20.	20.	100.	100.	17.	175.2	5.0	5.0	7646.
6958.0	22.	18.	100.	100.	24.	175.0	5.0	5.0	7627.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
6959.0	21.	18.	100.	100.	24.	174.8	5.0	5.0	7603.
6960.0	21.	19.	100.	100.	20.	174.6	5.0	5.0	7581.
6961.0	19.	25.	100.	100.	10.	174.4	5.0	5.0	7564.
6962.0	17.	34.	100.	100.	4.	174.2	5.0	5.0	7557.
6963.0	19.	25.	100.	100.	11.	174.0	5.0	5.0	7552.
6964.0	21.	18.	100.	100.	23.	173.8	5.0	5.0	7540.
6965.0	21.	18.	100.	100.	22.	173.6	5.0	5.0	7518.
6966.0	21.	20.	100.	100.	21.	173.4	5.0	5.0	7496.
6967.0	21.	21.	100.	100.	19.	173.2	5.0	5.0	7476.
6968.0	22.	22.	100.	100.	18.	173.0	5.0	5.0	7457.
6969.0	21.	25.	100.	100.	14.	172.8	5.0	5.0	7439.
6970.0	20.	25.	100.	100.	13.	172.5	5.0	5.0	7426.
6971.0	20.	25.	100.	100.	13.	172.3	5.0	5.0	7414.
6972.0	20.	25.	100.	100.	12.	172.1	5.0	5.0	7401.
6973.0	19.	27.	100.	100.	9.	172.0	5.0	5.0	7390.
6974.0	18.	27.	100.	100.	9.	171.8	5.0	5.0	7381.
6975.0	18.	26.	100.	100.	9.	171.6	5.0	5.0	7372.
6976.0	19.	25.	100.	100.	10.	171.4	5.0	5.0	7363.
6977.0	20.	22.	100.	100.	15.	171.2	5.0	5.0	7353.
6978.0	21.	19.	100.	100.	19.	171.0	5.0	5.0	7337.
6979.0	21.	17.	100.	100.	24.	170.8	5.0	5.0	7317.
6980.0	22.	17.	100.	100.	27.	170.6	5.0	5.0	7292.
6981.0	21.	21.	100.	100.	18.	170.4	5.0	5.0	7267.
6982.0	20.	25.	100.	100.	12.	170.2	5.0	5.0	7251.
6983.0	19.	26.	100.	100.	11.	170.0	5.0	5.0	7239.
6984.0	20.	24.	100.	100.	12.	169.8	5.0	5.0	7228.
6985.0	20.	25.	100.	100.	12.	169.6	5.0	5.0	7216.
6986.0	18.	28.	100.	100.	8.	169.4	5.0	5.0	7205.
6987.0	17.	31.	100.	100.	5.	169.2	5.0	5.0	7198.
6988.0	15.	37.	100.	100.	3.	169.1	5.0	5.0	7194.
6989.0	14.	43.	100.	100.	2.	168.9	5.0	5.0	7191.
6990.0	15.	42.	100.	100.	2.	168.8	5.0	5.0	7189.
6991.0	15.	40.	100.	100.	2.	168.6	5.0	5.0	7187.
6992.0	15.	40.	100.	100.	2.	168.5	5.0	5.0	7185.
6993.0	14.	43.	100.	100.	2.	168.3	5.0	5.0	7182.
6994.0	13.	48.	100.	100.	1.	168.2	5.0	5.0	7181.
7195.0	17.	41.	84.	82.	3.	153.9	5.0	5.0	7161.
7196.0	18.	35.	97.	80.	5.	153.7	4.9	5.0	7158.
7197.0	19.	30.	99.	75.	8.	153.5	4.9	4.9	7152.
7198.0	18.	30.	100.	79.	7.	153.3	4.9	4.9	7144.
7199.0	18.	30.	100.	88.	7.	153.1	4.9	4.8	7137.
7200.0	18.	29.	100.	87.	7.	153.0	4.9	4.8	7131.
7201.0	18.	27.	100.	85.	9.	152.8	4.9	4.8	7124.
7202.0	19.	22.	100.	78.	12.	152.6	4.9	4.8	7115.
7203.0	20.	14.	100.	75.	24.	152.4	4.9	4.7	7099.
7204.0	18.	15.	100.	92.	16.	152.2	4.9	4.7	7076.
7205.0	18.	19.	100.	97.	12.	152.0	4.9	4.7	7063.

Schlumberger

SED 01862
AC_CPUC_0001012

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7206.0	18.	20.	100.	97.	11.	151.9	4.9	4.7	7051.
7207.0	17.	22.	100.	100.	9.	151.7	4.9	4.7	7040.
7208.0	18.	22.	100.	100.	10.	151.5	4.9	4.7	7031.
7209.0	19.	21.	100.	100.	13.	151.3	4.9	4.7	7020.
7210.0	20.	20.	100.	98.	16.	151.1	4.9	4.7	7006.
7211.0	20.	18.	100.	96.	17.	150.9	4.9	4.7	6989.
7212.0	19.	17.	100.	99.	16.	150.7	4.9	4.6	6973.
7213.0	19.	16.	100.	100.	17.	150.6	4.9	4.6	6957.
7214.0	19.	17.	100.	100.	18.	150.4	4.9	4.6	6939.
7215.0	19.	17.	100.	100.	16.	150.2	4.9	4.6	6922.
7216.0	18.	18.	100.	100.	14.	150.0	4.9	4.6	6907.
7217.0	18.	20.	100.	100.	12.	149.8	4.9	4.6	6894.
7218.0	18.	22.	100.	100.	12.	149.6	4.9	4.6	6882.
7219.0	19.	23.	100.	100.	11.	149.4	4.9	4.6	6871.
7220.0	19.	21.	100.	100.	15.	149.3	4.9	4.6	6859.
7221.0	21.	17.	100.	98.	22.	149.1	4.9	4.6	6842.
7222.0	21.	16.	100.	89.	24.	148.9	4.9	4.6	6819.
7223.0	20.	17.	100.	90.	19.	148.6	4.9	4.6	6796.
7224.0	20.	18.	100.	96.	18.	148.5	4.9	4.6	6777.
7225.0	19.	19.	100.	100.	15.	148.3	4.9	4.6	6759.
7226.0	18.	20.	100.	100.	12.	148.1	4.9	4.6	6745.
7227.0	18.	23.	100.	100.	10.	147.9	4.9	4.6	6733.
7228.0	18.	23.	100.	100.	10.	147.7	4.9	4.6	6724.
7229.0	18.	22.	100.	100.	11.	147.5	4.9	4.6	6713.
7230.0	20.	19.	100.	100.	17.	147.3	4.9	4.6	6700.
7231.0	19.	20.	100.	100.	14.	147.1	4.9	4.6	6684.
7232.0	19.	21.	100.	100.	13.	147.0	4.9	4.6	6670.
7233.0	19.	24.	100.	100.	11.	146.8	4.9	4.6	6657.
7234.0	18.	26.	100.	100.	9.	146.6	4.9	4.6	6647.
7235.0	17.	28.	100.	100.	7.	146.4	4.9	4.6	6639.
7236.0	17.	34.	100.	100.	5.	146.2	4.9	4.6	6632.
7237.0	15.	44.	100.	100.	2.	146.1	4.9	4.6	6628.
7238.0	16.	42.	100.	100.	2.	145.9	4.9	4.6	6626.
7239.0	18.	33.	100.	100.	6.	145.7	4.9	4.6	6623.
7240.0	17.	33.	100.	100.	5.	145.6	4.9	4.6	6617.
7243.0	16.	38.	100.	100.	3.	145.2	4.9	4.6	6612.
7244.0	19.	28.	100.	100.	9.	145.0	4.9	4.6	6607.
7245.0	18.	27.	100.	100.	7.	144.8	4.9	4.6	6599.
7246.0	19.	26.	100.	100.	9.	144.6	4.9	4.6	6591.
7247.0	20.	23.	100.	100.	14.	144.4	4.9	4.6	6581.
7248.0	20.	23.	100.	100.	13.	144.2	4.9	4.6	6566.
7249.0	19.	25.	100.	100.	11.	144.0	4.9	4.6	6554.
7250.0	19.	24.	100.	100.	11.	143.9	4.9	4.6	6542.
7251.0	20.	16.	100.	100.	20.	143.7	4.9	4.6	6527.
7252.0	19.	18.	100.	100.	15.	143.5	4.9	4.6	6509.
7253.0	18.	21.	100.	100.	12.	143.3	4.9	4.6	6494.
7254.0	17.	27.	100.	100.	7.	143.1	4.9	4.6	6483.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7255.0	17.	29.	100.	100.	6.	142.9	4.9	4.6	6477.
7256.0	18.	28.	100.	98.	7.	142.8	4.9	4.6	6471.
7257.0	20.	25.	100.	87.	11.	142.6	4.9	4.6	6462.
7258.0	20.	24.	100.	81.	14.	142.4	4.9	4.6	6451.
7259.0	22.	19.	100.	86.	23.	142.2	4.9	4.5	6434.
7260.0	22.	16.	100.	97.	27.	142.0	4.9	4.5	6410.
7261.0	21.	16.	100.	100.	26.	141.7	4.9	4.5	6383.
7262.0	22.	15.	99.	98.	30.	141.5	4.9	4.5	6356.
7263.0	21.	14.	100.	91.	29.	141.3	4.9	4.5	6325.
7264.0	21.	14.	100.	84.	26.	141.1	4.9	4.5	6297.
7265.0	20.	13.	100.	91.	25.	140.9	4.9	4.4	6271.
7266.0	19.	12.	100.	99.	23.	140.7	4.9	4.4	6247.
7267.0	19.	12.	100.	100.	22.	140.5	4.9	4.4	6224.
7268.0	19.	13.	100.	100.	22.	140.3	4.9	4.4	6202.
7269.0	19.	16.	100.	100.	18.	140.1	4.9	4.4	6180.
7270.0	19.	18.	100.	100.	16.	140.0	4.9	4.4	6164.
7271.0	18.	23.	100.	100.	11.	139.8	4.9	4.4	6149.
7272.0	16.	31.	100.	100.	5.	139.6	4.9	4.4	6140.
7273.0	16.	36.	100.	100.	3.	139.4	4.9	4.4	6136.
7274.0	16.	39.	100.	100.	3.	139.3	4.9	4.4	6133.
7275.0	16.	40.	100.	100.	3.	139.1	4.9	4.4	6130.
7276.0	16.	39.	100.	100.	3.	138.9	4.9	4.4	6127.
7277.0	16.	36.	100.	100.	3.	138.8	4.9	4.4	6124.
7278.0	16.	36.	100.	100.	3.	138.6	4.9	4.4	6121.
7279.0	15.	40.	100.	100.	2.	138.5	4.9	4.4	6118.
7280.0	14.	44.	100.	100.	1.	138.3	4.9	4.4	6116.
7283.0	14.	44.	100.	100.	1.	138.0	4.9	4.4	6114.
7284.0	16.	28.	100.	100.	5.	137.8	4.9	4.4	6112.
7285.0	17.	17.	100.	100.	12.	137.7	4.9	4.4	6104.
7286.0	18.	16.	100.	100.	14.	137.5	4.9	4.4	6092.
7287.0	18.	18.	100.	100.	14.	137.3	4.9	4.4	6079.
7288.0	19.	18.	100.	100.	15.	137.1	4.9	4.4	6064.
7289.0	19.	16.	100.	100.	17.	136.9	4.9	4.4	6049.
7290.0	18.	15.	100.	100.	18.	136.8	4.9	4.4	6031.
7291.0	18.	14.	100.	100.	18.	136.6	4.9	4.4	6013.
7292.0	18.	13.	100.	100.	17.	136.4	4.9	4.4	5996.
7293.0	18.	13.	100.	100.	17.	136.2	4.9	4.4	5979.
7294.0	18.	13.	100.	100.	17.	136.0	4.9	4.4	5963.
7295.0	17.	14.	100.	100.	14.	135.9	4.9	4.4	5946.
7296.0	16.	14.	100.	100.	11.	135.7	4.9	4.4	5933.
7297.0	16.	15.	100.	100.	10.	135.5	4.9	4.4	5923.
7298.0	17.	16.	100.	100.	13.	135.4	4.9	4.4	5912.
7299.0	17.	16.	100.	100.	12.	135.2	4.9	4.4	5900.
7300.0	17.	16.	100.	100.	13.	135.0	4.9	4.4	5888.
7301.0	18.	16.	100.	100.	14.	134.9	4.9	4.4	5875.
7302.0	19.	16.	100.	100.	18.	134.7	4.9	4.4	5860.
7303.0	20.	16.	100.	100.	22.	134.5	4.9	4.4	5840.

Schlumberger

SED 01864
AC_CPUC_0001014

DEPTH	EFF POR	VOL SH	SATUR OH	SATUR CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7304.0	20.	16.	100.	100.	21.	134.3	4.9	4.4	5818.
7305.0	19.	19.	100.	100.	16.	134.1	4.9	4.4	5798.
7306.0	17.	25.	100.	100.	7.	133.9	4.9	4.4	5785.
7307.0	16.	31.	100.	100.	4.	133.7	4.9	4.4	5779.
7308.0	13.	45.	100.	100.	1.	133.6	4.9	4.4	5776.
7309.0	18.	28.	100.	100.	8.	133.4	4.9	4.4	5772.
7310.0	19.	27.	100.	100.	9.	133.3	4.9	4.4	5764.
7311.0	20.	26.	100.	100.	12.	133.1	4.9	4.4	5754.
7312.0	20.	25.	100.	100.	13.	132.9	4.9	4.4	5742.
7313.0	19.	27.	100.	100.	10.	132.7	4.9	4.4	5729.
7314.0	17.	37.	100.	100.	4.	132.5	4.9	4.4	5720.
7315.0	19.	30.	97.	100.	8.	132.3	4.9	4.4	5715.
7316.0	21.	22.	99.	100.	17.	132.1	4.9	4.4	5702.
7317.0	19.	24.	100.	100.	12.	131.9	4.9	4.4	5686.
7318.0	18.	30.	100.	100.	6.	131.7	4.9	4.4	5676.
7319.0	16.	39.	100.	100.	3.	131.5	4.9	4.4	5671.
7324.0	16.	39.	100.	100.	3.	131.0	4.9	4.4	5667.
7325.0	18.	33.	100.	100.	6.	130.8	4.9	4.4	5663.
7326.0	18.	33.	100.	100.	6.	130.6	4.9	4.4	5657.
7327.0	18.	33.	100.	100.	5.	130.5	4.9	4.4	5652.
7328.0	17.	35.	100.	100.	5.	130.3	4.9	4.4	5647.
7329.0	18.	38.	100.	100.	4.	130.1	4.9	4.4	5642.
7330.0	17.	43.	99.	100.	3.	129.9	4.9	4.4	5639.
7331.0	15.	44.	100.	100.	2.	129.8	4.9	4.4	5636.
7332.0	16.	41.	100.	100.	3.	129.6	4.9	4.4	5634.
7333.0	16.	39.	100.	100.	3.	129.5	4.9	4.4	5631.
7334.0	16.	36.	100.	100.	4.	129.3	4.9	4.4	5628.
7335.0	16.	39.	100.	100.	3.	129.1	4.9	4.4	5624.
7412.0	14.	47.	100.	100.	1.	125.2	4.9	4.4	5611.
7413.0	16.	43.	100.	100.	2.	125.1	4.9	4.4	5609.
7414.0	17.	40.	99.	100.	3.	124.9	4.9	4.4	5607.
7419.0	15.	48.	95.	100.	2.	124.3	4.9	4.4	5602.
7423.0	15.	41.	100.	100.	2.	123.9	4.9	4.4	5599.
7424.0	17.	31.	100.	100.	5.	123.7	4.9	4.4	5596.
7425.0	18.	25.	100.	100.	9.	123.5	4.9	4.4	5590.
7426.0	19.	21.	99.	100.	14.	123.3	4.9	4.4	5580.
7427.0	19.	18.	100.	100.	15.	123.1	4.9	4.4	5566.
7428.0	20.	17.	98.	100.	21.	123.0	4.9	4.4	5549.
7429.0	19.	19.	100.	100.	15.	122.8	4.9	4.4	5529.
7430.0	19.	22.	100.	100.	12.	122.6	4.9	4.4	5514.
7431.0	19.	22.	100.	100.	12.	122.4	4.9	4.4	5502.
7432.0	19.	23.	99.	100.	12.	122.2	4.9	4.4	5489.
7433.0	19.	25.	98.	100.	10.	122.0	4.9	4.4	5477.
7434.0	18.	28.	100.	100.	7.	121.8	4.9	4.4	5468.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7435.0	17.	30.	99.	100.	6.	121.6	4.9	4.4	5461.
7436.0	17.	33.	99.	100.	4.	121.5	4.9	4.4	5456.
7437.0	17.	33.	98.	100.	5.	121.3	4.9	4.4	5451.
7438.0	17.	33.	98.	100.	5.	121.1	4.9	4.4	5446.
7439.0	18.	32.	93.	100.	6.	121.0	4.9	4.4	5441.
7440.0	18.	34.	89.	100.	5.	120.8	4.9	4.4	5435.
7441.0	17.	34.	94.	100.	5.	120.6	4.8	4.4	5430.
7442.0	17.	33.	96.	100.	5.	120.4	4.8	4.4	5425.
7443.0	18.	32.	90.	100.	6.	120.2	4.8	4.4	5420.
7444.0	18.	32.	94.	100.	6.	120.1	4.8	4.4	5413.
7445.0	18.	32.	97.	100.	6.	119.9	4.8	4.4	5407.
7446.0	17.	31.	98.	100.	6.	119.7	4.8	4.4	5402.
7447.0	18.	31.	95.	100.	7.	119.5	4.8	4.4	5396.
7448.0	18.	33.	95.	100.	6.	119.4	4.8	4.4	5389.
7449.0	17.	36.	99.	100.	4.	119.2	4.8	4.4	5384.
7450.0	16.	39.	100.	100.	3.	119.0	4.8	4.4	5381.
7451.0	15.	41.	100.	100.	2.	118.9	4.8	4.4	5378.
7452.0	14.	45.	100.	100.	1.	118.7	4.8	4.4	5376.
7453.0	13.	49.	100.	100.	1.	118.6	4.8	4.4	5375.
7454.0	14.	47.	100.	100.	1.	118.4	4.8	4.4	5374.
7455.0	16.	43.	100.	100.	2.	118.3	4.8	4.4	5372.
7456.0	15.	45.	100.	100.	2.	118.1	4.8	4.4	5370.
7457.0	15.	46.	100.	100.	2.	118.0	4.8	4.4	5368.
7458.0	15.	42.	100.	100.	2.	117.8	4.8	4.4	5367.
7459.0	16.	33.	100.	100.	4.	117.7	4.8	4.4	5364.
7460.0	16.	30.	100.	100.	5.	117.5	4.8	4.4	5360.
7461.0	16.	29.	100.	100.	5.	117.4	4.8	4.4	5355.
7462.0	16.	26.	100.	100.	6.	117.2	4.8	4.4	5349.
7463.0	17.	25.	100.	100.	7.	117.0	4.8	4.4	5343.
7464.0	18.	24.	100.	100.	9.	116.9	4.8	4.4	5335.
7465.0	18.	23.	100.	100.	10.	116.7	4.8	4.4	5325.
7466.0	17.	22.	100.	100.	9.	116.5	4.8	4.4	5315.
7467.0	17.	23.	100.	100.	9.	116.3	4.8	4.4	5306.
7468.0	17.	23.	100.	100.	8.	116.2	4.8	4.4	5297.
7469.0	17.	24.	100.	100.	8.	116.0	4.8	4.4	5288.
7470.0	16.	29.	100.	100.	5.	115.8	4.8	4.4	5281.
7471.0	15.	32.	100.	100.	4.	115.7	4.8	4.4	5276.
7472.0	15.	33.	100.	100.	3.	115.5	4.8	4.4	5273.
7473.0	15.	34.	100.	100.	3.	115.4	4.8	4.4	5269.
7474.0	15.	37.	100.	100.	3.	115.2	4.8	4.4	5266.
7475.0	14.	41.	100.	100.	2.	115.1	4.8	4.4	5264.
7476.0	13.	46.	100.	100.	1.	114.9	4.8	4.4	5262.
7477.0	15.	41.	100.	100.	2.	114.8	4.8	4.4	5260.
7478.0	14.	44.	100.	100.	2.	114.6	4.8	4.4	5258.
7479.0	14.	42.	100.	100.	2.	114.5	4.8	4.4	5257.
7480.0	15.	39.	100.	100.	3.	114.3	4.8	4.4	5255.
7481.0	15.	40.	100.	100.	2.	114.2	4.8	4.4	5252.
7482.0	16.	32.	100.	100.	4.	114.0	4.8	4.4	5249.

Schlumberger
SED 01866
AC_CPUC_0001016

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7483.0	15.	37.	100.	100.	3.	113.9	4.8	4.4	5245.
7484.0	16.	35.	100.	100.	4.	113.7	4.8	4.4	5242.
7485.0	17.	33.	100.	100.	5.	113.6	4.8	4.4	5238.
7486.0	16.	34.	100.	100.	4.	113.4	4.8	4.4	5233.
7487.0	14.	40.	100.	100.	2.	113.2	4.8	4.4	5230.
7488.0	14.	40.	100.	100.	2.	113.1	4.8	4.4	5228.
7489.0	16.	33.	100.	100.	4.	112.9	4.8	4.4	5225.
7490.0	16.	37.	100.	100.	3.	112.8	4.8	4.4	5221.
7491.0	16.	37.	100.	100.	3.	112.6	4.8	4.4	5218.
7492.0	15.	38.	100.	100.	3.	112.5	4.8	4.4	5214.
7493.0	16.	38.	100.	100.	3.	112.3	4.8	4.4	5212.
7494.0	15.	38.	100.	100.	3.	112.2	4.8	4.4	5209.
7495.0	16.	37.	100.	100.	3.	112.0	4.8	4.4	5206.
7496.0	16.	38.	100.	100.	3.	111.9	4.8	4.4	5203.
7497.0	16.	38.	100.	100.	3.	111.7	4.8	4.4	5200.
7498.0	16.	37.	100.	100.	3.	111.5	4.8	4.4	5197.
7499.0	16.	36.	100.	100.	3.	111.4	4.8	4.4	5194.
7500.0	15.	37.	100.	100.	3.	111.2	4.8	4.4	5190.
7501.0	15.	39.	100.	100.	3.	111.1	4.8	4.4	5188.
7502.0	15.	40.	100.	100.	2.	110.9	4.8	4.4	5185.
7503.0	15.	39.	100.	100.	2.	110.8	4.8	4.4	5183.
7504.0	16.	38.	100.	100.	3.	110.6	4.8	4.4	5180.
7505.0	16.	36.	100.	100.	4.	110.5	4.8	4.4	5177.
7506.0	16.	35.	100.	100.	4.	110.3	4.8	4.4	5173.
7507.0	16.	35.	100.	100.	4.	110.1	4.8	4.4	5170.
7508.0	16.	38.	100.	100.	3.	110.0	4.8	4.4	5166.
7509.0	16.	37.	100.	100.	3.	109.8	4.8	4.4	5163.
7510.0	17.	36.	99.	100.	4.	109.6	4.8	4.4	5159.
7511.0	16.	40.	100.	100.	3.	109.5	4.8	4.4	5156.
7512.0	16.	40.	100.	100.	3.	109.3	4.8	4.4	5153.
7513.0	16.	37.	100.	100.	3.	109.2	4.8	4.4	5151.
7514.0	16.	37.	100.	100.	3.	109.0	4.8	4.4	5147.
7515.0	17.	36.	99.	100.	4.	108.8	4.8	4.4	5144.
7516.0	18.	34.	97.	100.	5.	108.7	4.8	4.4	5139.
7517.0	18.	33.	93.	100.	6.	108.5	4.8	4.4	5134.
7518.0	19.	33.	90.	100.	6.	108.3	4.8	4.4	5128.
7519.0	19.	33.	91.	100.	7.	108.1	4.7	4.4	5122.
7520.0	18.	34.	91.	100.	6.	107.9	4.7	4.4	5116.
7521.0	18.	34.	90.	100.	5.	107.8	4.7	4.4	5110.
7522.0	17.	34.	97.	100.	5.	107.6	4.7	4.4	5105.
7523.0	18.	32.	98.	100.	6.	107.4	4.7	4.4	5100.
7524.0	18.	32.	95.	100.	6.	107.2	4.7	4.4	5094.
7525.0	18.	34.	99.	100.	5.	107.0	4.7	4.4	5087.
7526.0	17.	33.	100.	100.	5.	106.9	4.7	4.4	5082.
7527.0	17.	33.	100.	100.	5.	106.7	4.7	4.4	5077.
7528.0	17.	33.	100.	100.	5.	106.5	4.7	4.4	5072.
7529.0	17.	31.	100.	100.	5.	106.4	4.7	4.4	5068.
7530.0	18.	31.	100.	100.	6.	106.2	4.7	4.4	5062.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7531.0	18.	31.	100.	100.	6.	106.0	4.7	4.4	5056.
7532.0	18.	33.	97.	100.	6.	105.8	4.7	4.4	5050.
7533.0	18.	34.	92.	100.	5.	105.7	4.7	4.4	5044.
7534.0	16.	38.	96.	100.	3.	105.5	4.6	4.4	5040.
7535.0	15.	39.	99.	100.	3.	105.3	4.6	4.4	5037.
7536.0	16.	38.	99.	100.	3.	105.2	4.6	4.4	5034.
7537.0	15.	40.	100.	100.	2.	105.0	4.6	4.4	5031.
7538.0	16.	39.	100.	100.	3.	104.9	4.6	4.4	5029.
7539.0	16.	35.	100.	100.	4.	104.7	4.6	4.4	5026.
7540.0	17.	30.	100.	100.	6.	104.5	4.6	4.4	5021.
7541.0	19.	23.	100.	100.	12.	104.4	4.6	4.4	5014.
7542.0	19.	21.	100.	100.	13.	104.2	4.6	4.4	5001.
7543.0	19.	22.	100.	100.	14.	104.0	4.6	4.4	4988.
7544.0	20.	17.	100.	100.	22.	103.8	4.6	4.4	4974.
7545.0	21.	14.	100.	100.	27.	103.6	4.6	4.4	4951.
7546.0	20.	15.	100.	100.	24.	103.4	4.6	4.4	4924.
7547.0	21.	15.	99.	100.	26.	103.2	4.6	4.4	4900.
7548.0	21.	16.	98.	99.	27.	103.0	4.6	4.4	4874.
7549.0	22.	17.	97.	98.	26.	102.8	4.6	4.4	4848.
7550.0	21.	18.	100.	98.	20.	102.5	4.6	4.4	4824.
7551.0	20.	17.	97.	98.	21.	102.3	4.6	4.4	4803.
7552.0	20.	17.	97.	99.	21.	102.1	4.6	4.4	4782.
7553.0	21.	17.	96.	100.	24.	101.9	4.6	4.4	4760.
7554.0	21.	17.	96.	99.	25.	101.7	4.6	4.4	4735.
7555.0	20.	19.	99.	99.	19.	101.5	4.6	4.4	4711.
7556.0	19.	22.	100.	100.	13.	101.3	4.6	4.4	4695.
7557.0	19.	23.	100.	100.	13.	101.1	4.6	4.4	4682.
7558.0	20.	23.	99.	100.	13.	100.9	4.6	4.4	4669.
7559.0	19.	24.	100.	100.	11.	100.7	4.6	4.4	4656.
7560.0	18.	26.	100.	100.	8.	100.5	4.6	4.4	4646.
7561.0	18.	26.	100.	100.	8.	100.4	4.6	4.4	4637.
7562.0	19.	23.	100.	100.	12.	100.2	4.6	4.4	4628.
7563.0	19.	21.	100.	100.	14.	100.0	4.6	4.4	4615.
7564.0	20.	20.	100.	100.	16.	99.8	4.6	4.4	4600.
7565.0	20.	21.	100.	100.	16.	99.6	4.6	4.4	4584.
7566.0	20.	22.	100.	100.	15.	99.4	4.6	4.4	4569.
7567.0	20.	22.	99.	100.	15.	99.2	4.6	4.4	4554.
7568.0	19.	22.	100.	100.	14.	99.0	4.6	4.4	4539.
7569.0	19.	22.	100.	100.	12.	98.8	4.6	4.4	4526.
7570.0	18.	24.	100.	100.	10.	98.6	4.6	4.4	4514.
7571.0	18.	23.	100.	100.	11.	98.4	4.6	4.4	4504.
7572.0	18.	22.	100.	100.	11.	98.2	4.6	4.4	4493.
7573.0	18.	22.	100.	100.	10.	98.1	4.6	4.4	4482.
7574.0	17.	20.	100.	100.	10.	97.9	4.6	4.4	4471.
7575.0	18.	19.	100.	100.	13.	97.7	4.6	4.4	4461.
7576.0	20.	18.	100.	100.	17.	97.5	4.6	4.4	4446.
7577.0	19.	18.	100.	100.	15.	97.3	4.6	4.4	4429.
7578.0	18.	19.	100.	100.	12.	97.1	4.6	4.4	4414.

Schlumberger

SED 01868
AC_CPUC_0001018

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7579.0	18.	23.	100.	100.	9.	97.0	4.6	4.4	4403.
7580.0	17.	28.	100.	100.	6.	96.8	4.6	4.4	4395.
7581.0	15.	36.	100.	100.	3.	96.6	4.6	4.4	4389.
7582.0	14.	42.	100.	100.	2.	96.5	4.6	4.4	4387.
7583.0	14.	43.	100.	100.	2.	96.3	4.6	4.4	4385.
7584.0	16.	35.	100.	100.	4.	96.2	4.6	4.4	4383.
7585.0	18.	29.	100.	100.	7.	96.0	4.6	4.4	4378.
7586.0	17.	26.	100.	100.	7.	95.8	4.6	4.4	4371.
7587.0	17.	27.	100.	100.	7.	95.7	4.6	4.4	4364.
7588.0	16.	34.	100.	100.	4.	95.5	4.6	4.4	4358.
7589.0	17.	33.	100.	100.	5.	95.3	4.6	4.4	4354.
7590.0	17.	28.	100.	100.	7.	95.2	4.6	4.4	4348.
7591.0	16.	32.	100.	100.	5.	95.0	4.6	4.4	4342.
7592.0	17.	27.	100.	100.	7.	94.8	4.6	4.4	4338.
7593.0	17.	24.	100.	100.	9.	94.7	4.6	4.4	4330.
7594.0	18.	24.	100.	100.	9.	94.5	4.6	4.4	4322.
7595.0	16.	30.	100.	100.	5.	94.3	4.6	4.4	4314.
7596.0	15.	36.	100.	100.	3.	94.1	4.6	4.4	4309.
7597.0	15.	35.	100.	100.	3.	94.0	4.6	4.4	4306.
7598.0	18.	24.	100.	100.	10.	93.8	4.6	4.4	4301.
7599.0	19.	22.	100.	100.	13.	93.6	4.6	4.4	4289.
7600.0	19.	23.	100.	100.	11.	93.5	4.6	4.4	4276.
7601.0	17.	26.	100.	100.	8.	93.3	4.6	4.4	4266.
7602.0	16.	30.	100.	100.	5.	93.1	4.6	4.4	4259.
7603.0	16.	32.	100.	100.	4.	92.9	4.6	4.4	4254.
7604.0	16.	31.	100.	100.	4.	92.8	4.6	4.4	4250.
7605.0	15.	35.	100.	100.	3.	92.6	4.6	4.4	4246.
7606.0	15.	36.	100.	100.	3.	92.5	4.6	4.4	4243.
7607.0	18.	25.	100.	100.	9.	92.3	4.6	4.4	4240.
7608.0	19.	22.	100.	100.	13.	92.1	4.6	4.4	4228.
7609.0	19.	22.	100.	100.	12.	91.9	4.6	4.4	4215.
7610.0	19.	23.	100.	100.	13.	91.8	4.6	4.4	4203.
7611.0	19.	22.	100.	100.	13.	91.6	4.6	4.4	4190.
7612.0	19.	21.	100.	100.	12.	91.4	4.6	4.4	4178.
7613.0	19.	18.	100.	99.	16.	91.2	4.6	4.4	4165.
7614.0	19.	19.	100.	100.	16.	91.0	4.6	4.4	4148.
7615.0	19.	22.	100.	100.	12.	90.8	4.6	4.4	4133.
7616.0	18.	23.	100.	100.	10.	90.6	4.6	4.4	4122.
7617.0	18.	24.	100.	100.	9.	90.4	4.6	4.4	4112.
7618.0	18.	22.	100.	100.	10.	90.3	4.6	4.4	4103.
7619.0	18.	20.	100.	100.	12.	90.1	4.6	4.4	4093.
7620.0	19.	23.	100.	100.	11.	89.9	4.6	4.4	4081.
7621.0	18.	30.	100.	100.	6.	89.7	4.6	4.4	4070.
7622.0	16.	37.	100.	100.	4.	89.5	4.6	4.4	4065.
7623.0	16.	38.	100.	100.	3.	89.4	4.6	4.4	4062.
7624.0	18.	30.	100.	100.	7.	89.2	4.6	4.4	4057.
7625.0	19.	29.	100.	100.	8.	89.0	4.6	4.4	4050.
7626.0	19.	28.	100.	100.	9.	88.8	4.6	4.4	4042.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7627.0	19.	27.	100.	100.	9.	88.7	4.6	4.4	4033.
7628.0	19.	26.	100.	100.	11.	88.5	4.6	4.4	4024.
7629.0	20.	24.	100.	100.	13.	88.3	4.6	4.4	4012.
7630.0	20.	23.	100.	100.	14.	88.1	4.6	4.4	4000.
7631.0	19.	21.	100.	100.	14.	87.9	4.6	4.4	3986.
7632.0	18.	21.	100.	100.	11.	87.7	4.6	4.4	3972.
7633.0	18.	22.	100.	100.	11.	87.5	4.6	4.4	3961.
7634.0	18.	22.	100.	100.	11.	87.3	4.6	4.4	3950.
7635.0	17.	22.	100.	100.	10.	87.2	4.6	4.4	3940.
7636.0	18.	23.	100.	100.	10.	87.0	4.6	4.4	3931.
7637.0	18.	24.	100.	100.	10.	86.8	4.6	4.4	3921.
7638.0	19.	26.	100.	100.	9.	86.6	4.6	4.4	3912.
7639.0	18.	29.	100.	100.	7.	86.4	4.6	4.4	3902.
7640.0	17.	31.	100.	100.	5.	86.3	4.6	4.4	3895.
7641.0	17.	35.	100.	100.	4.	86.1	4.6	4.4	3890.
7642.0	17.	37.	100.	100.	4.	85.9	4.6	4.4	3886.
7643.0	17.	35.	100.	100.	4.	85.7	4.6	4.4	3882.
7644.0	18.	29.	100.	100.	7.	85.6	4.6	4.4	3877.
7645.0	18.	27.	100.	100.	8.	85.4	4.6	4.4	3870.
7646.0	17.	26.	100.	100.	7.	85.2	4.6	4.4	3862.
7647.0	17.	27.	100.	100.	7.	85.0	4.6	4.4	3854.
7648.0	16.	29.	100.	100.	5.	84.9	4.6	4.4	3848.
7649.0	17.	31.	100.	100.	5.	84.7	4.6	4.4	3843.
7650.0	15.	39.	75.	100.	3.	84.5	4.6	4.4	3838.
7651.0	14.	45.	86.	100.	1.	84.4	4.6	4.4	3836.
7652.0	14.	42.	97.	100.	2.	84.3	4.5	4.4	3835.
7653.0	16.	37.	100.	100.	3.	84.1	4.5	4.4	3833.
7654.0	17.	32.	100.	100.	5.	84.0	4.5	4.4	3829.
7655.0	17.	32.	100.	100.	5.	83.8	4.5	4.4	3823.
7656.0	16.	36.	100.	100.	4.	83.6	4.5	4.4	3818.
7657.0	14.	42.	100.	100.	2.	83.5	4.5	4.4	3815.
7659.0	12.	47.	100.	100.	1.	83.2	4.5	4.4	3813.
7663.0	13.	49.	100.	100.	1.	82.8	4.5	4.4	3811.
7666.0	13.	47.	100.	100.	1.	82.4	4.5	4.4	3809.
7667.0	14.	49.	100.	100.	1.	82.3	4.5	4.4	3808.
7684.0	14.	46.	100.	100.	1.	80.6	4.5	4.4	3804.
7685.0	16.	34.	100.	100.	4.	80.5	4.5	4.4	3801.
7686.0	15.	36.	100.	100.	3.	80.3	4.5	4.4	3797.
7687.0	15.	36.	100.	100.	3.	80.2	4.5	4.4	3794.
7688.0	16.	36.	100.	100.	3.	80.0	4.5	4.4	3791.
7689.0	16.	35.	100.	100.	4.	79.9	4.5	4.4	3788.
7690.0	15.	38.	100.	100.	3.	79.7	4.5	4.4	3783.
7694.0	14.	43.	100.	100.	2.	79.3	4.5	4.4	3781.

SED 01870
AC_CPUC_0001020

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS---------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7695.0	16.	34.	100.	100.	4.	79.2	4.5	4.4	3779.
7696.0	17.	32.	100.	100.	5.	79.0	4.5	4.4	3774.
7697.0	14.	41.	100.	100.	2.	78.8	4.5	4.4	3770.
7698.0	14.	41.	100.	100.	2.	78.7	4.5	4.4	3768.
7699.0	15.	44.	100.	100.	2.	78.6	4.5	4.4	3766.
7700.0	14.	48.	100.	100.	1.	78.4	4.5	4.4	3765.
7701.0	14.	46.	100.	100.	1.	78.3	4.5	4.4	3764.
7702.0	17.	33.	100.	100.	4.	78.1	4.5	4.4	3761.
7703.0	17.	32.	100.	100.	5.	78.0	4.5	4.4	3756.
7704.0	18.	27.	100.	100.	8.	77.8	4.5	4.4	3751.
7705.0	19.	20.	100.	100.	16.	77.6	4.5	4.4	3740.
7706.0	19.	20.	100.	100.	15.	77.4	4.5	4.4	3725.
7707.0	20.	20.	100.	100.	16.	77.2	4.5	4.4	3709.
7708.0	20.	20.	100.	100.	16.	77.0	4.5	4.4	3693.
7709.0	20.	19.	100.	100.	17.	76.8	4.5	4.4	3676.
7710.0	20.	20.	100.	98.	17.	76.6	4.5	4.4	3659.
7711.0	19.	21.	100.	95.	13.	76.4	4.5	4.4	3642.
7712.0	18.	23.	100.	99.	11.	76.2	4.5	4.4	3630.
7713.0	19.	25.	100.	100.	11.	76.1	4.5	4.4	3619.
7714.0	20.	26.	100.	100.	12.	75.9	4.5	4.4	3608.
7715.0	18.	31.	100.	100.	6.	75.7	4.5	4.4	3598.
7716.0	17.	35.	100.	100.	4.	75.5	4.5	4.4	3592.
7717.0	14.	47.	100.	100.	1.	75.3	4.5	4.4	3589.
7718.0	14.	47.	100.	100.	1.	75.2	4.5	4.4	3587.
7719.0	15.	42.	100.	100.	2.	75.0	4.5	4.4	3586.
7720.0	15.	42.	100.	100.	2.	74.9	4.5	4.4	3583.
7729.0	14.	46.	100.	100.	1.	74.0	4.5	4.4	3580.
7730.0	13.	46.	99.	100.	1.	73.9	4.5	4.4	3578.
7731.0	15.	38.	100.	100.	2.	73.7	4.5	4.4	3577.
7732.0	15.	36.	100.	100.	3.	73.6	4.5	4.4	3574.
7733.0	16.	36.	100.	100.	3.	73.4	4.5	4.4	3571.
7734.0	16.	34.	100.	100.	4.	73.3	4.5	4.4	3568.
7735.0	17.	30.	100.	100.	5.	73.1	4.5	4.4	3564.
7736.0	18.	27.	100.	100.	8.	72.9	4.5	4.4	3558.
7737.0	17.	24.	100.	100.	8.	72.8	4.5	4.4	3550.
7738.0	16.	24.	100.	100.	7.	72.6	4.5	4.4	3542.
7739.0	17.	25.	100.	100.	8.	72.4	4.5	4.4	3535.
7740.0	18.	25.	100.	100.	9.	72.3	4.5	4.4	3527.
7741.0	19.	25.	100.	100.	10.	72.1	4.5	4.4	3518.
7742.0	19.	25.	100.	99.	10.	71.9	4.5	4.4	3508.
7743.0	19.	25.	100.	97.	10.	71.7	4.5	4.4	3497.
7744.0	19.	27.	100.	97.	9.	71.5	4.5	4.4	3487.
7745.0	18.	29.	100.	95.	8.	71.3	4.5	4.4	3479.
7746.0	18.	30.	100.	97.	6.	71.2	4.5	4.3	3471.
7747.0	18.	31.	100.	98.	6.	71.0	4.5	4.3	3465.
7748.0	17.	31.	100.	99.	5.	70.8	4.5	4.3	3459.
7749.0	17.	33.	100.	99.	5.	70.6	4.5	4.3	3454.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7750.0	17.	34.	100.	99.	4.	70.5	4.5	4.3	3450.
7751.0	16.	36.	100.	100.	3.	70.3	4.5	4.3	3445.
7752.0	15.	40.	100.	100.	2.	70.2	4.5	4.3	3442.
7753.0	15.	39.	100.	100.	3.	70.0	4.5	4.3	3440.
7754.0	15.	39.	100.	100.	3.	69.8	4.5	4.3	3437.
7755.0	13.	50.	100.	100.	1.	69.7	4.5	4.3	3436.
7756.0	15.	41.	100.	100.	2.	69.6	4.5	4.3	3434.
7757.0	14.	42.	100.	100.	2.	69.4	4.5	4.3	3432.
7760.0	17.	28.	100.	100.	7.	69.0	4.5	4.3	3428.
7761.0	14.	42.	100.	100.	2.	68.9	4.5	4.3	3423.
7763.0	15.	40.	100.	100.	2.	68.6	4.5	4.3	3421.
7764.0	14.	43.	100.	100.	2.	68.5	4.5	4.3	3419.
7765.0	13.	48.	100.	100.	1.	68.4	4.5	4.3	3417.
7766.0	17.	31.	100.	100.	5.	68.2	4.5	4.3	3416.
7767.0	19.	19.	100.	100.	15.	68.1	4.5	4.3	3409.
7768.0	19.	19.	100.	100.	16.	67.9	4.5	4.3	3393.
7769.0	19.	19.	100.	100.	15.	67.7	4.5	4.3	3377.
7770.0	19.	18.	100.	100.	16.	67.5	4.5	4.3	3363.
7771.0	19.	18.	100.	100.	17.	67.3	4.5	4.3	3347.
7772.0	19.	19.	100.	100.	15.	67.1	4.5	4.3	3330.
7773.0	19.	20.	100.	100.	14.	66.9	4.5	4.3	3315.
7774.0	18.	22.	100.	100.	11.	66.7	4.5	4.3	3302.
7775.0	18.	21.	100.	100.	12.	66.5	4.5	4.3	3291.
7776.0	19.	19.	100.	100.	15.	66.3	4.5	4.3	3278.
7777.0	20.	16.	100.	100.	20.	66.2	4.5	4.3	3262.
7778.0	20.	16.	100.	100.	23.	66.0	4.5	4.3	3240.
7779.0	20.	16.	100.	100.	23.	65.8	4.5	4.3	3217.
7780.0	20.	18.	100.	100.	18.	65.6	4.5	4.3	3195.
7781.0	19.	17.	100.	100.	18.	65.4	4.5	4.3	3178.
7782.0	20.	16.	100.	100.	20.	65.2	4.5	4.3	3159.
7783.0	20.	16.	100.	100.	20.	65.0	4.5	4.3	3139.
7784.0	19.	16.	100.	100.	19.	64.8	4.5	4.3	3120.
7785.0	20.	16.	100.	100.	20.	64.6	4.5	4.3	3101.
7786.0	20.	14.	100.	100.	26.	64.4	4.5	4.3	3080.
7787.0	22.	13.	100.	100.	34.	64.2	4.5	4.3	3050.
7788.0	22.	14.	100.	100.	34.	64.0	4.5	4.3	3016.
7789.0	22.	14.	100.	100.	34.	63.7	4.5	4.3	2981.
7790.0	20.	15.	100.	100.	25.	63.5	4.5	4.3	2948.
7791.0	20.	18.	100.	100.	19.	63.3	4.5	4.3	2926.
7792.0	20.	18.	100.	98.	17.	63.1	4.5	4.3	2907.
7793.0	19.	17.	100.	97.	19.	62.9	4.5	4.3	2890.
7794.0	20.	15.	100.	100.	22.	62.7	4.5	4.3	2870.
7795.0	22.	13.	100.	100.	39.	62.5	4.5	4.3	2845.
7796.0	23.	10.	100.	100.	54.	62.3	4.5	4.3	2802.
7797.0	23.	9.	100.	100.	58.	62.1	4.5	4.3	2748.
7798.0	23.	13.	100.	99.	41.	61.8	4.5	4.3	2695.

SED 01872
AC_CPUC_0001022

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
7799.0	22.	16.	100.	98.	31.	61.6	4.5	4.3	2657.
7800.0	22.	18.	100.	100.	24.	61.4	4.5	4.3	2629.
7801.0	21.	20.	100.	99.	20.	61.2	4.5	4.3	2605.
7802.0	20.	24.	100.	100.	14.	61.0	4.5	4.3	2587.
7803.0	18.	29.	100.	100.	8.	60.8	4.5	4.3	2575.
7804.0	17.	34.	100.	100.	5.	60.6	4.5	4.3	2568.
7805.0	14.	45.	100.	100.	2.	60.4	4.5	4.3	2564.
7806.0	15.	44.	100.	100.	2.	60.3	4.5	4.3	2563.
7807.0	16.	43.	100.	100.	2.	60.1	4.5	4.3	2561.
7808.0	16.	43.	100.	100.	2.	60.0	4.5	4.3	2558.
7809.0	16.	40.	100.	100.	3.	59.8	4.5	4.3	2556.
7810.0	14.	48.	100.	100.	1.	59.6	4.5	4.3	2554.
7815.0	14.	44.	100.	100.	2.	59.1	4.5	4.3	2550.
7816.0	15.	40.	100.	100.	2.	58.9	4.5	4.3	2549.
7817.0	15.	40.	100.	100.	2.	58.8	4.5	4.3	2546.
7818.0	14.	45.	100.	100.	1.	58.6	4.5	4.3	2544.
7827.0	13.	48.	100.	100.	1.	58.0	4.5	4.3	2541.
7828.0	15.	38.	100.	100.	3.	57.9	4.5	4.3	2540.
7829.0	16.	34.	100.	100.	4.	57.7	4.5	4.3	2537.
7830.0	16.	37.	100.	95.	3.	57.6	4.5	4.3	2534.
7831.0	18.	25.	100.	82.	9.	57.4	4.5	4.3	2529.
7832.0	18.	24.	100.	81.	9.	57.2	4.5	4.3	2520.
7833.0	16.	33.	100.	92.	4.	57.1	4.5	4.2	2511.
7834.0	14.	44.	100.	100.	1.	56.9	4.5	4.2	2508.
7835.0	15.	39.	100.	99.	3.	56.8	4.5	4.2	2506.
7836.0	14.	44.	100.	100.	2.	56.6	4.5	4.2	2503.
7923.0	16.	44.	84.	100.	2.	51.3	4.5	4.2	2497.
7924.0	19.	34.	70.	100.	6.	51.1	4.5	4.2	2494.
7925.0	18.	33.	69.	100.	6.	51.0	4.4	4.2	2487.
7926.0	19.	32.	68.	100.	7.	50.8	4.4	4.2	2482.
7927.0	11.	45.	87.	100.	1.	50.6	4.3	4.2	2477.
7928.0	11.	44.	96.	100.	1.	50.5	4.3	4.2	2477.
7929.0	14.	35.	71.	100.	2.	50.4	4.3	4.2	2476.
7930.0	15.	32.	67.	100.	4.	50.3	4.3	4.2	2473.
7931.0	16.	31.	67.	100.	4.	50.1	4.2	4.2	2469.
7932.0	15.	33.	69.	100.	3.	49.9	4.2	4.2	2465.
7933.0	14.	37.	73.	100.	2.	49.8	4.1	4.2	2462.
7934.0	10.	47.	100.	100.	1.	49.7	4.1	4.2	2460.
8120.0	15.	36.	100.	100.	3.	41.7	4.1	4.2	2456.
8121.0	17.	23.	100.	97.	8.	41.5	4.1	4.2	2452.
8122.0	18.	12.	100.	86.	18.	41.4	4.1	4.2	2442.
8123.0	18.	7.	100.	83.	25.	41.2	4.1	4.2	2421.
8124.0	17.	15.	100.	95.	13.	41.0	4.1	4.2	2399.
8125.0	16.	22.	100.	100.	7.	40.8	4.1	4.2	2388.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS--------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
8126.0	13.	34.	100.	100.	2.	40.7	4.1	4.2	2382.
8149.0	13.	46.	100.	100.	1.	39.2	4.1	4.2	2378.
8150.0	15.	30.	100.	100.	4.	39.0	4.1	4.2	2376.
8151.0	16.	31.	100.	100.	4.	38.9	4.1	4.2	2372.
8152.0	15.	36.	98.	100.	3.	38.7	4.1	4.2	2368.
8153.0	14.	45.	100.	100.	1.	38.6	4.1	4.2	2365.
8179.0	14.	43.	100.	100.	2.	37.3	4.1	4.2	2363.
8180.0	17.	28.	100.	97.	6.	37.2	4.1	4.2	2361.
8181.0	17.	24.	100.	88.	9.	37.0	4.1	4.1	2353.
8182.0	16.	31.	100.	96.	5.	36.9	4.1	4.1	2346.
8183.0	15.	37.	100.	100.	3.	36.7	4.1	4.1	2341.
8184.0	14.	42.	100.	100.	2.	36.5	4.1	4.1	2339.
8185.0	14.	42.	100.	100.	2.	36.4	4.1	4.1	2337.
8186.0	16.	37.	100.	98.	3.	36.3	4.1	4.1	2335.
8187.0	18.	25.	99.	77.	9.	36.1	4.1	4.1	2331.
8188.0	18.	20.	97.	76.	13.	35.9	4.1	4.1	2320.
8189.0	17.	22.	98.	90.	9.	35.7	4.1	4.0	2308.
8190.0	15.	32.	100.	100.	4.	35.6	4.1	4.0	2300.
8191.0	13.	42.	100.	100.	1.	35.4	4.1	4.0	2297.
8197.0	11.	45.	100.	100.	1.	34.8	4.1	4.0	2295.
8198.0	12.	39.	100.	100.	1.	34.7	4.1	4.0	2294.
8199.0	11.	43.	100.	100.	1.	34.6	4.1	4.0	2293.
8200.0	10.	48.	100.	100.	1.	34.5	4.1	4.0	2292.
8239.0	12.	47.	100.	100.	1.	31.8	4.1	3.9	2288.
8240.0	16.	26.	100.	100.	6.	31.7	4.1	3.9	2285.
8241.0	16.	21.	100.	100.	8.	31.5	4.1	3.9	2279.
8242.0	16.	17.	99.	87.	10.	31.4	4.1	3.9	2271.
8243.0	16.	15.	94.	71.	11.	31.2	4.1	3.9	2260.
8244.0	17.	13.	84.	73.	14.	31.0	4.0	3.8	2248.
8245.0	17.	13.	80.	72.	15.	30.9	4.0	3.8	2235.
8246.0	16.	14.	90.	79.	11.	30.7	4.0	3.7	2221.
8247.0	16.	17.	93.	99.	10.	30.5	4.0	3.7	2211.
8248.0	16.	20.	90.	100.	9.	30.4	4.0	3.7	2201.
8249.0	15.	29.	89.	100.	4.	30.2	3.9	3.7	2193.
8250.0	13.	38.	97.	100.	2.	30.1	3.9	3.7	2190.
8251.0	13.	40.	99.	100.	1.	29.9	3.9	3.7	2189.
8252.0	13.	38.	98.	100.	2.	29.8	3.9	3.7	2187.
8253.0	14.	34.	96.	100.	3.	29.7	3.9	3.7	2185.
8254.0	15.	31.	98.	100.	4.	29.5	3.9	3.7	2182.
8255.0	15.	32.	98.	100.	3.	29.4	3.9	3.7	2178.
8256.0	14.	33.	99.	100.	3.	29.2	3.9	3.7	2175.
8257.0	14.	29.	100.	100.	4.	29.1	3.9	3.7	2173.
8258.0	16.	23.	100.	100.	7.	28.9	3.9	3.7	2168.
8259.0	18.	20.	99.	100.	11.	28.8	3.9	3.7	2160.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
8260.0	17.	21.	99.	100.	9.	28.6	3.9	3.7	2149.
8261.0	16.	23.	99.	100.	7.	28.4	3.9	3.7	2140.
8262.0	15.	28.	100.	100.	5.	28.3	3.9	3.7	2133.
8263.0	13.	39.	99.	100.	2.	28.1	3.9	3.7	2129.
8264.0	11.	49.	100.	100.	1.	28.0	3.9	3.7	2128.
8266.0	12.	49.	100.	100.	1.	27.8	3.9	3.7	2127.
8267.0	15.	36.	94.	100.	3.	27.6	3.9	3.7	2125.
8268.0	14.	36.	96.	100.	2.	27.5	3.9	3.7	2122.
8269.0	14.	37.	96.	100.	2.	27.4	3.9	3.7	2120.
8270.0	15.	35.	93.	100.	3.	27.2	3.9	3.7	2118.
8271.0	16.	27.	91.	100.	6.	27.1	3.9	3.7	2114.
8272.0	17.	21.	99.	100.	9.	26.9	3.9	3.7	2107.
8273.0	17.	15.	100.	100.	14.	26.7	3.9	3.7	2096.
8274.0	18.	12.	92.	99.	18.	26.6	3.8	3.7	2081.
8275.0	17.	11.	85.	82.	16.	26.4	3.8	3.7	2063.
8276.0	16.	10.	77.	65.	13.	26.2	3.8	3.7	2048.
8277.0	17.	8.	64.	61.	17.	26.1	3.8	3.6	2034.
8278.0	17.	7.	64.	64.	19.	25.9	3.7	3.6	2016.
8279.0	17.	8.	72.	77.	18.	25.7	3.6	3.5	1997.
8280.0	18.	9.	72.	97.	26.	25.5	3.6	3.5	1978.
8281.0	19.	11.	77.	100.	24.	25.4	3.5	3.5	1952.
8282.0	19.	12.	83.	100.	23.	25.2	3.5	3.5	1928.
8283.0	18.	16.	92.	100.	15.	25.0	3.5	3.5	1908.
8284.0	17.	21.	96.	100.	9.	24.8	3.5	3.5	1895.
8285.0	16.	26.	97.	100.	5.	24.6	3.5	3.5	1887.
8286.0	15.	32.	95.	100.	3.	24.5	3.5	3.5	1882.
8287.0	13.	39.	98.	100.	2.	24.3	3.4	3.5	1880.
8288.0	11.	49.	100.	100.	1.	24.2	3.4	3.5	1878.
8302.0	13.	42.	100.	100.	1.	22.8	3.4	3.5	1873.
8303.0	15.	31.	99.	100.	4.	22.7	3.4	3.5	1871.
8304.0	16.	23.	98.	100.	7.	22.5	3.4	3.5	1867.
8305.0	18.	17.	88.	100.	13.	22.4	3.4	3.5	1859.
8306.0	18.	14.	76.	100.	18.	22.2	3.4	3.5	1845.
8307.0	18.	12.	71.	100.	18.	22.0	3.4	3.5	1827.
8308.0	17.	10.	70.	97.	19.	21.8	3.3	3.5	1809.
8309.0	18.	9.	69.	88.	25.	21.7	3.3	3.5	1789.
8310.0	19.	9.	71.	81.	26.	21.5	3.2	3.4	1763.
8311.0	19.	11.	75.	83.	26.	21.3	3.1	3.4	1737.
8312.0	19.	11.	77.	96.	25.	21.1	3.1	3.4	1711.
8313.0	18.	14.	87.	99.	16.	20.9	3.1	3.4	1688.
8314.0	17.	17.	91.	100.	11.	20.7	3.0	3.4	1673.
8315.0	17.	20.	84.	100.	10.	20.6	3.0	3.4	1663.
8316.0	16.	25.	83.	100.	6.	20.4	3.0	3.4	1653.
8317.0	14.	34.	91.	100.	3.	20.2	3.0	3.4	1648.
8318.0	13.	40.	99.	100.	1.	20.1	3.0	3.4	1646.
8325.0	16.	28.	88.	100.	6.	19.4	3.0	3.4	1642.

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DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
8326.0	17.	20.	91.	100.	9.	19.3	2.9	3.4	1635.
8327.0	17.	16.	87.	94.	13.	19.1	2.9	3.4	1625.
8328.0	17.	13.	88.	83.	14.	18.9	2.9	3.3	1612.
8329.0	16.	11.	82.	83.	14.	18.8	2.9	3.3	1598.
8330.0	17.	12.	95.	87.	14.	18.6	2.8	3.3	1584.
8331.0	17.	12.	97.	86.	15.	18.4	2.8	3.3	1569.
8332.0	17.	12.	97.	89.	17.	18.3	2.8	3.2	1554.
8333.0	17.	12.	97.	92.	17.	18.1	2.8	3.2	1537.
8334.0	18.	12.	95.	94.	18.	17.9	2.8	3.2	1520.
8335.0	18.	11.	96.	93.	19.	17.7	2.8	3.2	1501.
8336.0	18.	11.	96.	93.	19.	17.6	2.8	3.2	1482.
8337.0	18.	11.	95.	94.	21.	17.4	2.8	3.2	1462.
8338.0	19.	11.	93.	94.	25.	17.2	2.8	3.2	1440.
8339.0	19.	11.	94.	95.	23.	17.0	2.8	3.1	1415.
8340.0	19.	11.	95.	95.	22.	16.8	2.8	3.1	1392.
8341.0	18.	12.	94.	98.	20.	16.6	2.7	3.1	1371.
8342.0	18.	11.	87.	98.	21.	16.5	2.7	3.1	1351.
8343.0	17.	12.	81.	89.	17.	16.3	2.7	3.1	1330.
8344.0	16.	12.	81.	73.	12.	16.1	2.7	3.1	1314.
8345.0	15.	12.	74.	65.	11.	15.9	2.6	3.0	1303.
8346.0	16.	11.	68.	61.	13.	15.8	2.6	3.0	1291.
8347.0	16.	10.	70.	58.	13.	15.6	2.5	2.9	1278.
8348.0	16.	10.	70.	59.	12.	15.5	2.5	2.9	1266.
8349.0	16.	10.	69.	58.	12.	15.3	2.5	2.8	1254.
8350.0	16.	10.	68.	59.	15.	15.2	2.4	2.7	1241.
8351.0	17.	9.	64.	57.	19.	15.0	2.4	2.7	1225.
8352.0	17.	8.	63.	60.	19.	14.8	2.3	2.6	1205.
8353.0	17.	7.	58.	60.	19.	14.7	2.2	2.5	1186.
8354.0	17.	6.	50.	50.	20.	14.5	2.1	2.4	1166.
8355.0	15.	5.	43.	37.	16.	14.3	2.1	2.4	1147.
8356.0	17.	2.	28.	26.	29.	14.2	2.0	2.3	1130.
8357.0	19.	2.	27.	21.	40.	14.0	1.8	2.1	1097.
8358.0	18.	3.	31.	20.	35.	13.8	1.7	2.0	1059.
8359.0	18.	3.	33.	20.	32.	13.6	1.6	1.8	1024.
8360.0	18.	3.	34.	19.	36.	13.4	1.5	1.7	991.
8361.0	19.	4.	38.	19.	36.	13.3	1.3	1.5	954.
8362.0	19.	5.	45.	21.	36.	13.1	1.2	1.4	918.
8363.0	19.	6.	51.	23.	32.	12.9	1.1	1.2	882.
8364.0	18.	7.	58.	31.	24.	12.7	1.0	1.1	853.
8365.0	18.	8.	62.	39.	23.	12.5	1.0	1.0	829.
8366.0	18.	8.	66.	48.	22.	12.3	0.9	0.9	806.
8367.0	17.	9.	71.	57.	20.	12.2	0.9	0.8	785.
8368.0	17.	10.	78.	68.	17.	12.0	0.8	0.7	766.
8369.0	16.	12.	87.	78.	14.	11.8	0.8	0.7	749.
8370.0	16.	12.	92.	86.	13.	11.7	0.7	0.6	736.
8371.0	17.	12.	85.	92.	17.	11.5	0.7	0.6	721.
8372.0	17.	13.	88.	97.	15.	11.3	0.7	0.6	705.
8373.0	17.	13.	87.	98.	15.	11.2	0.7	0.6	691.

SED 01876
AC_CPUC_0001026

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	----------INTEGRATIONS-------- PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
8374.0	18.	13.	85.	98.	17.	11.0	0.7	0.6	675.
8375.0	18.	13.	88.	100.	17.	10.8	0.6	0.6	657.
8376.0	18.	12.	87.	100.	19.	10.6	0.6	0.6	640.
8377.0	18.	12.	91.	100.	19.	10.4	0.6	0.6	620.
8378.0	18.	13.	91.	100.	18.	10.3	0.6	0.6	601.
8379.0	19.	13.	83.	100.	21.	10.1	0.6	0.6	582.
8380.0	19.	13.	83.	100.	20.	9.9	0.5	0.6	562.
8381.0	18.	14.	85.	100.	18.	9.7	0.5	0.6	543.
8382.0	18.	14.	86.	99.	17.	9.5	0.5	0.6	526.
8383.0	18.	14.	83.	98.	17.	9.3	0.4	0.6	510.
8384.0	18.	13.	84.	97.	17.	9.2	0.4	0.6	492.
8385.0	18.	13.	83.	98.	19.	9.0	0.4	0.6	474.
8386.0	18.	13.	87.	98.	19.	8.8	0.4	0.6	456.
8387.0	18.	13.	91.	100.	19.	8.6	0.3	0.6	438.
8388.0	19.	12.	90.	99.	22.	8.4	0.3	0.6	418.
8389.0	18.	13.	94.	99.	20.	8.3	0.3	0.6	397.
8390.0	18.	13.	95.	100.	19.	8.1	0.3	0.6	377.
8391.0	19.	13.	91.	100.	20.	7.9	0.3	0.6	358.
8392.0	18.	13.	94.	100.	18.	7.7	0.3	0.6	338.
8393.0	18.	13.	97.	100.	18.	7.5	0.3	0.6	320.
8394.0	18.	13.	96.	100.	17.	7.3	0.2	0.6	302.
8395.0	18.	13.	96.	100.	18.	7.2	0.2	0.6	285.
8396.0	18.	13.	92.	100.	19.	7.0	0.2	0.6	268.
8397.0	19.	14.	90.	100.	19.	6.8	0.2	0.6	249.
8398.0	19.	14.	87.	100.	20.	6.6	0.2	0.6	230.
8399.0	18.	15.	93.	100.	17.	6.4	0.2	0.6	211.
8400.0	17.	16.	98.	100.	13.	6.2	0.2	0.6	194.
8401.0	16.	18.	100.	100.	8.	6.1	0.2	0.6	182.
8402.0	13.	19.	100.	100.	4.	5.9	0.2	0.6	175.
8403.0	9.	19.	100.	100.	1.	5.8	0.2	0.6	172.
8404.0	14.	21.	100.	100.	4.	5.7	0.2	0.6	171.
8405.0	15.	20.	100.	100.	6.	5.6	0.2	0.6	166.
8406.0	15.	18.	100.	100.	7.	5.4	0.2	0.6	160.
8407.0	15.	17.	95.	100.	8.	5.3	0.2	0.6	153.
8408.0	15.	17.	89.	90.	8.	5.1	0.1	0.6	145.
8409.0	14.	17.	90.	75.	6.	5.0	0.1	0.5	138.
8410.0	15.	16.	83.	69.	8.	4.8	0.1	0.5	132.
8411.0	16.	16.	89.	71.	9.	4.7	0.1	0.5	123.
8412.0	16.	18.	92.	78.	9.	4.5	0.1	0.4	114.
8413.0	16.	19.	96.	88.	8.	4.4	0.1	0.4	105.
8414.0	15.	21.	99.	90.	7.	4.2	0.1	0.4	97.
8415.0	14.	23.	100.	95.	5.	4.1	0.1	0.4	91.
8416.0	14.	23.	100.	95.	5.	3.9	0.1	0.3	86.
8417.0	15.	22.	100.	94.	5.	3.8	0.1	0.3	81.
8418.0	15.	20.	100.	91.	6.	3.6	0.1	0.3	76.
8419.0	14.	21.	100.	96.	5.	3.5	0.1	0.3	69.
8420.0	14.	21.	100.	98.	5.	3.3	0.1	0.3	64.
8421.0	14.	21.	100.	100.	5.	3.2	0.1	0.3	59.

Schlumberger

DEPTH	EFF POR	VOL SH	--SATUR-- OH	CH	PERM	INTEGRATIONS PHI-E	BVOH	BVCH	PERM.
FEET	%	%	%	%	MD	P-FT	H-FT	H-FT	MD-FT
8422.0	14.	23.	100.	100.	4.	3.1	0.1	0.3	54.
8423.0	14.	24.	100.	100.	4.	2.9	0.1	0.3	50.
8424.0	14.	28.	100.	100.	3.	2.8	0.1	0.3	46.
8425.0	12.	36.	100.	100.	2.	2.6	0.1	0.3	43.
8426.0	10.	45.	100.	100.	1.	2.5	0.1	0.3	42.
8436.0	11.	36.	100.	100.	1.	1.9	0.1	0.3	40.
8437.0	12.	31.	100.	96.	2.	1.8	0.1	0.3	39.
8438.0	13.	26.	99.	75.	3.	1.7	0.1	0.3	37.
8439.0	14.	23.	83.	64.	5.	1.5	0.0	0.3	33.
8440.0	14.	22.	87.	72.	4.	1.4	0.0	0.2	29.
8441.0	14.	22.	9	1.0	0.0	0.2	16.		
8444.0	14.	18.	100.	97.	6.	0.8	0.0	0.2	10.
8445.0	13.	22.	100.	98.	4.	0.7	0.0	0.2	5.
8446.0	11.	34.	92.	82.	1.	0.6	0.0	0.2	2.

Schlumberger

WELL FILE SS-25B

FORM 103 SUBMIT IN DUPLICATE Δ 055

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Pacific Lighting Service Company FIELD Aliso Canyon

Well No. IW 77, Sec. 28, T. 3-N, R. 16W, S.B. B. & M.

Date October 29, 1973 Signed P. S. Magruder, Jr.

P. O. Box 54790, Terminal Annex
Los Angeles, California 90054 (213) 689-3561 Title Agent
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1973	
1-13	Well drilled by Camay Drilling Company, Contractor, rig #8. All measurements taken from top of kelly bushing which was 15' above mat. Spudded 17-1/2" hole at 5:00 PM and drilled with air to 100'. Pipe stuck at 100'. Worked and pulled 150,000# and pipe came free at 37'.
1-14	Tear out air drilling equipment and install pitcher nipple and drilled 17-1/2" hole to 330 with mud. Lost circulation at 330'. Wait on mud.
1-15	Drilled 17-1/2" hole to 660 with no circulation.
1-16	Drilled and surveyed 17-1/2" hole to 900'. No circulation.
1-17	TO CEMENT 13-3/8" SURFACE CASING: Ran 23 joints or 901.91 feet of 13-3/8", 48#, K-55, 8rd., ST&C, R-3, new seamless blank casing and cemented same at 900' with 700 cu. ft. of 94#/cu. ft. slurry consisting of 494 sacks of Class "G" cement, 290 cu. ft. of Pozmix "D", 10 sacks of gel, 1940# of Gilsonite and 3% calcium chloride. Moved casing 5 feet and circulated 10 minutes prior to cementing and for 10 minutes while mixing and displacing cement. Preceded cement with 500 cu. ft. of water and displaced with 800 cu. ft. water to bump plug to place at 11:45 PM under 100# final pressure. No circulation throughout job. No cement to surface. 75 minutes mixing and displacing cement. Used Howco bulk cement & power. Top cement job. Ran 1" pipe to 75' and pumped in 171 cu. ft. of 94#/cu. ft. slurry consisting of 48 sacks of Class "G" cement, 74 cu. ft. of Pozmix "D", 7 sacks of gel, 480# of Gilsonite and 3% calcium chloride in two stages. Cement in place 5:15 AM. Used Howco bulk cement and power. Pumped in 12 sacks gel pill. Wait 2 hours and pumped in 100 sacks Class "G" with 3% calcium chloride. Cement in place at 10:20 AM. No cement to surface. After standing 1-1/2 hours pumped in 189 cu. ft. of ready mix pea gravel with 2% calcium chloride. 40 min. pumping to place at 12:45 AM. Cement to surface. Used Active Concrete Pumping Service Power equipment. CASING DETAIL: All 23 joints or 901.91 feet, 13-3/8" fitted on bottom with Baker Stab-in float shoe and with centralizers at 883'. Cement basket at 160'. Cut and recovered 13-3/8" casing, installed Shaffer 13", 5000# casing head and tested same OK with 1700# pressure for 15 minutes.

SED 01880
AC_CPUC_0001399

1973

1-18 Installed BOP and found leak. Install new ring and pipe rams and Install GK Hydrill and double Shaffer hydraulic BOP and tested same with 1500# for 10 minutes. Witnessed and approved by ENGINEER FOR DIVISION OF OIL & GAS.

1-19 Drilled out to shoe and checked BOP and pipe OK under 1500# OK.
Drilled and surveyed 11" hole to 1536'.
Mud: 70#, 46 sec., 7.4 cc.

1-20 Drilled and surveyed 11" hole to 2033'.
Mud: 77#, 75 sec., 7.4 cc.

1-21 Drilled and surveyed 11" hole to 2894'.
Mud: 72#, 44 sec., 7.2 cc.

1-22 Drilled and surveyed 11" hole to 3447'.
Mud: 70#, 39 sec., 8.6 cc.

1-23 Drilled and surveyed 11" hole to 4057'. Reamed 4035'-4057'.
Mud: 70#, 39 sec., 8.2 cc., 6% solids.

1-24 Drilled and surveyed 11" hole to 4906'.
Mud: 70#, 41 sec., 9.4 cc., 6% solids.

1-25 Drilled and surveyed 11" hole to 5128'.
Mud: 68#, 41 sec., 7.0 cc., 4% solids.

1-26 Lay down washed out drill collar. Reamed 5100-5128 and drilled and surveyed 11" hole to 5449'. Lost circulation, treated mud with shells and cottonseed hulls. Obtained full circulation after treating for 7 hours. Lost 830 bbls. of mud.
Mud: 68#, 39 sec., 7.0 cc., 4% solids.

1-27 Drilled and surveyed 11" hole to 5628'.
Dyna Dril #1 11" hole 5628'-5782'.
Mud: 68#, 42 sec., 7.8 cc., 4% solids.

1-28 Dyna Drill 11" hole to 5844. Ream 5794'-5844' and directionally drill 11" hole to 6380'.
Mud: 69-1/2#, 61 sec., 7.4 cc., 5% solids.

1-29 Directionally drilled 11" hole to 6510' and Dyna Dril #2 6510'-6651'.
Mud: 69#, 43 sec., 7.2 cc., 4-1/2% solids.

1-30 Spud and ream stiff drilling assembly from 3400'-5915' where pipe stuck. Spotted 50 bbls. lease crude treated with 55 gals. IMC "Free Pipe" around fish. Let soak 2 hrs. and displaced all oil around shoe. Worked pipe but same would not come free.
Mud: 71#, 47 sec., 7.5 cc., 7% solids.

1973

1-31 Ran DiaLog survey and determined pipe stuck in Dyna Drilled interval at top of bottom stabalizers. Ran DiaLog string shot and backed off at 5598'.
Ran Tripple AAA jar and bumper sub on 5" drill pipe and screwed into fish.
Jarred down for 1-1/2 hours and fish came loose.
Ran 11" bit and reamed from 5890'-6522'.
Mud: 68#, 49 sec., 6.8 cc.

2-1 Reamed 11" hole 6522'-6651' and directionally drilled 11" hole to 6961'.
Mud: 70#, 53 sec., 7.0 cc, 5% solids.

2-2 Directionally drilled 11" hole to 7260'.
Mud: 70#, 51 sec., 6.5 cc., 6% solids.

2-3 Directionally drilled 11" hole to 7408' and Dyna Dril #3 to 7465'.
Mud: 68#, 37 sec., 7.2 cc., 4% solids.

2-4 Dyna Dril #3 to 7510' and directionally drilled 11" hole to 7758'.
Mud: 68#, 39 sec., 7.4 cc., 4% solids.

2-5 Directionally drilled 11" hole to 7790' and Dyna Dril #4 to 7858'.
Reamed 7790'-7858' and directionally drilled 11" hole to 7888'.
Mud: 68#, 47 sec., 7.6 cc., 4% solids.

2-6 Directionally drilled 11" hole to 7984'. Left 128' of bit, monel and drill collars in hole. Jumped pin in collar. Top of fish at 7856'.
Mud; 66#, 43 sec., 7.6 cc., 4% solids.

2-7 Ran overshot, jars and safety joint on 5" drill pipe, took hold of fish at 7856' and jarred on fish 1 hour when jars failed.
Reran overshot and new jars and jarred on fish for 5 hours. Fish would not come loose. Ran DiaLog free point and attempted to back off part of fish. Would not back off. Released from fish.
Mud: 70#, 47 sec., 7.8 cc., 6% solids.

2-8 TO BRIDGE HOLE WITH CEMENT: Ran 5" 19.5# open end drill pipe to 7856' and lost circulation. Pulled in stages to 6235' adding LCM. Lost 350 barrels of mud and 5 hours regaining circulation. With drill pipe hanging at 7841', equalized 63 sacks Class "G" cement mixed with 13 sacks of sand and 2% calcium chloride. Cement in place at 9:00 AM. Good circulation. Used Howco bulk cement and power equipment.
Located top of soft cement at 7817' after standing 7 hours.
Mud: 68#, 49 sec., 7.8 cc.

2-9 Relocate top of hard cement at 7811'.
Ran Dyna Dril #5 with Eye tool and drill 11" hole to 7811'-7888'.
Mud: 70#, 59 sec., 10.0 cc.

2-10 Dyna Dril #5 with Eye tool to 7899'.
Reamed 11" hole 7790'-7899' and directionally drilled 11" hole to 7905' where circulation was lost. Lost approximately 300 bbls. of mud.
Drilled 11" hole with 90% returns to 7956' where drill string twisted off in bumper sub. Top of fish 7818'.
Mud: 68#, 65 sec., 7.6 cc.

1973

2-11 Ran Midway overshot, jars and bumper sub and took hold of fish. Jarred on fish 4 hours when jars failed.
Ran DiaLog free point indicator but could not get into fish.
Attempted to back off fish without success.
Shot Dialog string shot at top of overshot to release from fish. Fish consists of 11" bit, stab,lizer,monel, crossover, 2 steel drill collars, stabalizer, steel drill collar, stabalizer and bumper sub, total of 138'. Top at 7818', bottom at 7956'.
Mud: 69#, 45 sec., 7.4 cc.

2-12 TO BRIDGE HOLE WITH CEMENT: Ran 5" 19.5# open end drill pipe to 7650' and equalized 100 sacks Class "G" cement mixed with 20% sand and 2% calcium chloride. Good circulation during job. Cement in place at 4:05 AM. Used Dowell bulk cement and power. After 14 hours located soft cement at 7550'. After 16 hours drilled out to hard cement at 7585'.
Mud: 69#, 42 sec., 7.8 cc.

2-13 Dyna Dril #6 from 7585'-7647'.
Ran Dresser Atlas Induction Electrolog and recorded from 907' to 7630'.
Mud: 68#, 47 sec., 8.4 cc.

2-14 Measure in and check bottom at 7650'. Conditioned hole for casing. Start running 8-5/8" casing.
Mud: 68#, 47 sec., 8.2 cc.

2-15 TO CEMENT 8-5/8" CASING: Ran 186 joints or 7655.76 feet of 8-5/8", 36#, K-55 and N-80, Buttress thread, R-3, new seamless blank casing and cemented same at 7642' with 1955 cu. ft. of 95#/cu.ft. slurry consisting of 600 sacks Class "G" cement, 900 cu. ft. of Lite Poz, 10 sacks of gel, followed by 100 sacks Class "G" with 2% calcium chloride mixed to 118#/cu.ft. slurry. Casing frozen. Preceded cement with 100 cu. ft. water and displaced with 50 cu. ft. water and 2500 cu. ft. of mud to bump plug to place at 3:14 AM under 3500# final pressure. Held 3500# pressure for 15 minutes. Bled back 22 cu. ft. for total displacement of 2478 cu. ft. Full circulation throughout job. 2 hours mixing and displacing cement. Dropped plug and opened stage collar at 2996' under 1000# pressure. Preceded cement with 50 cu. ft. water. Pumped in 1500 cu. ft. of 95#/cu.ft. slurry consisting of 488 sacks Class "G" cement, 732 cu. ft. lite poz, 10 sacks of gel and displaced with 50 cu. ft. water and 1007 cu. ft. of mud to bump plug and close collar under 1500# pressure at 6:18 AM. Bled back 10 cu. ft. for total displacement of 997 cu. ft. 1 hour 15 minutes mixing and displacing cement. Full circulation throughout job. No cement returns to surface. Used Dowell bulk cement and power.

CASING DETAIL:

Bottom 51 joints or 2108.20'	(7650-5542) N-80 fitted on bottom with Davis Lynch fill-up float shoe and at 7560' with Davis Lynch fill-up float collar. TIW turbo centralizers at 7605', 7562', 7520', 7487' and 7443'.
Next 135 joints or 5541.56'	(5542-sfc.) K-55 fitted with metal petal basket at 5000' and 2088' with centralizers one joint above and below each basket. Stage collar at 2996' with one centralizer on joint above.
Total 186 jts. or 7655.76'	

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2-15 Remove BOP, cut and recover 8-5/8" casing, set slips and land 8-5/8" casing. Reinstall BOP and drill out stage collar at 2956', float collar at 7560' and cement to 7630'. Pressure test casing to 1500# OK. Drill out cement and drill 7-5/8" hole to 7655'.

2-16 Change over drilling fluid system to low weight, low solids CTROL drilling fluid.
Mud: 64#, 35 sec., 6.0 cc., 2% solids.

2-17 Dyna Dril #7 with Eye tool from 7655'-7757', 7-5/8" hole.
Reamed from 7655'-7757' and directionally drilled 7-5/8" hole to 7888'.
Mud: 64#, 34-1/2 sec., 6.4 cc., 2% solids.

2-18 Directionally drilled 7-5/8" hole to 8121'.
Mud: 64#, 33 sec., 6.4 cc., 2% solids.

2-19 Directionally drilled 7-5/8" hole to 8262'.
Mud: 64#, 33 sec., 6.4 cc., 2% solids.

2-20 Directionally drilled 7-5/8" hole to 8475'.
Mud: 64#, 34 sec., 6.6 cc., 2% solids.

2-21 Directionally drilled 7-5/8" hole to 8680'.
Mud: 64#, 32 sec., 6.6 cc., 2% solids.

2-22 Directionally drilled 7-5/8" hole to 8717' with conventional bit and to 8767' with Williams type MP6 diamond bit.
Mud: 64#, 34 sec., 6.4 cc., 2% solids.

2-23 Diamond drilled 7-5/8" hole to 8802'. Lost pump pressure. Pulled and found wash out in drill pipe at 3000'. When bit pulled, found second wash out at 3250'. Diamond bit in poor condition. Unsatisfactory run possibly due to lack of fluid around bit due to wash out in pipe.
Mud: 65#, 33 sec., 6.6 cc., 2% solids.

2-24 Directionally drilled 7-5/8" hole to 8891'. Outside bearings on bit left in hole.
Reamed 8850' to 8891' and directionally drilled 7-5/8" hole to 8979'.
Mud: 64-1/2#, 33 sec., 6.6 cc., 2% solids.

2-25 Directionally drilled 7-5/8" hole to 9030 TOTAL DEPTH. Recovered several bearings in junk sub.
Ran Dresser Atlas Induction Electrolog, Sidewall Neutron and Densilog.
Mud: 64#, 34 sec., 6.8 cc., 2% solids.

2-26 Measure in hole and check measurements OK. Reamed 9010'-9030' and conditioned hole for liner.

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2-26 TO CEMENT 6-5/8" BLANK LINER: Ran 35 joints or 1502.50' of 6-5/8", 27.65#, K-55, R-3, Security flush joint, new seamless blank casing on 5" 19.5# drill pipe and liner cementing tool and landed liner at 7523'. Cemented same at 9025' with 500 cu. ft. of 90#/cu. ft. slurry consisting of 276 sacks of Class "G" cement, 276 cu. ft. of Perf-A-Lite, 5 sacks of gel. Reciprocated casing 15 for 3 minutes when liner froze 5' off bottom. Preceded cement with 100 cu. ft. of water and displaced with 755 cu. ft. of mud to shear liner wiping plug and followed with an additional 277 cu. ft. of mud to bump plug under 2200# final pressure. Bled back 19 cu. ft. Good circulation throughout job. 40 minutes mixing and displacing cement to place at 4:00 PM. Used Halliburton cementing equipment and bulk cement.

LINER DETAIL:

All 35 joints or 1502.50' (9025'-7523') 6-5/8" casing fitted on bottom at 9025' with Davis-Lynch fill-up float shoe with landing collar above, on top at 7523' with Texas Iron Works plain off bottom setting collar. Centralisers at top of 2nd, 5th, 7th, 9th, 10th, 13th, 14th, & 33rd joints. Scratcher clusters above and below collar at top of 4th, 7th, 10th, 11th & 14th joints.

Drilled out cement with 7-5/8" bit from 6845'-7016'.
Mud: 65#, 36 sec., 7.2 cc., 2% solids.

2-27 Drilled out cement with 7-5/8" bit from 7016' to 7523'.
Ran 5-5/8" bit with scraper above and drilled out cement from 7523'-7528' and clean out to 9019'.
Closed rams and 6-5/8" x 8-5/8" lap at 7523', held 1500# OK for 15 minutes.
Ran Welex Microseismogram and Neutron logs with collar locator.

2-28 TO TEST WATER SHUT-OFF ON HOLES IN 6-5/8" CASING AT 8515': Ran Johnston combination gun and tester on 3-1/2" & 5" drill pipe and shot four 1/2" jet holes at 8515'. Set packer at 8454' with tail to 8480'. Opened tool at 8:01 AM for one hour test. Light steady blow throughout test. No gas to surface. Recovered 360' rise of drilling fluid in 3-1/2" drill pipe. Rat hole volume equivalent to 297' rise, thus net entry of 63' or 17 gallons of fluid. Charts showed tool functioned properly. Water shut-off witnessed and determined inconclusive by Company test.
Ran Johnston positrieve cement tool on 3-1/2" and 5" drill pipe and attempted to set packer at 8332'. Packer would not set. Pulled and found 4 slips had been knocked off, probably when working packer into top of 6-5/8" liner.

3-1 TO SQUEEZE HOLES IN 6-5/8" CASING AT 8515' WITH CEMENT: Ran Johnston retrievable cement tool on 3-1/2" and 5" drill pipe and set same at 8322'. Applied 2000# surface pressure and holes would not take fluid. Held 2000# for 45 minutes with no bleed off. Used B-J power. Determined water shut-off EFFECTIVE on holes at 8515'.

SED 01885
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3-1 TO TEST WATER SHUT-OFF ON HOLES IN 6-5/8" CASING AT 8435' and 8515': Ran Johnston combination gun and tester on 3-1/2" & 5" drill pipe and shot four 1/2" jet holes at 8435'. (Holes at 8515' previously shot.) Set packer at 8370' with tail to 8395'. Opened tool at 7:50 AM for one hour test. Faint blow 3 minutes and packer failed. Recovered 2455' rise of drilling fluid in 3-1/2" drill pipe. NO TEST.

TO RETEST WATER SHUT-OFF ON HOLES IN 6-5/8" CASING AT 8435' & 8515': Ran Johnston tester on 3-1/2" & 5" drill pipe. Set packer at 8399' with tail to 8415'. Opened tool at 2:22 PM for one hour test. Faint blow during test. No gas to surface. Recovered 1160' rise in 3-1/2" drill pipe of drilling fluid. Charts showed no fluid entry during test and that tool opened while coming out of hole. Water shut-off witnessed and approved by ENGINEER FOR DIVISION OF OIL & GAS.

TO TEST WATER SHUT-OFF ON 6-5/8" 8-5/8" LAP AT 7523': Ran Johnston tester on 5" drill pipe. Set packer at 7469' with tail to 7486'. Opened tool at 10:01 PM for one hour test. Light blow 3 minutes when packer failed or drill pipe leaked. No gas to surface. Recovered 3455' rise in 3-1/2" drill pipe of drilling fluid. NO TEST.

3-2 TO RETEST WATER SHUT-OFF ON 6-5/8" 8-5/8" LAP AT 7523': Ran Johnston tester on 5" drill pipe. Set packer at 7455' with tail to 7472'. Opened tool at 9:30 AM for two hour 45 minutes test. Puff blow then dead throughout test. Shot fluid level after tool open 2-1/2 hours which showed 503' of fluid. No gas to surface. Recovered 495' rise of drilling fluid in 5" drill pipe. Charts showed no fluid entry during test. Probable drill pipe leak. Water shut-off witnessed and approved by ENGINEER FOR DIVISION OF OIL & GAS.

Ran 3-1/2" & 5" drill pipe to 9019' and displaced drilling fluid in hole with lease salt water treated with 3#/bbl. DMS.

3-3 Ran Go-International 4" OD carrier with 19 gram DMLXVIII jet charges and shot four 0.40" OD holes per foot from 8684'-8688'.
PRODUCTION TEST ON HOLES AT 8684'-8688': Ran Johnston tester and packer would not hold. Found 850' of fluid in drill pipe. Also found wash out in drill pipe.

3-4 To check drill pipe for leaks, ran 3-1/2" and 5" drill pipe in 1000' stages to 8970' and pressured same to 1500#. Found one small washout. Dropped bar, sheared disc and circulated hole clean.
PRODUCTION TEST ON PERFORATED INTERVAL 8684'-8688': Ran Johnston tester on 3-1/2" and 5" drill pipe with 1000' of water cushion. Set packer at 8614' with tail to 8630'. Checked fluid level with Depthograph at 1000'. Opened tool at 5:06 PM. Puff blow, then dead. Depthograph check fluid level after 30 minutes, which showed 45' rise. Recycled tool. Pull loose at 6:10 PM. Recovered 45' net rise of drilling fluid. No gas to surface. Charts OK.

3-5 Ran Go-International 4" OD carrier with 19 gram DMLXVIII jet charges and shot four 0.40" OD holes from 8670'-8674'.

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3-5 (cont'd) PRODUCTION TEST ON HOLES IN 6-5/8" CASING 8670'-8674' & 8684'-8688': Ran Johnston tester on 3-1/2" & 5" drill pipe with 500' water cushion. Set packer at 8613' with tail to 8630'. Opened tool on 1/2" bean and 1" surface bean at 7:05 AM. Light blow for one minute, dead balance of test. Recovered 90' net rise of drilling fluid. No gas to surface. Tool open one hour. Charts OK.
Ran Go International 4" O.D. carrier with 19 gram DMIXVIII jet charges and shot four 0.40" O.D. holes per foot from 8715'-8720'.
Ran Johnston tester to test holes from 8715'-8720'. Packer failed. No test. Left packer & tail in hole.

3-6 Ran 4-3/8" O.D. 70 series Bowen Overshot on 3-1/2" & 5" drill pipe and screwed into fish. Recovered fish, leaving four packer slips in hole. Hole took 320 barrels of salt water.

3 PRODUCTION TEST ON PERFORATIONS IN THE INTERVAL 8715-20', 8670-74' & 8684-88': Ran Johnston tester with MFE tool on 3-1/2" & 5" drill pipe with 500' of fresh water cushion. Set packer at 8622' with tail to 8638'. Opened tester at 7:44 AM on 1" surface bean and 1" tool bean. Medium blow gradually decreasing to weak blow at end of one hour test. Gas to surface in 22 minutes. Rate not measurable. Shut-in at tool 8:48 AM for 30 minute shut-in. Charts showed tool functioned properly throughout test. While pulling tester with drill pipe hanging at 4860', drill pipe unloaded live black gassy oil and slugs of gas. Dropped bar to shear disc and open backscuttle valve, but could not open same. Continued filling hole and pulling tester. Drill pipe unload in four stages. Recovered estimated 3600' rise of fluid in 3-1/2" & 5" drill pipe consisting of water cushion, gassy black oil and gas. Sample chamber contained live black oil.

PRESSURE RECORDER DATA PSIG

	OUTSIDE (8631')
INITIAL HYDRO	3670
INITIAL FLOW	662
INITIAL SHUT-IN	None
SECOND FLOW	None
FINAL FLOW	1326
FINAL SHUT-IN	1492
FINAL HYDRO	3607

3-7 Measured in hole with Johnston retrievable bridge plug on 3-1/2" & 5" drill pipe and set in 6-5/8" liner at 8700'. Circulate out gassy, oily salt water. Left bridge plug setting tool in hole.
Ran fishing tool on 3-1/2" & 5" drill pipe to 8690' and treated salt water with Bex additive to control loss of fluid. Took hold of setting tool and recovered same.

3-8 Ran Go International 4" O.D. carrier with 19 gram DMIXVIII jet charges and shot four 0.40" O.D. holes per foot from 8624'-8640' and 8658'-8664'.

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3-8 (con't) PRODUCTION TEST ON PERFORATIONS IN THE INTERVAL 8624-8640', 8658-8664', 8670-8674' & 8684-8688': Retrievable bridge plug set at 8700'. Ran Johnston tester with MFE tool on 3-1/2" & 5" drill pipe with 500' of fresh water cushion. Set packer at 8581' with tail to 8597'. Opened tester at 7:20 AM on 1" surface bean and 1/2" bean in tool. Weak blow throughout one hour test. Recycled tool after one hour. No change in blow. No gas to surface. Charts showed tool functioned properly throughout test. Recovered 680' rise of fluid in 3-1/2" & 5" drillpipe consisting of water cushion and 180' of salt water hole fluid. Sample chamber contained salt water drilling fluid.

PRESSURE RECORDER DATA PSIG

	INSIDE (8953')	OUTSIDE (8949')
INITIAL HYDRO	Clock stopped	3679
INITIAL FLOW		237
INITIAL SHUT-IN		None
SECOND FLOW		None
FINAL FLOW		272
FINAL SHUT-IN		None
FINAL HYDRO		3551

Ran Go International 4" O.D. carrier with 19 gram DMLXVIII jet charges and shot four 0.40" O.D. holes per foot from 8532'-8536' and 8558'-8600'. Delay running tester for daylight test.

3-9 PRODUCTION TEST ON PERFORATIONS IN THE INTERVAL 8532-36', 8558-8600', 8624-40', 8658-64', 8670-74' and 8684-88': Ran Johnston tester with MFE tool on 3-1/2" & 5" drill pipe with 500' of fresh water cushion. Set packer at 8492' with tail to 8510'. Opened tester at 7:20 AM on various surface beans and 1/2" bottom hole bean. Immediate increasing strong blow. Hooked up to Standard Sesnon 25 flow line. Total flow period of 2 hours 47 minutes. Gas to surface. Shut-in at tool or surface at 10:07 AM for 1 hour 33 minute shut-in. Charts showed tool functioned properly throughout test. Recovered 940' of fluid in 3-1/2" & 5" drill pipe consisting of water cushion, hole fluid & condensate. Sample chamber contained 1.9 cu. ft. of gas at 300 psig.

HRS. OPEN	SFC BEAN	FLOW PRESSURE PSIG SURFACE	FLOW PRESSURE PSIG AT TOOL	RATE MCF/D
40 min.	24/64	875	1387	3209
1 hr. 40 min.	32/64	800	1399	2921
2 hr. 40 min.	40/64	525	1399	3529

AUTOMATIC TEST UNIT

TOTAL FLUID	4.3 bbls.
Less Wtr. Cush.	2.1 bbls.
Gross Fluid	2.2 bbls.
Net Oil	2.2 bbls.
Water	0 bbls.
Cut	0 %

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3-9 (con't)

PRESSURE RECORDER DATA PSIG

	INSIDE (8501)
INITIAL HYDRO	3631
INITIAL FLOW	257
INITIAL SHUT-IN	None
FINAL FLOW	1381
FINAL SHUT-IN	1451
FINAL HYDRO	3624

Ran retrieving tool on 3-1/2" & 5" drill pipe and conditioned water with Bex at top of plug at 8700'. Latched on to plug and pulled same loose. Hole started taking fluid. Conditioned water with Pol-E-Heal. Lost approximately 100 bbls. of fluid before loss stopped.

3-10 Ran Go International 4" O.D. carrier with 19 gram DMLXVIII jet charges and shot four 0.40" O.D. holes per foot from 8700'-8716' and 8720'-8734'.
Ran 5-5/8" bit with scraper above and circulated out fill from 8960'-9010' and circulated hole clean.
Ran Halliburton RTTS tool and RBP on 3-1/2" & 5" drill pipe and set retreivable bridge plug at 8740'. Set RTTS tool above plug and tested same OK with 2000 psig.

3-11 SAND STABALIZATION TREATMENT WITH "CLAY LOK"

FIRST STAGE ON PERFS IN INTERVAL 8700'-8734': Pumped in 280 cu. ft. of 2% KCl water, followed by 45 cu. ft. of 3% HCl acid, followed by 482 cu. ft. of 2% Kcl water, followed by 200 barrels of "Clay Lok". Closed tool and set RTTS tool at 8695'. Holes took KCl fluid at 20 cu. ft. per minute rate. Squeezed "Clay Lok" into perfs at 20 to 23 cu. ft. per minute rate under 2500 to 2650 psig with 200 barrels of 2% KCl water followed by 788 cu. ft. of hole fluid to leave KCl water opposite perforations.
Unseated RTTS, latched onto RBP and reset same at 8615'. Tested RBP with 2000 psig OK.
SECOND STAGE ON PERFS IN INTERVAL 8532'-8600': Pumped in 280 cu. ft. of 2% KCl water, 60 cu. ft. of 3% HCl acid followed by 450 cu. ft. of 2% KCl water, followed by 276 barrels of "Clay Lok". Closed tool and set RTTS tool at 8525'. Holes took KCl fluid at 26-28 cu. ft. per minute rate at 2500-2600 psig. Squeezed "Clay Lok" into perfs at 26-28 cu. ft. per minute rate under 2100 to 1750 final psig with 276 barrels of 2% KCl water followed by 770 cu. ft. of hole fluid to leave KCl water opposite perforations.

Latched onto RBP and pulled up to 8330' and conditioned hole. Pulled out of hole. Removed B.O.P. Cut off 8-5/8" stub to accomodate tubing head. Installed Shaffer 8-5/8" secondary packing and Shaffer 10", 5000# tubing head. Test same to 3450 psig for 15 minutes OK. Reinstalled B.O.P.

3-12 Run 3-1/2" & 5" drill pipe to 7450'. Pull out laying down drill pipe. Lay down drill collars and load out tools.

1973

3-13 Run 2-7/8" & 1" side string simultaneously using B & W dual slips & elevators. Slips & elevators incorrect size for 1". 1" run with clamp and catline. Pressure test 1" Otis valve and sliding sleeves with 4000 psig nitrogen.
1" side string collapsed when 1600' run. Pulled out. Recovered all 1" tubing. Replaced 3 bent joints, one parted joint and 1-1/4" control line reservoir pup. Ran 2-7/8" & 1" tubing. All 2-7/8" tubing broached with 2.40" O.D. broach.

3-14 Running 2-7/8" & 1" tubing. 2-7/8" tubing filled with salt water in stages.

3-15 Landed tubing in doughnut and applied pressure with nitrogen and found leak in 1" line. Pulled 1000' of 1", found loose joint.
Relanded tubing in doughnut with tail at 8636'. Pressure tested 1" line with 4000 psi nitrogen. Held OK for 15 minutes.

TUBING DETAIL

Bottom	1 Joint	(8636.75-8606.02)	30.73	2-7/8", 6.5#, N-80, 8rd, EUE, R2 new seamless w/45° collar on bottom
Next		(8606.02-8605.07)	.95	Baker Model "F" seating nipple
Next		(8605.07-8598.57)	6.50	Baker Model "FH" hydrostatic single packer.
Next	4 Joints	(8598.57-8474.69)	123.88	2-7/8"
Next		(8474.69-8471.94)	2.75	Baker Model "L" Sliding Sleeve
Next	33 Joints	(8471.94-7450.40)	1021.54	2-7/8"
Next		(7450.40-7445.53)	4.87	Otis Type "RH" hydrostatic single packer.
Next	1 Joint	(7445.53-7415.22)	30.31	2-7/8"
Next		(7415.22-7407.92)	7.30	Otis Safety Valve
Next		(7407.92-7397.92)	10.00	2-7/8" pup w/1" anchor collar on top. Atlas Bradford GST 1" O.D. 1.70#, J-55 new seamless tubing as control line to 2' below 2-7/8" doughnut. Anchors for 1" at 7497', 6494', 5345', 4326', 3284', 2254', 1002', 20'. 1/4" control line from top anchor to doughnut.
Next		(7397.92-7395.17)	2.75	Baker Model "L" sliding sleeve
Next	232 Joints	(7395.17-15)	7380.17	2-7/8" including 14 2-7/8" N-80 & J-55 mixed pups.
		(15 - 0)	15	K.B. to tubing head

NOTE: Tubing run with Baker sliding sleeves closed.

3-16 Removed B.O.P. Installed Shaffer Christmas Tree. Tested tree with 5000 psig OK.
Ran Baker retrievable bridge plug on Otis wireline and set at 8605'.
Pump down 2-7/8" tubing to set packers and obtained circulation. Determined Baker sleeve had opened. Ran tool on Otis wireline and closed sleeve.
Pressured 2-7/8" tubing to 2000# and set Baker packer at 8605' and Otis packer at 7450'.
RIG RELEASED AT 1:00 PM, 3-16-73.

DIRECTIONAL DRILLING REPORT

PACIFIC LIGHTING SERVICE COMPANY

ALISO CANYON

WELL NO. IW 77

JOB NO _____ DATE 3/4/73

U. S.

DIRECTIONAL DRILLING SYSTEMS

2852 GARDENIA AVE.

LONG BEACH, CALIFORNIA

SED 01891
AC_CPUC_0001377

DEC'L CORRECTION 16°

SURVEY RECORD

Ground level 2927
+ K.B. 15
Elevation 2942

JOB NO _____ IW 77 DATE 3/4/73

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES NORTH	SOUTH	EAST	WEST	REMARKS
1	166	.15	166		S 34 E		61	41		
2	283	.15	283		N 36 E		20	71		
3	471	1.15	470 96		N 77 E	72		4 71		
4	663	1.15	662 92		N 56 E	3 07		8 19		
5	900	.45	899 90		N 89 E	3 12		11 29		
6	1080	.15	1079 90		WEST	3 12		10 50		
7	1356	.45	1355 87		N 20 W	6 51		9 26		
8	1670	1.45	1669 71		N 17 W	15 67		6 46		
9	1732	1.15	1731 70		N 17 W	16 96		6 07		
10	2033	2.45	2032 34		N 58 W	24 62			6 18	
11	2336	2. 0	2335 16		N 76 W	27 18			16 43	
12	2584	1.45	2583 04		S 88 W	26 92			24 00	
13	2894	1.30	2892 95		S 80 W	25 51			32 00	
14	3032	2.15	3030 84		S 78 W	24 38			37 30	
15	3326	1.15	3324 78		S 79 W	23 16			43 59	
16	3452	1. 0	3450 76		S 61 W	22 09			45 51	
17	3760	1. 0	3758 70		N 23 W	27 05			47 61	
18	4057	.15	4055 70		N 10 W	28 33			47 83	
19	4353	.30	4351 70		S 79 W	27 84			50 36	
20	4700	.15	4698 70		S 79 W	27 55			51 86	
21	4930	1. 0	4928 66		S 38 E	24 38			49 39	
22	5128	1. 0	5126 63		S 44 E	21 89			46 99	
23	5270	2. 0	5268 54		S 28 E	17 51			44 66	
24	5390	4.30	5388 17		S 28 E	9 19			40 23	
25	5485	6.45	5482 51		S 27 E		76		35 16	
26	5580	9. 0	5576 34		S 25 E		14 23		28 88	
27	5623	10.45	5618 59		S 27 E		21 38		25 24	
28	5654	11. 0	5649 02		S 31 E		26 46		22 19	
29	5715	10.45	5708 95		S 47 E		34 22		13 87	
30	5777	11.15	5769 76		S 62 E		39 90		3 18	
31	5920	13.30	5908 81		S 78 E		46 84	29 47		
32	6014	15. 0	5999 61		S 79 E		51 48	53 35		

SED 01892
AC_CPUC_0001378

SURVEY RECORD

JOB NO _____ IW 77 DATE 3/4/73

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES NORTH	SOUTH	EAST	WEST	REMARKS
33	6109	16.45	6090 58		S 80 E		56 24	80 31		
34	6232	19. 0	6206 88		S 79 E		63 88	119 63		
35	6420	22.15	6380 88		S 78 E		78 68	189 26		
36	6510	24. 0	6463 10		S 77 E		86 92	224 93		
37	6586	22.15	6533 44		S 85 E		89 43	253 60		
38	6617	20.30	6562 48		EAST		89 43	264 46		
39	6735	21.45	6672 08		N 85 E		85 62	308 03		
40	6828	25.45	6755 84		N 86 E		82 80	348 33		
41	6892	28. 0	6812 35		N 86 E		80 71	378 31		
42	7017	31.30	6918 93		N 87 E		77 29	443 53		
43	7170	31.45	7049 04		N 85 E		70 28	523 74		
44	7260	31.30	7125 78		N 85 E		66 18	570 58		
45	7357	30. 0	7209 78		N 89 E		65 33	619 07		
46	7430	28. 0	7274 24		N 84 E		61 75	653 15		
47	7461	26. 0	7302 10		N 82 E		59 86	666 60		
48	7570	23.15	7402 25		N 78 E		50 92	708 68		
49	7612	21.45	7441 26		N 76 E		47 15	723 77		
50	7650	21. 0	7476 74		N 76 E		43 86	736 98		
51	7727	20.30	7548 86		N 66 E		32 89	761 62		
52	7863	20.30	7676 25		N 61 E		9 79	803 28		
53	8020	20.15	7823 55		N 65 E	13 17		852 53		
54	8184	20.30	7977 17		N 66 E	36 52		904 99		
55	8386	19.45	8167 29		N 63 E	67 51		965 81		
56	8569	19. 0	8340 32		N 61 E	96 39		1017 92		
57	8753	18.15	8515 06		N 59 E	126 07		1067 32		
58	9030	17.45	8778 87		N 61 E	167 01		1141 18		
* S4	8534		8307			90		1008		
			HORIZONTAL DEPARTURE 1153.36 FT.			N81.40 E				
S8	8624		8392			105		1033		
Frew	8798		8568			133		1079		

* Interpolated

SED 01893
AC_CPUC_0001379

INTEROFFICE SOUTHERN CALIFORNIA gas COMPANY CORRESPONDENCE

GCA

TO Ben F. Jones FROM G. C. Abrahamson DATE 9-21-76

SUBJECT Fishing Operations - IW #77 - Aliso Canyon

As you are aware we have now spent 52 days and $210,000 attempting to recover Otis & Baker hydrostatic packers from this well with no success.

Please refer to attached cost estimate to continue fishing operations with tubing & complete well. We have roughly estimated an additional 26 days & $130,000 for a total of 78 days & $340,000. Due to history of work to date we cannot express any confidence in this estimate.

We have also estimated cost of suspension of work at $40,000 & cost of redrill and gravel pack next year at $220,000 for a total of $260,000 or roughly twice the cost of continuing fishing operations now.

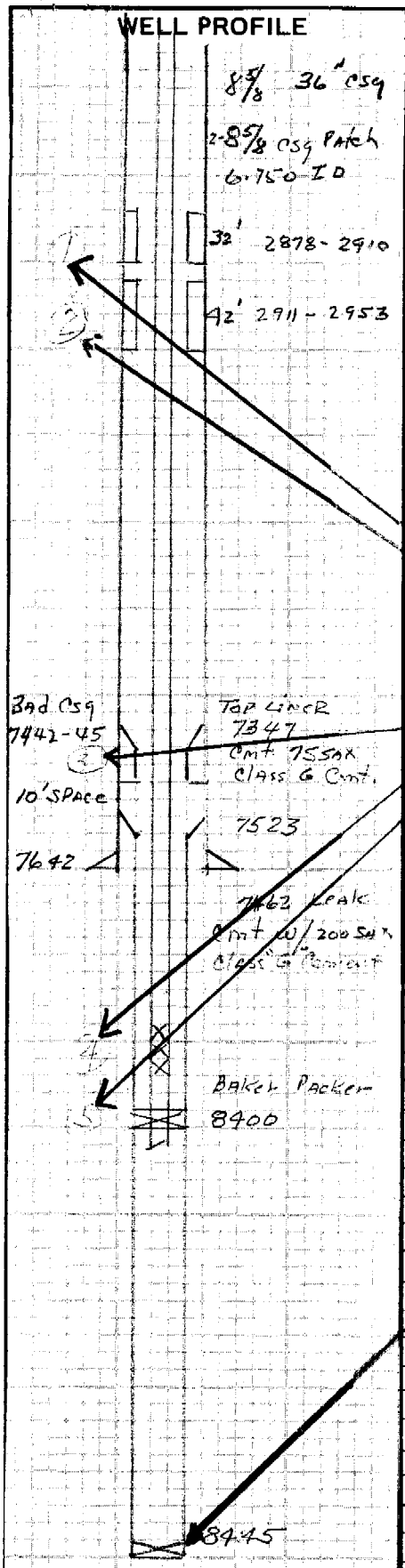
We do have two wells SS 25 & IW 69 as unavailable for withdrawal until work is completed at IW 77. We also have Idle well 22-1 at Montebello which we propose to use this rig to repair and return to withdrawal service.

We request your advice whether to continue fishing at IW #77 or suspend operations.

Aliso Canyon Files

64-D

WELL PROFILE



OPERATOR SOUTHERN CALIFORNIA GAS COMPANY

WELL # I. W. #77

FIELD Aliso Canyon

COUNTY Los Angeles

STATE California

DATE November 11, 1976

☐ NEW COMPLETION ☒ WORKOVER

	CASING	LINER	TUBING 1	TUBING 2	TUBING 3
SIZE	8 5/8"	6 5/8"			
WEIGHT	36#	28#			
GRADE	N-80	K-55			
THREAD	8rd	S.F.J			
DEPTH	7642'	1000'			

ITEM NO.	CASING DETAILS (including Patch)
1.	Gearheart-Owens Patch - 32' x 8 5/8" x 36#
2.	Gearheart-Owens Patch - 42" x 8 5/8" x ~~40#~~ 36 #
3.	172' Burns Hanger - 6 5/8", 24# Cog
4.	Camco Safety Systems
5.	Baker Packer

Model "N" Bridge Plug set at 8445'

Fish in well below bridge plug 166'
from 8853' to 9019'
5 Joints 2 7/8" tubing, sliding sleeve
and Baker Hydrostatic packer.

RECEIPT OF DELIVERY AND SALES CONFIRMATION

CAMCO

7010 ARDMORE • P.O. BOX 14484
HOUSTON, TEXAS 77021
PHONE 747-4000 AC 713

SOLD TO: Southern California Gas Company
P. O. Box 3249, Terminal Annex
Los Angeles, California 90051

SHIP TO:
CUSTOMER OR FIELD: Aliso Canyon
ADDRESS OR LEASE: INVENTORY
CITY OR WELL NO.: [illegible]

SCH. WEEK OF	SHIP VIA	SHIPPING DATE	SALES ORD. NO.	CAMCO CODE NO.	PURCHASE ORDER NO.	INVOICE NO.	INV. LOC.	DIST.
	CAMCO		37021		6004			66

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION	STK. REPL. DESIRED R.	ACC. CODE	DISC. %	PART NUMBER ASSY.	SUB	VARIANCE	TAX	UNIT PRICE	EXT. AMOUNT
		Minor Repairs DCRT Kill Valves		~~260~~						~~120 00~~	~~480 00~~
	3	Major Repairs DCRT Kill Valves		260						140 00	420 00
	3	DCRT Nozzles for Major Repairs				01348	028	04000	6	334 38	103 13
EQUIPMENT PICKED UP											
	6	HOURS Shop SERVICE CHG. f/ Major Repairs		260						20 00	120 00
		MILEAGE									

643.13

I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT I HAVE FULL AUTHORITY TO OBTAIN THE ABOVE LISTED EQUIPMENT, THAT I HAVE EXAMINED ALL OF THE ABOVE LISTED EQUIPMENT AND FOUND IT TO BE IN GOOD SERVICEABLE CONDITION AND THAT I ACCEPT IT WITH FULL UNDERSTANDING OF AND AGREEMENT TO ALL OF THE TERMS AND CONDITIONS OF SALE SET FORTH ON THE REVERSE SIDE HEREOF.

DELIVERED BY: _____

PURCHASER: Southern California Gas Company BY _____

TERMS AND CONDITIONS OF SALE SEE REVERSE SIDE

FORM 7002

EXTRA COPY

SED 01896
AC_CPUC_0000648

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

Mr. M. Mishra FROM J. W. Tenfelder DATE October 29, 1979

SUBJECT IW-77

Temperature, noise, and RA surveys, previously sent to you, indicate that IW-77 is leaking. A plug was inserted in the tubing and a pressure 150 psi greater than reservoir was put on the well. It bled off overnight. The well pressure was then reduced to line pressure and left shut-in overnight. The well pressure came up 20 psi. No water was found by a fluid level survey. It cannot be stated positively that the casing is not leaking, but the evidence is such that any such leak appears to be small. The casing shoe appears to be the major problem in this well but any workover should include a casing test. Please review this well and make your workover recommendations.

cc: T. C. Harlan
D. S. Smiley
N. D. Stevenson

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO Mr. J. P. Anand ✓ FROM M Mishra Mahanand Mishra DATE November 13, 1979

SUBJECT Aliso Canyon - IW 77 Rig Work

Recommendations

(i) Pressure-test 6 5/8" and 8 5/8" casings and perform remedial works as necessary.

(ii) Pressure-test and repair WSO's at 8435' and 8515'.

Discussion

Recent temperature, noise and radioactive surveys have indicated that the well IW 77 is severely leaking.

The temperature survey of 8-3-79 showed cooling near the WSO at 8435', and near the casing shoe at 7642'.

The noise log of 10-17-79 showed large noise anomaly against the S-4 and S-8 sands, and also against Upper Sesnon sands which are between two WSO's at 8435' and 8515' respectively. The noise anomaly was also recorded across the shoe of 8 5/8" casing which is at 7642'.

The radioactive survey of 10-25-79 indicated that the gas was flowing outside 6 5/8" casing and moving past casing shoe at 7642'.

The pressure-testing of the casing did not prove conclusively whether the casing was leaking but its possibility could not be overruled.

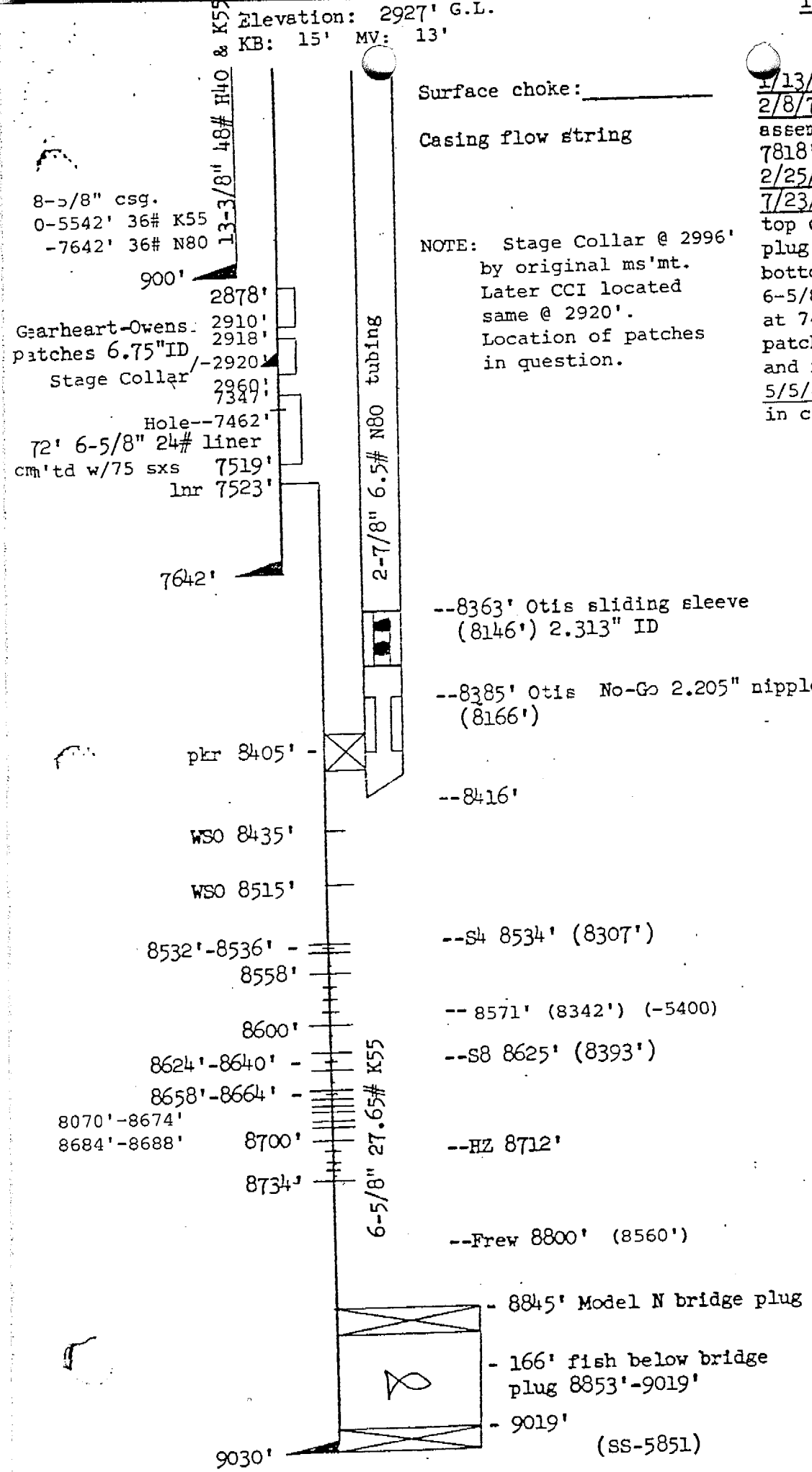
IW 77 is a multiple-site well. There are three wells at this site: IW 77, IW 69, and SS 25. Combined together, they give a deliverability of 144 MMCFD at the high end of inventory. The work-over operations in 1976 in the well IW 77, which were to pressure-test casings (and perform remedial works as indicated), took almost three months due to fishing operations. I therefore suggest that the well should be killed now, and the remedial works performed as recommended above towards the end of the coming withdrawal season.

Enclosed with this letter is Mr. J. W. Tenfelder's recommendation for work-over jobs at IW 77.

MM:mf
Attachment
cc: Messrs. B. F. Jones
J. W. Tenfelder

64-D

Elevation: 2927' G.L.
KB: 15' MV: 13'



Surface choke: _____

Casing flow string

NOTE: Stage Collar @ 2996' by original ms'mt. Later CCI located same @ 2920'. Location of patches in question.

1/13/73 - Well spud
2/8/73 - 2/17/73 - 128' of drillin, assembly left at 7728'-7856' and 7818'-7956', side tracked and cmt'
2/25/73 - Well completed
7/23/76 - 11/12/76 - Cleaned out t top of fish at 8853', set bridge plug at 8845' to abandon fish & bottom of well, ran & cm'td 172' o 6-5/8" liner to patch hole in casi at 7462', ran Gearhart-Owens casin patches 2878'-2910', 2918'-2960', and ran tubing with SSSV.
5/5/80-6/16/80 Repair gas leak in caprock.

WELL VOLUME

	Cu.Ft.	Bbl.
Tubing	274	49
Csg/Lnr	78	14
Annulus	2270	404
Total		467

REV: 9/3/86 DRH:hs
5/30/85

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator Southern California Gas Co. Field or County Aliso Canyon
Well IW #77, Sec. 28, T 3N, R 16W, S.B B. & M.
A.P.I. No. 037-21323 Name P. S. Magruder, Jr. (Person submitting report) Title Agent (President, Secretary or Agent)
Date July 3, 1980

Signature P S Magruder Jr

PO Box 3249 Terminal Annex, Los Angeles, Cal 90051 (Address) (213) 689-3561 (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date	
1980	MWO # 99620 was issued to seal off gas leak in this well in the caprock.
5.05.	0 Day. Moved California Production Service Rig on location.
5.06.	1st Day. Circulated 63#/cu.ft. polymer completion fluid from well with 72#/cu.ft. polymer completion fluid. Unable to test BOPE because doughnut leaked. Unlanded doughnut. Unable to release from packer.
5.07.	2nd Day. Worked tubing but were unable to release packer. Made three attempts to run freepoint but tools failed.
5.08.	3rd Day. Chemical cut 2 7/8" tubing at 7,480'. Tested BOPE as follows - blind rams, choke manifold and pipe rams to 4,000 psi; hydril to 2,500 psi with nitrogen. Pulling out of well slowly with collars dragging on casing patches.
5.09.	4th Day. Finished pulling out of well. Ran in with overshot, bumper sub, jars, four drill collars and accumulator. Jarred and worked pipe. Unable to release from packer. Released from fish at 7,480' and pulled out to 2,000' slowly with collar dragging on casing patch.
5.10.	5th Day. Continued pulling out of well with overshot. Changed to N-80 bevelled collars. Ran in with overshot and bumper sub on 2 7/8" tubing. Worked over fish at 7,480'. Ran freepoint and chemical cut 2 7/8" tubing at 8,340'.
5.11.	Rig and crew idle.
5.12.	6th Day. Continued pulling out of well with 860' of tubing fish. Ran in with 70' of 5 1/2" wash pipe, four drill collars, jars and bumper sub and accelerator on 2 7/8" tubing. Worked wash pipe over fish and milled four hours. Pulling out of well.

OG103 (5-79-DWRR-15M)

5.13. 7th Day. Continued pulling out of well with wash pipe. Recovered safety system, two blast joints and latch-in locator stuck in washpipe shoe. Ran in with packer retrieving tool and recovered packer from 8,400'. Ran in to 2,000' with 6 5/8" bridge plug.

5.14. 8th Day. Ran bridge plug on wire line. Set top of plug at 8,528' using reference collars. Ran in well open ended to 8,500'.

5.15. 9th Day. Equalized four sacks of sand at 8,528', backscuttled sand to 8,520'. Pulled out and ran in with 312' of 2 7/8" tubing tail and fullbore retainer. Set retainer at 8,203'. Pressured up to 3,000 psi. Lost 600 psi in 20 minutes. Pulled up to 7,100' in 8 5/8" casing.

5.16. 10th Day. Equalized 50 cu.ft. of 12% HCL and 3% HF acid at 8,515'. Squeezed away 50 cu.ft. at rate of 10 cu.ft./minute with 2,500 psi. Pulled out of hole. Shot four 1/2" holes at 8,434'. Ran in well open ended to 8,520'. Equalized seven sacks sand. Pulled out and ran in to 6,020' with 6 5/8" fullbore packer.

5.17. 11th Day. Located sand at 8,478'. Pulled up to 8,466' and pressured up to 3,000 psi - held for 10 minutes. Pulled up to 8,439' and equalized 50 cu.ft. of 12% HCL and 3% HF acid. Squeezed away 40 cu.ft. at rate of 24 cu.ft./minute with 2,500 psi. Ran in to 8,373', set fullbore and opened bypass and mixed 20 cu.ft. of 12-3 acid, 115 cu.ft. latex class "G" cement 108# cu.ft. Closed tool on acid and squeezed away 107 cu.ft. Pressure locked up at 3,000 psi but bled back to 2,100 psi in 20 minutes. Built up to 2,600 psi and held. Released pressure, had 2 cu.ft. return. Pulled out of well and ran in 5 5/8" bit and casing scraper to top of liner.

5.18. Rig and crew idle.

5.19. 12th Day. Ran in with 5 5/8" bit and 6 5/8" casing scraper. Located top of cement at 8,375'. Drilled out firm cement to 8,478' and circulated well clean. Pulled out of well. Ran in with retainer and set at 8,124' with tubing tail at 8,424'. Pressure tested holes to 2,500 psi which bled off 200 psi in 5 minutes. Pulled to 7,320'.

5.20. 13th Day. Ran in and spotted 50 cu.ft. 12% HCL and 3% HF acid at 8,430'. Pulled to 8,100' and set retainer. Squeezed 40 cu.ft. out holes at 8,434'. Pulled out of well. Set retainer at 8,400'. Ran stab-in tool to 8,350'.

5.21. 14th Day. Pumped 20 cu.ft. acid followed with 50 cu.ft. cement mixed with 12% latex. Squeezed away 10 cu.ft. through holes at 8,434'. Removed rotary table and BOPE. Removed tubing head which was found to be worn out of round. Ran in with fullbore.

5.22. 15th Day. Ran in well and set fullbore at 1,000'. Tested pipe rams to 2,000 psi for 20 minutes. Tested hydril bag to 2,000 psi for 20 minutes. Pulled out and ran in with 5 5/8" junk mill, two junk subs and four 4 1/8" drill collars. Milled on retainer.

5.23. 16th Day. Milled to 8,400'. Pulled out of well. Ran in with new 5 5/8" junk mill. Milled up retainer and cement to 8,444'. Circulated well clean. Pulled out. Running in with retainer.

5.24. 17th Day. Ran in well. Set retainer at 8,113' with tail to 8,430'. Pressure tested holes at 8,434' to 2,000 psi for 20 minutes. Pulled out of well. Shot four 1/2" holes at 8,434'. Ran in with retainer and set at 8,113' with tail to 8,430'. Pressure tested holes to 2,000 psi for 20 minutes. Pulled 1,000'.

5.25. Rig and crew idle.

5.26. Rig and crew idle.

5.27. 18th Day. Continued pulling out of well with retrievable retainer. Ran in with tester, set packer at 8,413'. Opened test tool with medium blow for 5 minutes, increased to strong blow. Closed well in for 10 minutes and pressure built up to 100 psi. Opened test tool, flowed well for one hour. Backscuttled and pulled out. Ran in with 312' of 2 7/8" tail and retrievable cement retainer. Set retainer at 8,127' and pressured up to 3,000 psi which held. Equalized 50 cu.ft. of 12% HCL and 3% HF acid and obtained breakdown at rate of 17 cu.ft./minute with 2,500 psi.

5.28. 19th Day. Pulled out of well. Using wire line equipment, ran 6 5/8" retainer and set at 8,358'. Ran in well with stab-in tool. Preceeded with 20 cu.ft. of acid and followed by 140 cu.ft. of class "G" latex cement, squeezed away 72 cu.ft. out holes at 8,434' with final pressure of 3,000 psi. Held pressure for 20 minutes. Released from retainer and backscuttled.

5.29. 20th Day. Pulled out of well. Removed BOPE and reinstalled 8" 5,000 psi tubing head. Tested pipe rams to 4,000 psi for 20 minutes with water. Ran in to top of liner with 5 5/8" bit, 6 5/8" casing scraper, two junk subs and four 4 1/8" drill collars.

5.30. 21st Day. Continued running in well from 7,300' to top of cement retainer at 8,353'. Drilled on retainer to 8,358'. Pulled out and ran in well with 5 5/8" mill, two junk subs and four 4 1/8" drill collars. Milled from 8,358' to 8,360'.

5.31. 22nd Day. Continued running in well to 8,360' from 7,300'. Milled on junk to 8,361'. Pulled out and ran new junk mill, two junk subs and four 4 1/8" drill collars. Cleaned out junk and cement to 8,445'. Pulled out and ran in with 312' of 2 7/8" tail and retrievable retainer to 2,000'.

6.01. Rig and crew idle.

6.02. 23rd Day. Continued running in well from 1,488' with 312' of 2 7/8" tail and retrievable retainer. Set packer at 8,118' and pressure tested holes at 8,434' with 2,000 psi for 20 minutes. Pulled out and shot four 1/2" holes at 8,433'. Ran in well with 312' of 2 7/8" tail and retrievable retainer. Set packer at 8,122' and pressure tested holes at 8,433' with 2,000 psi for 20 minutes. Pulled up out of liner to 7,300'.

6.03. 24th Day. Pulled out of well from 7,300'. Ran in with tester. Set packer at 8,394'. Opened tool at 11:25 am, had weak blow for 4 minutes, medium blow for 5 minutes and strong blow for 51 minutes. Pulled out and ran in with cement retainer and 312' of 2 7/8" tail. Set retainer at 8,126'. Pressured up to 3,000 psi, held for 20 minutes.

6.04. 25th Day. Ran in well from 7,300' to 8,442'. Backscuttled 70 barrels of dirty salt water. Equalized 50 cu.ft. of 12% HCL and 3% HF acid across holes at 8,433' and squeezed away 30 cu.ft. of acid at rate of 16 cu.ft./minute with 3,000 psi. Pulled out and ran neutron correlation log with collar locator from 8,448' to 5,000'. Shot four 1/2" holes at 8,432'. Ran drillable cement retainer and set at 8,370' on wire line. Ran in well with retainer, stab-in tool to 992'.

6.05. 26th Day. Ran in well from 992' to 8,365'. Established breakdown at rate of 20 cu.ft./minute with 3,000 psi. Pumped 20 cu.ft. of 12% HCL and 3% HF acid followed by 154 cu.ft. of self-stress cement with 0.2% D108 and FIAC with 0.1% D13 retarder. Started squeeze job at 8:34 am, squeezed away 144 cu.ft. of cement out holes at 8,432', squeezed off at 9:08 am with 3,000 psi. Pulled out of well and ran in with 5 5/8" mill to 3,100'.

6.06. 27th Day. Ran in well from 3,100' to 8,370' with junk mill, two junk subs and four 4 1/8" drill collars. Milled to 8,371'. Pulled out and ran in with new mill to 8,371'. Milled to 8,372'.

6.07. 28th Day. Ran in well from 7,300' to 8,372'. Milled for three hours with no success. Pulled out and ran a 5 5/8" rock bit. Drilled at 8,372' for two and half hours. Pulled out and ran in with 5 5/8" mill to 4,000'.

6.08. Rig and crew idle.

6.09. 29th Day. Ran in well from 4,000' with 5 5/8" mill, two junk subs and four 4 1/8" drill collars. Milled and cleaned out from 8,372' to 8,449'. Pulled out and ran in with 312' of 2 7/8" tail and cement retainer. Unable to set retainer. Pulled out to 4,000'.

6.10. 30th Day. Finished pulling out of well with retainer that failed to pack off. Ran in well with same type of retainer and 312' of 2 7/8" tubing tail. Set retainer at 8,118'. Tested holes at 8,432' to 2,000 psi for 20 minutes. Pulled out and ran Audio Analyzer log from 8,445' to 7,200' which showed no gas movement. Ran in well to 7,300' with 5 5/8" mill, two junk subs and four 4 1/8" drill collars.

6.11. 31st Day. Ran in well from 7,300' to 8,449'. Circulated 450 barrels of 63# waste lease water from well with 72# polymer completion fluid. Cleaned out sand, junk and cement to 8,528'. Milled on bridge plug for two and quarter hours. Cleaned out to 8,702'. Pulled out of well and ran in with tester to 7,300'.

6.12. 32nd Day. Ran in well from 7,300' to 8,411' and set tester at 8,411'. Opened tool at 8:50 am. Unloaded well into Baker tank, started flowing well to Gas Company system at 1,550 psi. Flowed well for five hours. Ran Audio Analyzer log from 8,340' to 7,300' which showed no gas movement. Released packer, backscuttled and pulled up to 7,300'.

6.13. 33rd Day. Pulled out of well with tester. Ran in with 5 5/8" mill and 6 5/8" casing scraper. Cleaned out to 8,702'. Circulated well clean. Pulled out. Ran 6 5/8" gauge ring to 8,500'. Ran 6 5/8" packer and set at 8,405'. Ran in with test seals to 2,000'.

6.14. 34th Day. Ran in well from 2,000' with test seals. Stabbed in to packer at 8,405'. Tested packer to 1,500 psi and pulled 20,000# over weight of string to check latch. Pulled out and ran in with seal assembly, two blast joints, 2.205' No-Go nipple and sliding sleeve. Hydrotested to 5,000 psi. Landed tubing with 9,000# on packer.

6.15. Rig and crew idle.

6.16. 35th Day. Landed tubing with 9,000# on packer. Removed BOPE and installed xmas tree. Tested seals and tree with 5,000 psi of oil for 20 minutes. Checked tree bolts. Changed over from polymer to lease water. Rigged down. Rig released at 10:00 pm.

✓R 8/19/86

YC: RWW

Please Bru 7W

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO R. M. Morrow
N. W. Buss

FROM J. D. Mansdorfer

DATE August 18, 1986

SUBJECT Workover Recommendation for Aliso Canyon Well IW-77

Summary

Recent temperature and R A tracer surveys indicate that a casing patch in well IW-77 has developed a leak. The leakage rate has been determined to be approximately 25 Mcf/d. IW-77 is an injection - withdrawal well that has a deliverability of 60 MMcf/d at high inventory and 40 MMcf/d at low inventory. It is recommended that a workover be performed to replace the leaking patch.

Discussion

The two casing patches in the vicinity of the stage collar were installed during a workover in 1976. There is a great deal of uncertainty regarding the location of these patches with respect to the stage collar, and which if either of the patches is over the stage collar. I can find nothing in my files to indicate that there was any evidence of the stage collar leaking prior to the workover, and a pressure test of this interval during the workover to 2600 psi surface pressure did not indicate any leakage.
Guy Abrahamson indicates that to the best of his memory the patches were set as a "precautionary" measure. It is possible that the stage collar is just now developing a leak.

An anomaly in the vicinity of the stage collar was first noticed on a temperature survey run on August 12. A detail run the following day confirmed a cooling of 7°F at 2940' wireline measurement. On August 15 a 20 mC. slug of radioactive tracer was surface injected and pushed past the suspected leak. When injection gas was shut off the slug rose approximately 1 foot every 3 minutes.
The main slug rose to 2942' wireline measurement and stopped indicating that leakage of surface valves was not contributing to slug movement. A noticeable spike of tracer developed at 2900'. It is believed that 2942' wireline depth represents the bottom of the lower patch, and 2900' is the stage collar.

Recommendation

It is recommended that both casing patches be removed, and a new patch be run on wireline to ensure that it is set over the stage collar. The new completion string should include a gas lift mandrel so that if the new patch develops a leak the well can be converted to tubing flow with a pump out plug for emergency well kill purposes.

64-E

This well is located on a multiple well site, so the workover should be scheduled outside withdrawal season, preferably prior to the 1986-87 withdrawal season since the well has good deliverability at low inventory.

Pre and post rig costs are estimated to be $ 15,000, all contract.

cc: N.D. Stevenson

✓R 8/19/86

YC: RWW

PLEASE RETURN

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

TO R. M. Morrow
N. W. Buss

FROM J. D. Mansdorfer

DATE August 18, 1986

SUBJECT Workover Recommendation for Aliso Canyon Well IW-77

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Discussion

The two casing patches in the vicinity of the stage collar were installed during a workover in 1976. There is a great deal of uncertainty regarding the location of these patches with respect to the stage collar, and which if either of the patches is over the stage collar. I can find nothing in my files to indicate that there was any evidence of the stage collar leaking prior to the workover, and a pressure test of this interval during the workover to 2600 psi surface pressure did not indicate any leakage.
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Recommendation

It is recommended that both casing patches be removed, and a new patch be run on wireline to ensure that it is set over the stage collar. The new completion string should include a gas lift mandrel so that if the new patch develops a leak the well can be converted to tubing flow with a pump out plug for emergency well kill purposes.

64-E

This well is located on a multiple well site, so the workover should be scheduled outside withdrawal season, preferably prior to the 1986-87 withdrawal season since the well has good deliverability at low inventory.

Pre and post rig costs are estimated to be $ 15,000, all contract.

cc: N.D. Stevenson

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

D. R. Horstman

TO R. W. Weibel FROM D. R. Horstman DATE Sept. 4, 1986

SUBJECT Workover Recommendation - Aliso Canyon Well IW-77

Please find attached a copy of Mr. J. D. Mansdorfer's recommendation to workover well IW-77 dated August 18, 1986. Temperature and R/A tracer surveys performed in August indicate that a casing patch is leaking at a rate of approximately 25 Mcf/d. Deliverability from the subject injection/withdrawal well is approximately 60 MMcf/d at high inventory and 40 MMcf/d at low inventory.

RECOMMENDATIONS

I concur with Mr. Mansdorfer's recommendation to perform a workover of well IW-77 to replace the leaking casing patch. Both casing patches located in the vicinity of the stage collar should be removed and the stage collar isolated. A single patch should be run and set on wireline opposite the stage collar.

As recommended, a gas lift mandrel and sliding sleeve device should be integrated in the completion string to allow conversion to tubing flow should the casing patch fail in the future. Since the well is located on a multiple drillsite, remedial workover should be performed at the end of withdrawal season.

DISCUSSION

The subject well was drilled and completed as a gas storage well in February 1973. Well records indicate current conditions as follows: 13-3/8" surface casing cemented at 900', 8-5/8" casing cemented at 7642' (stage collar at 2920') with patches at 2878'-2910', 2918'-2960', and 7347'-7519'. A 6-5/8" liner is landed at 9025' (float collar at 9019') with the top at 7523' (1502' total), WSO at 8435' and 8515'. The 6-5/8" liner is perforated with four 0.4" HPF as follows: 8532'-8536', 8558'-8600', 8624'-8640', 8658'-8664', 8670'-8674', 8684'-8688', and 8700'-8734' (110' total). A 6-5/8" Baker Retrieva "D" packer is set at 8405' with 2-7/8" tubing landed at 8415' (equipped with an Otis 2.313" sliding sleeve and an Otis 2.205" No-Go nipple). A copy of the well mechanical is attached for your reference.

The original drilling records list the stage collar at 2996'. However, a subsequent casing inspection log (October 2, 1976) indicated that the stage collar is actually at 2920' (see attached copy). Thus, it is uncertain as to which, if either of the casing patches is actually set over the stage collar.

64-F

As reported in Mr. Mansdorfer's letter, the first evidence of a stage collar leak was detected on the temperature survey of August 12, 1986. A detail run was performed the following day which confirmed a cooling anomaly of approximately 7°F at 2940' wireline depth. A radioactive tracer was then surface injected and pushed past the suspected leak. Once injection gas was shut-off, the slug was observed to rise at a rate of approximately one foot every three minutes to a depth of 2942' (wireline measurement). A distinct spike of tracer was apparent on the tracer survey at roughly 2900' (see attached copy). The bottom of the lower casing patch and the stage collar are believed to be at wireline depths of 2942' and 2900', respectively.

Nodal analysis was performed in which the present deliverability (current configuration) was compared with that of both 5-1/2" x 3-1/2", and 7" x 5-1/2" tubing completions. For the annular flow case, it was assumed that the two casing patches located in the vicinity of the stage collar (74' total length) were replaced with one 90' long patch of equivalent ID. A deliverability of approximately 56 MMcf/d was calculated under annular flow with the big tubing completions resulting in approximately 38 MMcf/d and 60 MMcf/d (5-1/2" x 3-1/2" and 7" x 5-1/2", respectively).

Removal and replacement of the upper two casing patches could be performed for less then $100M. Conversion costs for the big tubing completions would run approximately $300M-$500M and in the 5-1/2" x 3-1/2" case, would reduce deliverability by roughly 30 percent (56 MMcf/d to 38 MMcf/d). In the case of the 7" x 5-1/2" tubing, the additional expense of removing the existing casing patches (three) would be incurred and would result in a deliverability increase of only 4 MMcf/d (56 MMcf/d to 60 MMcf/d). Thus, the expense of converting to big tubing in the subject well does not appear to be justified at this time. However, should the casing patches fail or other casing leaks develop in the future, conversion would then become a viable alternative. Should you have any questions or require additional information, please advise.

DRH:hs
Attachments

WORKOVER PROGRAM

OPERATOR:	Southern California Gas Company
FIELD:	Aliso Canyon
WELL:	IW #77
CONTRACTOR:	California Production Service Rig #M-73
APPROXIMATE LOCATION:	From Station #84 834' south and 5377' west
ELEVATION:	Ground level 2927'. Take all measurements from original kelly bushing 15' above ground level.
SAFETY:	Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of the wellhead or near any other flammable material.

PRESENT CONDITIONS:

	13-3/8"	cemented 900'
	8-5/8"	cemented 7642' (0-5542' 36# K-55 Buttress, 5542'-7642' 36# N-80 Buttress), Pengo casing patches 2878'-2910', 2918'-2960', stage collar 2942'
172'	6-5/8"	cemented 7519', top 7347', hole 7462'
1502'	6-5/8"	cemented 9025', top 7523', WSO on lap, bridge plug set at 8845', WSO 8435' and 8515', perforated 8734'-8700', 8664'-8658', 8640'-8624', 8600'-8558' and 8536'-8532'

Tubing Detail:

Baker 6-5/8" Retrieva-D set at 8405'
2-7/8" tubing landed 8416'
Baker production tube
Baker 4 seals
Baker latch-in locator
Otis 20' heavy wall joint
Otis 2.205" No-Go nipple
Otis 20' heavy wall joint
Otis 2-7/8" sliding sleeve
2-7/8" tubing to surface

WORK CATEGORY:

14 Move in Baker tank. Check with Resident Reservoir Engineer to determine any changes and condition of the well since writing of this program and current bottom-hole pressure in the vicinity of the well. Workover fluid to have sufficient density to give at least 500 psi overbalance at the top of zone, 8534' M.D. (8307' T.V.D.). Estimated bottom-hole pressure at the top of the zone is 2800 psi. Use of 63#/cu.ft. workover fluid gives a hydrostatic pressure of 3597 psi for an overbalance of 797 psi.

Pump workover fluid down tubing at about 3 bbls. per minute through sliding sleeve at 8363' and bleed off gas to Gas Company system. Obtain assistance from Aliso Canyon Shift Supervisor when killing well. Volume of tubing = 49 bbls; volume of 2-7/8" x 8-5/8" and 2-7/8" x 6-5/8" annuli = 404 bbls; volume of rat hole = 14 bbls; total volume of well = 467 bbls. Be sure to bleed off surface string annulus. Maintain surface fluid volume equal or greater than well volume during workover.

PROGRAM:

11 & 12 1. Move in and rig up. Bleed off all casing annulars to zero pressure and be sure well will stand full of fluid before proceeding. Notify Drilling Superintendent if well is not in this condition.

13 2. Set equalizing back pressure valve in doughnut. Remove xmas tree and send in for testing and repairs.

13	3.	Install 9" Class III 3000 psi BOPE. Equipment to include Hydril bag and double gate with 2-7/8" pipe rams and blind rams both to be hydraulically operated with 3000 psi 80 gallon accumulator with dual remote controls and auxiliary nitrogen. Also install 3000 psi 9" spool with choke and kill lines as well as check valve. The choke manifold to have discharge to Gas Company system with block valve and bleeder as well as connections to Baker tank. Use new Rx API rings on all untested BOPE connections. Inspect condition of Hydril bag when installing BOPE.
13	3a.	Pressure test blind rams, 2-7/8" pipe rams and choke manifold to 3000 psi with water. Pressure test Hydril bag to 2300 psi with water. The Division of Oil and Gas to be given sufficient notice to allow a witness to be present.
15	4.	Pull 2-7/8" tubing laying down production equipment. Baker and Otis to pick up equipment and clean, inspect, repair and pressure test for reuse.
28	5.	Run spear and recover top swedge from casing patch at 2878'. Recover casing patch. Mill bottom swedge of casing patch 2910'. Run spear and recover top swedge from second casing patch at 2918'. Recover casing patch. Run mill and mill up bottom swedge at 2960'.
15	6.	Run 7-5/8" bit and casing scraper and clean out to 7347'. Run 5-5/8" bit and casing scraper and clean out to 8405'.
15	6a.	Run bull plug, 2 seals, locator, ported sub and 1000' of tubing on retrievable squeeze packer and pressure test seals, packer and liner lap to 1500 psi. Pressure test annulus to 1500 psi to locate leak suspected near 2920'.
38	7.	Run casing collar log to determine location of stage collar. Run 20' Pengo casing patch on wireline and set over stage collar.
21	8.	Run 2-7/8" 6.5# N-80 8rd EUE tubing, applying Baker Seal, drifting and hydrotesting to 5000 psi. Install chamfered collars below 2600'.

Tubing to Include:

Baker production tube
Baker 2 seals
Baker latch-in locator
One joint of 2-7/8" tubing
Otis 2.205" No-Go nipple
One joint of 2-7/8" tubing
Otis 2-7/8" sliding sleeve, run closed
One joint of 2-7/8" tubing
BST 2-7/8" gas lift mandrel with pump-out plug
2-7/8" tubing to surface

21 9. Space out and land 2-7/8" tubing with 10,000# on packer. Pull 20,000# over weight of tubing to check latch. Pressure test seals, packer and annulus to 1500 psi for 20 minutes. Keep tubing full and observe for returns.

21 10. Set equalizing back pressure valve in doughnut and remove BOPE. Install xmas tree. Pressure test to 5000 psi with oil for 20 minutes. Remove back pressure valve.

21 11. Circulate polymer completion fluid out of well with clean inhibited salt water. Tighten all wellhead bolts. Check all wellhead valves closed. Install blind flanges on all wellhead valves. Release rig.

G. C. Abrahamson
October 8, 1986

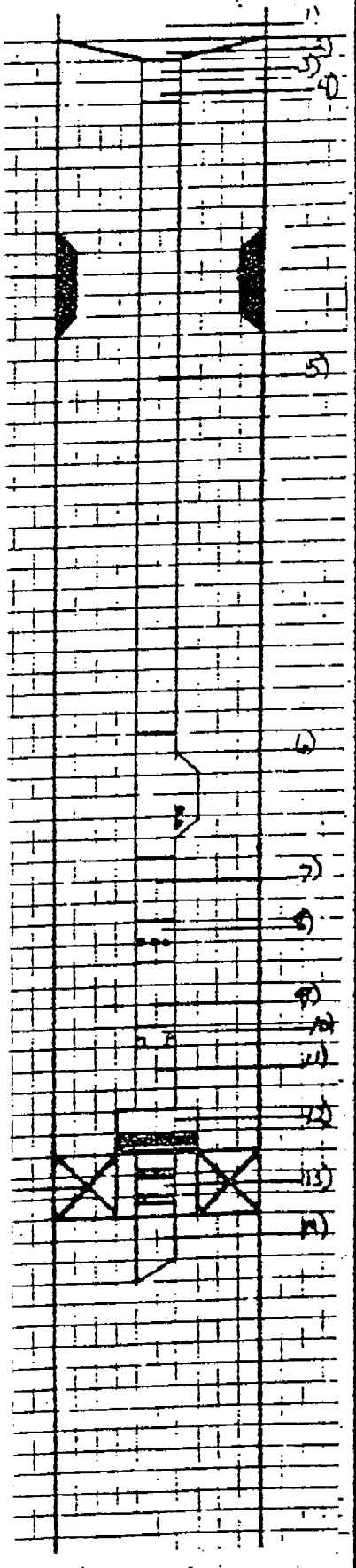
Approved: 11/13/86
N. W. Buss

cc: Rig Supervisor
Relief Rig Supervisor
Contract Tool Pushers (2)

N. W. Buss
C. J. DeBlasio
R. C. Hazel
P. B. Lorio
J. D. Mansdorfer
R. M. Morrow
R. E. Wallace
R. W. Weibel

Well File

WELL PROFILE



OPERATOR So.Calif. Gas Co.

WELL # IW #77

FIELD Aliso Canyon

COUNTY Los Angeles

STATE California

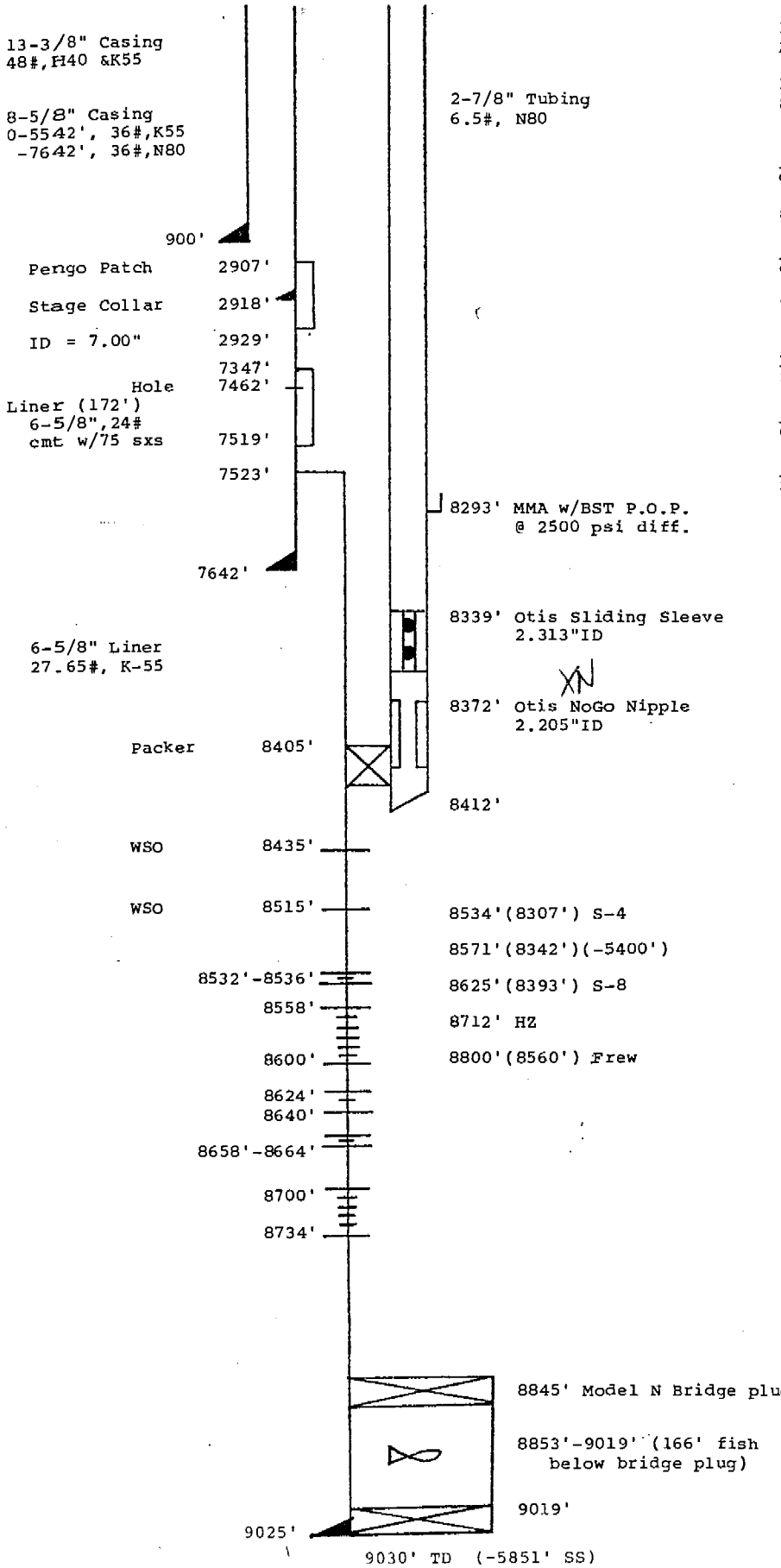
DATE Revised 1-6-87
12-3-86

☐ NEW COMPLETION ☒ WORKOVER

	CASING	LINER	TUBING 1	TUBING 2	TUBING 3
SIZE			2-7/8		
WEIGHT			6.5#		
GRADE			N-80		
THREAD			EUE 8rd		
DEPTH			8410'		

ITEM NO.	TUBING DETAILS	LENGTH	DEPTH
1.	K.B.	15.00	15.00
2.	Doughnut	.70	15.70
3.	Pup joint 2-7/8"	5.56	21.26
4.	Pup joint 2-7/8"	10.12	31.38
5.	265 joints 2-7/8" tubing	8261.21	8292.59
6.	BST 2-7/8" MMA gas lift mandrel with 1-1/2" pump-out plug set at 2500 psi	13.95	8306.54
7.	One joint 2-7/8" tubing	32.12	8338.66
8.	Otis 2-7/8" XO SSD, 2.313" ID open down	3.20	8341.86
9.	One joint 2-7/8" tubing	30.32	8372.18
10.	Otis 2-7/8" XN No-Go nipple 2.205" ID	1.30	8373.48
11.	One joint 2-7/8" tubing	30.32	8403.80
12.	Baker latch	1.20	8405.00
13.	Baker 2 seals	2.00	8407.00
14.	Baker production tube	5.28	8412.28
	Tubing tail		
	Landed tubing on packer with 10,000# comp		
	Pulled latch 20,000# OTW		
	Tubing weight up 50,000#		
	Tubing weight down 48,000#		
	A) Pengo patch — Top		2907
	Bottom		2929
	B) Baker 6-5/8" Retrieva-D packer 3.25"ID		8405

COMMENTS:



IW-77
ALISO CANYON FIELD

Elevation: 2927'GL, 15' KB, 13' MV
Status: Injection/Withdrawal Well
Casing flow string

1/13/73-2/25/73: Well drilled and completed. 128' of drilling assembly left @ 7728'-7956' and 7818'-7956', side tracked and cemented.

7/23/76-11/12/76: Cleanout to top of fish @ 8853', set bridge plug @ 8845' to abandon fish and bottom of well, ran and cmtd 172' of 6-5/8" liner to patch hole in casing @ 7462', ran Gearhart-Ownes casing patches 2878'-2910', 2911'-2953' and ran tubing w/SSSV.

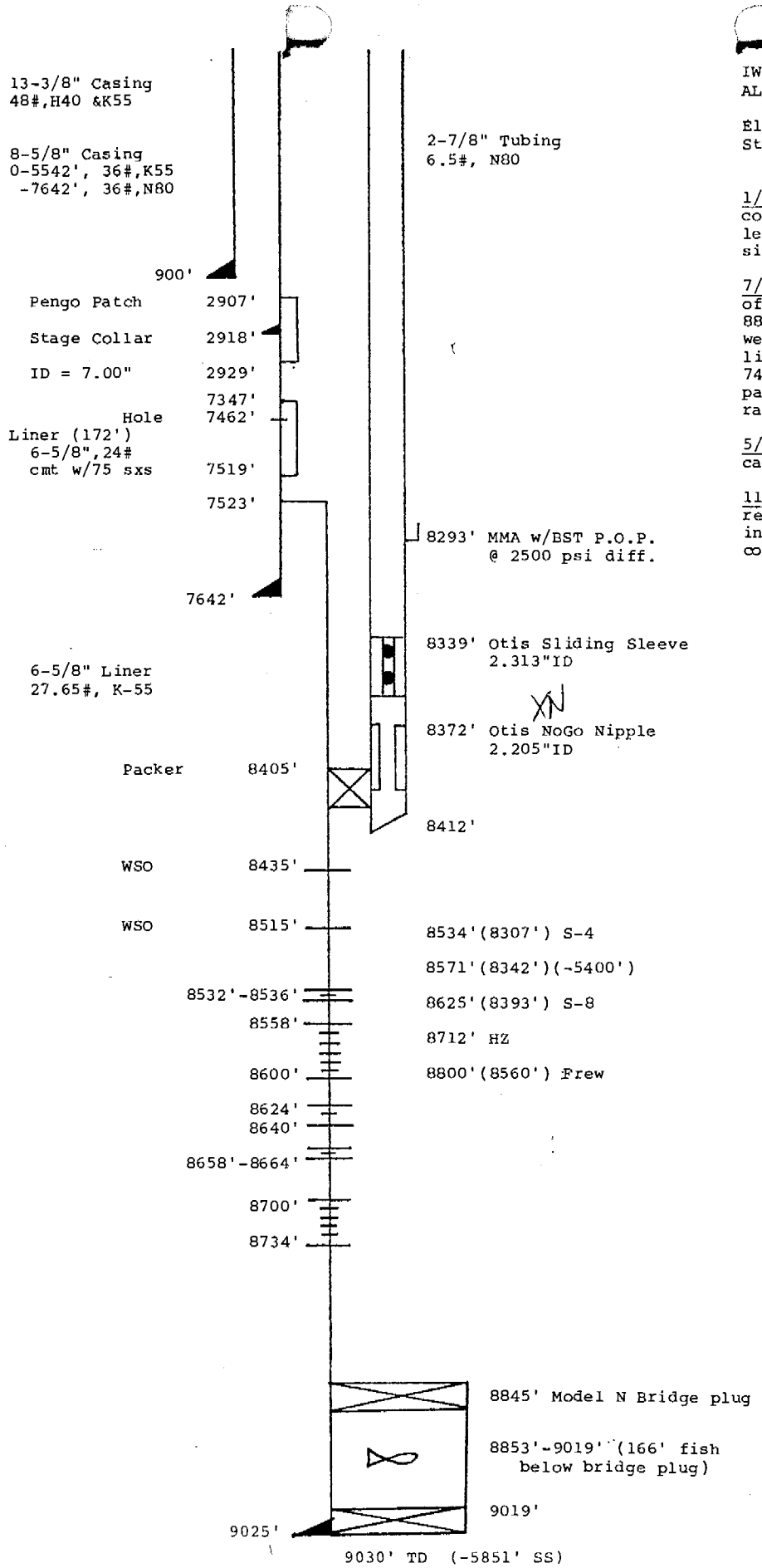
5/5/80-6/16/80: Repair gas leak in caprock.

11/21/86-12/4/86: Workover to remove leaking casing patches and installed new casing patch over stage collar.

Volumes

	CuFt	Bbl
Tubing	274	49
Csg/liner	78	14
Annulus	2270	404
Totals	2622	467

JDM:hs
4/29/87



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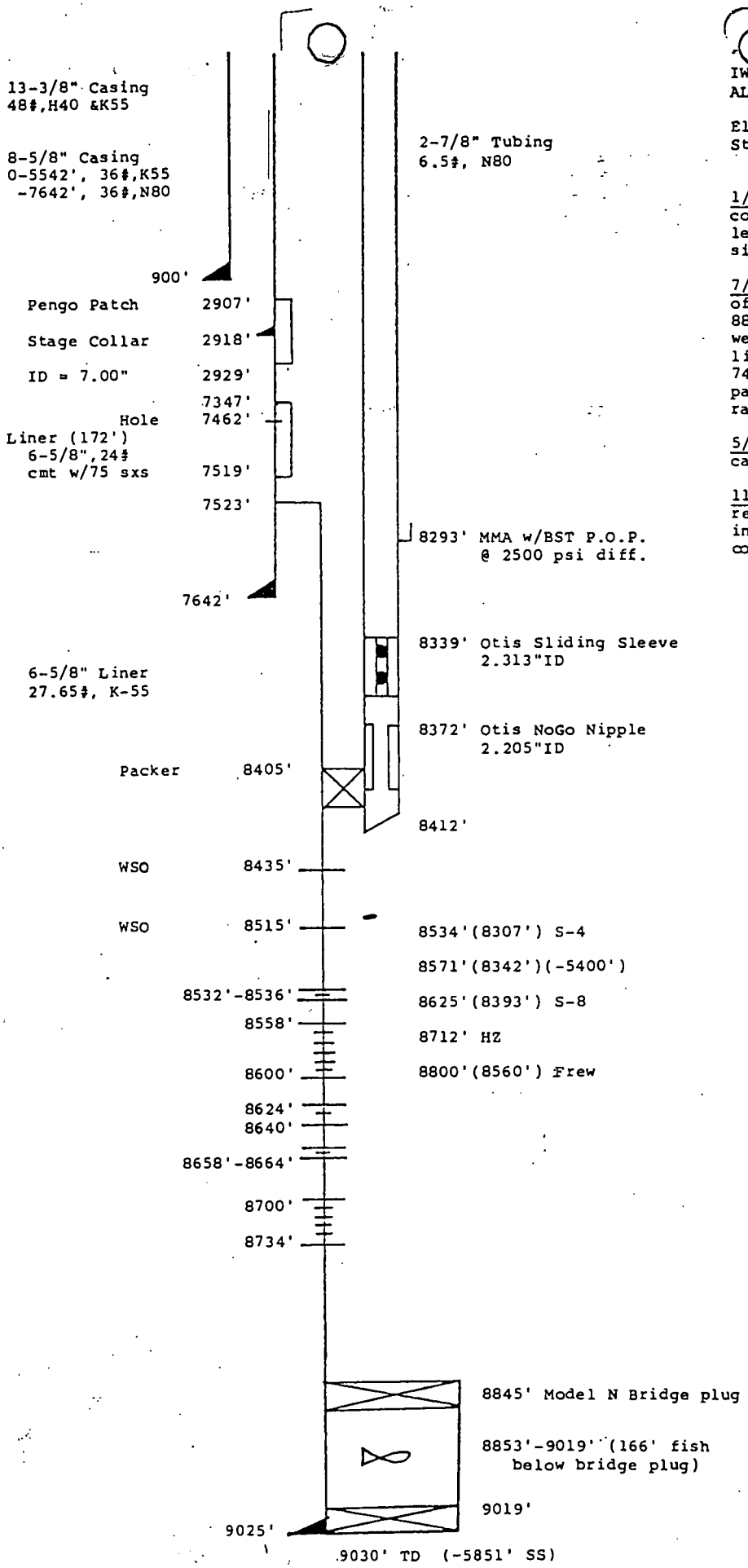

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JDM:hs
4/29/87

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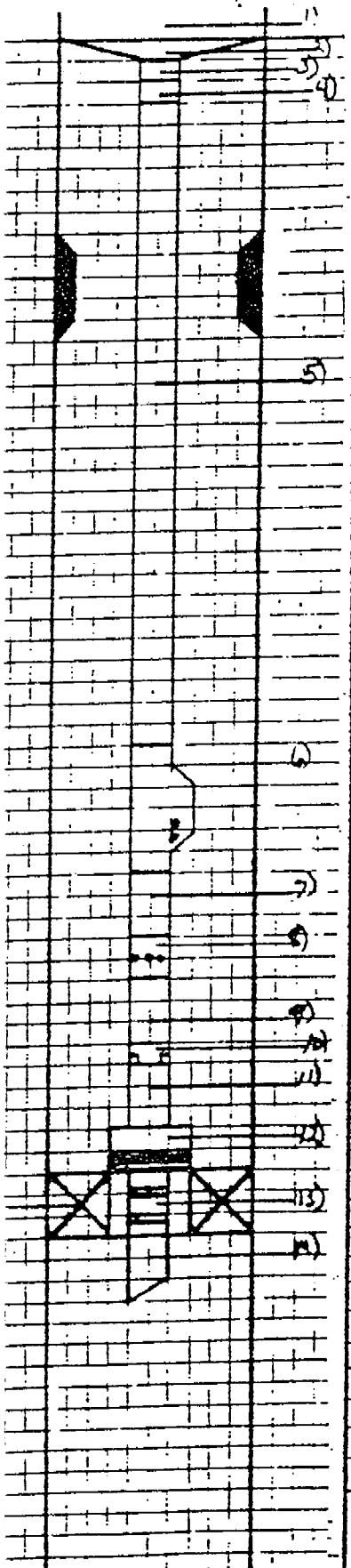
WELL PROFILE



OPERATOR So.Calif. Gas Co.

WELL # IW #77

FIELD Aliso Canyon

COUNTY Los Angeles

STATE California

DATE Revised 1-6-87
12-3-86

☐ NEW COMPLETION ☒ WORKOVER

	CASING	LINER	TUBING 1	TUBING 2	TUBING 3
SIZE			2-7/8		
WEIGHT			6.5#		
GRADE			N-80		
THREAD			EUE 8rd		
DEPTH			8410'		

ITEM NO.	TUBING DETAILS	LENGTH	DEPTH
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	Landed tubing on packer with 10,000# comp Pulled latch 20,000# OTW		
	Tubing weight up 50,000# Tubing weight down 48,000#		
	A) Pengo patch — Top		2907
	Bottom		2929
	B) Baker 6-5/8" Retrieva-D packer 3.25"ID		8405

COMMENTS:

MISCELLANEOUS JOB REPORT

W. O. No. 99722 KZ

DIVISION North Basin DISTRICT Aliso Canyon SHEET 1 OF 1 SHEETS

DATE STARTED 11-21-86 DATE COMPLETED 12-4-86 DATE REPORTED 1-14-87

DESCRIBE BRIEFLY THE WORK PERFORMED

DESCRIBE THE UNIT OF EQUIPMENT, FACILITY, OR PLANT, AND STATE WHETHER IT WAS INSTALLED, REMOVED, RELOCATED, ALTERED, REPAIRED, OR ABANDONED. DESCRIPTION SHOULD INCLUDE SIZE, TYPE, AND LOCATION. UNDER THE DESCRIPTION SHOULD BE LISTED THE MAJOR ITEMS OF MATERIAL USED. IT IS NOT NECESSARY TO LIST MISCELLANEOUS FITTINGS 2" AND LESS IN SIZE WHICH ARE INCIDENTAL TO THE JOB UNLESS THE JOB IS COLLECTIBLE.

QUANTITY	Well: IW 77	
	MATERIALS INSTALLED	
60.6'	2-7/8" 6.5# EUE 8rd N80 Tubing	MR 397665
1	Pengo 8-5/8" 36# New Style Casing Patch	Instrument Serv 6428
	Short Assembly	
1	Pengo 8-5/8" 36# 20' Extension	Instrument Serv 6428
1	2.205 XN Nipple XN 837	Otis 711707
1	2-7/8" MMA Mandrel w/valve & latch	BST 4551 DRR 36439
1	2-7/8" EUE 8rd Pup Joint 10.12'	Shaffer 20384
	REMOVED MATERIALS	
1	Pengo Patch 70'	Junk
2	20' Joints Otis Heavy Wall	Junk
1	Otis 2.205 No-Go	Junk
62'	2-7/8" 6.5# EUE 8rd Tubing (2 Jts)	Junk MDR 211326
	REMOVED AND REINSTALLED MATERIALS	
1	Xmas Tree	Shaffer 20386
1	2-7/8" Sliding Sleeve	Otis 711707
1	80-32 Anchor Seal Assembly	Baker Packers 337-65505
1	Baker Production Tube	
1	9" x 2-7/8" EUE 55 AJO Tubing Hanger	Shaffer 20386

SIGNED G. Abrahamson/S. Lahmann GA SL APPROVED Don Guire

SOUTHERN CALIFORNIA GAS CO.—6-E

R/A Tracer Summary: IW-77 (11-23-87)

Injected 100 mc of Iodine 131 tracer from 8540'-8525' with well shut-in: Tubing pressure = 2190 psig, Casing pressure = 2200 psig. Made nine runs with well shut-in and observed a slight movement of the slug upwards (possibly due to dissipation). Several minor accumulations of tracer were observed during the shut in period, the most noteworthy of which was opposite the MP at approximately 8250'.

Placed well on slight injection (Tubing pressure: 2205 psig; Casing pressure: 2210 psig) and made four runs. The accumulations of tracer seemed to clean up with the count readings approaching background. Made the final run after increasing the injection pressure to approx. 2210 psig (Tubing), and 2220 psig (Casing). Logged through the slug (8540'-8525') with count readings of 700-900 recorded indicating that the slug had been pushed away. Did not see any significant accumulations of tracer above the shoe.

INTEROFFICE CORRESPONDENCE

SOUTHERN CALIFORNIA gas COMPANY

TO R. W. Weibel FROM J. D. Mansdorfer DATE Jan. 8, 1988

SUBJECT IW-77 Shoe Leak

A temperature survey run on August 24, 1987 indicated a possible shoe leak in this well. A Noise log run on November 10 had noise levels of about 10 mV (200 Hz scale). A noise log run on November 17 after setting a plug had noise levels of about 3 mV. An RA tracer survey run on November 23 had some indications of gas migration up to the MP. I estimate an 85% probability that gas is moving up outside the casing to the MP.

JDM:db

cc: N. D. Stevenson
Well File

A:M44

64-F

SOUTHERN CALIFORNIA gas COMPANY

INTEROFFICE CORRESPONDENCE

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JDM:db

cc: N. D. Stevenson
Well File

A:M44

64-F

INTEROFFICE CORRESPONDENCE

SOUTHERN CALIFORNIA gas COMPANY

JDM

TO R. W. Weibel FROM J. D. Mansdorfer DATE Jan. 14, 1988

SUBJECT Aliso Canyon Shoe Leaks

Currently there are four wells at Aliso Canyon that have indications of shoe leaks on both noise logs and RA tracer surveys. These wells are IW-77, SS-17, SS-29, and SS-30. A fifth well, F-6, had indications of a possible shoe leak on the noise log, but like SS-30 it does not have an injection or kill line and we did not get a tracer survey run on it before reservoir pressure was drawn down. Because there is no known way of calculating the leakage rate of shoe leaks, and since according to your memo of January 6 the average cost of repairing shoe leaks in 1986-87 was over $400,00, the merit of repairing these leaks is problematical. I will defer this decision to you. In the following paragraphs is some pertinent information, and attached are specifics on each well.

MP-Zone

On all four tracer surveys, the only indication of gas moving up was a "bump" at the MP zone. My interpretation of this behavior is that the MP zone is acting as the "receiving zone" for the gas that is moving up. Our recent test of the MP zone in Porter 4 indicates that this zone is very tight, so that the amount of gas that could be injected into it from the storage zone must be very low.

Surface Indications

None of the five wells currently have high annulus pressure or gas present in the soil (as of the Jan 7 flame ionization survey), although several nearby wells do exhibit these symptoms.

Helium Level of Upper Producing Zones

The fourth quarter helium survey of wells producing from zones above the storage zone continued its general downward trend. Only one well had over 20 ppm helium (storage gas is typically 300-400 ppm, native California gas is 5 ppm). Since these zones are significantly below hydrostatic pressure, they would be a logical "receiving zone" for any gas that gets past the MP. Even if all the gas produced from these zones was storage gas, its annual value would be approximately equal to the cost of just one shoe leak repair.

JDM:db

Attachments

cc: N. D. Stevenson
Well Files
A:M43

64-F

INTEROFFICE SOUTHERN CALIFORNIA gas COMPANY CORRESPONDENCE

TO M. E. Melton FROM K. M. Taira DATE April 8, 1988

SUBJECT Monitor IW 77 for Possible Shoe Leak

IW77 is a casing-flow injection/withdrawal well that may have a small shoe leak. Attached is Jim Mansdorfer's memo in which he cites an 85% probability of a shoe leak.

RECOMMENDATION

Repeat the R/A Tracer Survey when the reservoir is at a higher pressure. If leaks are identified and warrant a workover, use the following workover procedure:

1. Kill well and pull 2-7/8" tubing string.

2. Pull Baker Retrieva-D packer.

3. Reestablish WSO's at 8515' and 8435'.

4. Reinstall packers and tubing string.

DISCUSSION

In his memo, Jim cites a temperature survey on August 24, 1987 which shows a 1-2 degree warming anomaly from 7250' to 8200'. Two subsequent noise surveys show noise from 8300' to 8600'. Both the temperature surveys and noise surveys indicate a shoe leak where gas is leaking outside of the casing to the MP.

A R/A tracer survey was run on November 23, 1987. There is a small sharp point at 8250' which Jim interprets as evidence that tracer laden gas was migrating to the MP zone. Dave Horstman who was present during the survey, concluded that no shoe leak had been detected in his December 12, 1987 memo.

We all agree that even if present, the leak would be very small and we can wait until the reservoir reaches high inventory to run another tracer survey. At that time, more gas would be moving to the leak and the leak would be more detectable.

KMT:hr
Attachments

64-F

INTEROFFICE CORRESPONDENCE

SOUTHERN CALIFORNIA gas COMPANY

M E Melton

TO R. W. Weibel FROM M. E. Melton DATE April 12, 1988

SUBJECT Deferral and Monitoring Plan for IW 77 Possible Shoe Leak

I agree with Jim Mansdorfer's memo of January 8, 1988 that there is a high probability that gas is leaking past the shoe on IW 77. However, both Jim Mansdorfer and Ken Taira agree that the leak is probably small and we can wait until the reservoir reaches high inventory to run another survey.

In the meantime, remedial well work should be deferred.

MEM:hr
Attachments

Approved by: R. W. Weibel
R. W. Weibel

cc: J. D. Mansdorfer
R. E. Wallace

64-F

Report Date: 02/07/90

DAILY WELL ACTIVITIES IW 77

DATE	ACTIVITY/REMARKS
11/17/86	Attempted to pull blanking plug, unable to latch plug.
11/18/86	Continued to attempt to pull blanking plug, bailed fill consisting of grease and sand, latched plug, but could not pull, and could not shear off.
11/19/86	Recovered blanking plug.
11/20/86	Killed well with 63# cu.ft. HEC polymer
12/04/86	Workover to replace casing patch (11/21-12/4/86)
12/11/86	Unloaded well.
12/15/86	Sand testing: SC 1.30, SIWHP 1420, ER 0.9%, Q 28 MMcf/d
03/19/87	Ran temperature survey, OK
08/24/87	Ran temperature survey, anomaly above shoe indicates possible shoe leak, plan noise log @ high inventory.
11/10/87	Ran noise log to investigate temperature anomaly above shoe some noise present, will set plug and rerun.
11/17/87	Ran noise log above plug, noise pattern similar to log run without plug, plan tracer survey.
11/23/87	Pulled blanking plug. Ran tracer survey to check for shoe leak, shot tracer from 8540'-8524', no real indication of gas movement outside casing.
12/14/87	Ran TDT and capacitance log
03/03/88	Ran temperature survey, anomaly above shoe similar to previous survey, known shoe leak.
04/13/88	Ran pressure survey, FL 8350' TVD, pressure @ S-4 (8307' TVD) 2018 psi.
08/18/88	Ran temperature survey, anomaly above shoe same as previous, will monitor.
12/28/88	Removed 1.00 choke, installed 1.15 choke
12/28/88	Sand Test: SIWHP 1770, FWHP 1425, FWHT 94, Q 43 MMcf/d, Choke 1.15, ER 1.4%
01/08/89	Removed 1.15 choke, installed 1.30 choke
01/09/89	Sand Testing: SIWHP 1480, FWHP 1122, FWHT 99, SC 1.30, ER 1.4%, Q 40 MMcf/d
01/12/89	Removed 1.30 choke, installed 1.50 choke. Ran Sand Test SIWHP 1470, FWHP 955, FWHT 88, Q 34 MMcf/d, Choke 1.50, ER 0.3%
01/17/89	Removed 1.50 choke, installed 1.65 choke. Ran Sand Test SIWHP 1375, FWHP 800, FWHT 84, Q 42 MMcf/d, Choke 1.65, ER 2.1%
02/07/89	Removed 1.50 choke, installed Open choke. Sand tested: SIWHP 1000, FWHP 520, FWHT 86, SC Open, ER 1.5%, Q 27 MMcf/d
04/07/89	Removed Open choke, installed 1.0 choke
04/17/89	Ran temperature survey, temp anomaly above the shoe continues, will monitor.
09/06/89	Ran temperature survey, temperature profile breaks above S-1, will run detail
10/18/89	Ran temp and noise survey, noise above shoe, will plug well and rerun

Report Date: 03/07/94

DAILY WELL ACTIVITIES SS 25B (IW77)

DATE	ACTIVITY/REMARKS
11/18/86	Continued to attempt to pull blanking plug, bailed fill consisting of grease and sand, latched plug, but could not pull, and could not shear off.
11/23/87	Pulled blanking plug. Ran tracer survey to check for shoe leak, shot tracer from 8540'-8524', no real indication of gas movement outside casing.
01/12/89	Removed 1.30 choke, installed 1.50 choke. Ran Sand Test SIWHP 1470, FWHP 955, FWHT 88, Q 34 MMcf/d, Choke 1.50, ER 0.3%
01/17/89	Removed 1.50 choke, installed 1.65 choke. Ran Sand Test SIWHP 1375, FWHP 800, FWHT 84, Q 42 MMcf/d, Choke 1.65, ER 2.1%
02/07/89	Removed 1.50 choke, installed Open choke. Sand tested: SIWHP 1000, FWHP 520, FWHT 86, SC Open, ER 1.5%, Q 27 MMcf/d
10/24/89	Ran plug in NoGo
10/30/89	Pulled plug from NoGo
01/03/90	Removed 1.00 choke, installed 1.30 choke
01/04/90	Sand test: SIWHP 1600, FWHP 1200, FWHT 94, SC 1.30, ER 6.4%, Q 45 MMcf/d
04/17/90	Ran temperature survey, cooling anomaly above S-1, monitor, PU - 8655'
04/17/90	Ran temperature survey, temperature anomaly above S-1 8655 ft
09/28/90	Ran temperature survey
09/28/90	Ran temperature survey, cooling near 2900' (possible casing patch leak), and near 8300', monitor, PU - 8660'
01/10/91	Sand test: SIWHP 1750, FWHP 1320, FWHT 99, SC 1.300, ER 1.1, Q 50 MMcf/d
04/24/91	Ran temperature survey, cooling @ 6500'-6600', monitor PU - 8650'
08/08/91	Ran temperature survey, gradual cooling seen above 8250', small shoe leak suspected, continue to monitor, PU - 8655' (Inv - 60.1 BCF)
12/04/91	Ran BHC (1.025") to 2.205 XN no-go (8372')
12/26/91	Pulled BHC (1.025") from 2.205 XN no-go 8372')
01/08/92	Sandtest: SIWHP - 1880, FWHP - 1410, FWHT - 96, SC 1.300, ER-1.7, Q-56, Inv- 38.1
04/30/92	Ran temperature survey, temp. breaks above S-1, cooling from 6750'-7500', monitor, PU - 8640' (Inv - 12.8 BCF)
08/05/92	Ran temperature survey, temp. break starts @ 8250' (above S-1) with cooling @ 7000'-7500' (possible patch leak), plan noise log, PU - 8650' (Inv - 43.8 BCF)
10/13/93	Ran detail survey (2000'-4000'), OK.

Report Date: 08/20/97

DAILY WELL ACTIVITIES SS 25B (IW77)

DATE	ACTIVITY/REMARKS
10/12/95	Ran temperature survey, OK, TbgP 2560#; CsgP 2560#; Inv. 61.5 Bcf.
11/07/95	Removed Open choke, installed 1.00" BHC bean; TbgP 2840, CsgP 2840.
12/13/95	Sandtest: SIWHP 2520, FWHP 1120, FWHT 500, ER 1.0, Q 55 MMcf/d. Inv. 65.7 Bcf.
12/28/95	Sandtest: SIWHP 1960, FWHP 950, FWHT 620, ER 4.9, Q 55 MMcf/d. Header valve was hydrated. Inv. 54.7 Bcf.
01/20/96	Sandtest: SIWHP 1355, FWHP 1140, FWHT 109, SC 1.3, ER 2.5, Q 45 MMcf/d. Inv. 42.4 Bcf.
01/25/96	Pulled 1.00" BHC, installed 1.30" Merla. Inv. 37.1 Bcf
01/30/96	Sandtest: SIWHP 2355, FWHP 1140, FWHT 109, SC 1.3, ER 2.5%, Q 45 MMcf/d. Inv. 31.5 Bcf.
03/05/96	Removed 1.30 Merla choke, installed 1.50 Merla choke. Inv. 19.6 Bcf.
05/20/96	Removed 1.50" casing Merla choke, installed 1.00" Merla choke, back in service. Inv. 34.7 Bcf.
11/14/96	Ran temperature survey, OK, TbgP 1660#; CsgP 1660#; P/U 8654. Inv. 27.2 Bcf.
12/20/96	Removed 1.00" casing choke, installed 1.30" Merla casing choke, back in service.
01/17/97	Removed 1.30 casing choke (Merla), installed 1.50 choke (Merla), back in service. Inv. 14.7 Bcf.
02/05/97	Removed 1.50" Merla casing choke, installed 1.70" Merla casing choke, back in service.
02/06/97	Sandtest: SIWHP 985; FWHP 480; FWHT 98; ER 3.5%; Q 20; Inv. 7.8 Bcf.
02/11/97	Removed 1.70" Merla casing choke, installed Open choke, back in service.
05/12/97	Removed Open casing Merla choke, installed 1.30" choke, back in service.
07/08/97	Removed 1.30" Merla casing choke, installed 1.00" choke back in service.

JOB TICKET #: 44103

P.O. Box 20008
Bakersfield, CA 93390-0008

WELL ANALYSIS CORPORATION Wireline

CUSTOMER: SoCalGas DATE: K-2-13

WELL NO(S): S.S. 25 S.S. 25B S.S.3H FIELD LOCATION ALISO

CONTRACT NO: _____ ORDERED BY: Greg Mark

DESCRIPTION OF WORK PERFORMED

ON LOCATION _____ OFF LOCATION _____ TOTAL HOURS _____

S.S. 25 - Ran a Traverse survey down to 8646'
T: 2624 C: 2624

S.S. 25 B - Ran a Traverse survey down to 8681
T: 2638 C: 2638

S.S. 3H - Ran a Traverse survey down to 8260
T: 2491 C: 697

EOT: _____

PB: _____

RIG UP CHARGE: _____

HOURLY CHARGE: _____

LINE TRUCK MILEAGE: (RT) .....MILES X $ ..... /PER MILE: _____

CHASE VEHICLE MILEAGE: (RT).....MILES X $ ..... /PER MILE: _____

EQUIPMENT CHARGES: 185/person x2 370

447/well x3 1341

$ 1711.00

SAFETY EQUIPMENT: _____

FUEL SURCHARGE: _____

TOTAL AMOUNT DUE: _____

ENGINEER: _____ APPROVAL: _____

WAC Wireline CUSTOMER

JOB TICKET NO: 48617

P.O. Box 20008
Bakersfield, CA 93390-0008

WELL ANALYSIS CORPORATION Wireline

CUSTOMER: So CAL Gas DATE: 11-17-2014

WELL NO(S): SS-44B, 25A, (25B), 25 FIELD LOCATION Aliso Canyon

CONTRACT NO: _____ ORDERED BY: _____

DESCRIPTION OF WORK PERFORMED

ON LOCATION _____ OFF LOCATION _____ TOTAL HOURS 8 hrs

Ran Gradients on SS-44B, SS-25A, SS 25-B, SS-25

EOT: _____

PB: _____

RIG UP CHARGE: 300.00 x 4
HOURLY CHARGE: 90.00 x 8
LINE TRUCK MILEAGE: (RT) 202 MILES X $ 2.25 /PER MILE:
CHASE VEHICLE MILEAGE: (RT) 202 MILES X $ 1.25 /PER MILE:
EQUIPMENT CHARGES: Download 80.00 x 4
Batt. 25.00 x 4
P.P.E. 40.00 per day
Per. Diem
Gauge 100.00 x 4

WL01	1200.00
WL02	720.00
WL31	454.50
WL32	252.50
	320.00
	100.00
	40.00
	370.00
	400.00
	~~$3857.00~~

$3857.00

SAFETY EQUIPMENT: _____

FUEL SURCHARGE: _____

TOTAL AMOUNT DUE:

ENGINEER: Joe Thomason Joe T WAC Wireline APPROVAL: _____ CUSTOMER

DR 45

ORDER INSTITUTING INVESTIGATION ON THE COMMISSION'S OWN MOTION INTO THE OPERATIONS AND PRACTICES OF SOUTHERN CALIFORNIA GAS COMPANY WITH RESPECT TO THE ALISO CANYON STORAGE FACILITY AND THE RELEASE OF NATURAL GAS, AND ORDER TO SHOW CAUSE WHY SOUTHERN CALIFORNIA GAS COMPANY SHOULD NOT BE SANCTIONED FOR ALLOWING THE UNCONTROLLED RELEASE OF NATURAL GAS FROM ITS ALISO CANYON STORAGE FACILITY (I.19-06-016)

SOUTHERN CALIFORNIA GAS COMPANY

(DATA REQUEST SED-SCG-DR45 DATED NOVEMBER 8, 2019)

SOCALGAS RESPONSE DATED NOVEMBER 14, 2019

SoCalGas provides the following Responses to the Safety Enforcement Division (SED) data request dated November 8, 2019 in I.19-06-016. The Responses are based upon the best available, nonprivileged information that SoCalGas was able to locate through a diligent search within the time allotted to respond to this request, and within SoCalGas' possession, custody, or control. SoCalGas' responses do not include information collected or modeled by Blade Energy Partners' during its Root Cause Analysis Investigation. SoCalGas reserves the right to supplement, amend or correct the Responses to the extent that it discovers additional responsive information.

SoCalGas objects to the instructions submitted by SED and to the continuing and indefinite nature of this request on the grounds that they are overbroad and unduly burdensome. Special interrogatory instructions of this nature and continuing interrogatories are expressly prohibited by California Code of Civil Procedure Section 2030.060(d) and 030.060(g), respectively. SoCalGas will provide responsive documents in existence at the time of its response. Should SED seek to update its request, SoCalGas will respond to such a request as a new data request in the future.

SoCalGas submits these Responses, while generally objecting to any Request that fails to provide a defined time period to which SoCalGas may tailor its Response, and to the extent that any Request is overly broad, vague, ambiguous, unduly burdensome, assumes facts, or otherwise fails to describe with reasonable particularity the information sought. SoCalGas further submits these Responses without conceding the relevance of the subject matter of any Request or Response. SoCalGas reserves the right to object to use of these Responses, or information contained therein, in any dispute, matter or legal proceeding. Finally, at the time of this Response, there are no pending oral data requests SED to SoCalGas.

QUESTION 1:

Provide a summary of all data requests (DR) that SCG has received related to I.19-06-016, including those received from CPUC before and after the initiation of the Investigation, from DOGGR, Blade, and third parties, including parties to I.19-06-016.

a. Provide the summary in the format kept by SCG, in Excel or PDF format.
b. Ideally, the summary would show at a minimum:
    i. the date each DR was received,
    ii. date(s) SCG responded,

iii. short descriptions of each DR and related response.

c. Please Identify all DRs for which SCG did not provide substantive responses.
d. Please identify all DRs to which SCG objected.

RESPONSE 1:

SoCalGas objects to this request on the grounds it is overly broad and unduly burdensome pursuant to Rule 10.1 of the California Public Utilities Commission's Rules of Practice and Procedure; seeks information that is protected from disclosure by the attorney-client privilege and as attorney work product; seeks, in part, information that is equally available to Safety and Enforcement Division (SED); seeks information that is outside the scope of this proceeding, as set forth in the Assigned Commissioner's Scoping Memorandum and Ruling dated September 26, 2019; and is vague and ambiguous with respect to the terms "summary," "substantive responses," and "objected." Subject to and without waiving the foregoing, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED explained that it was seeking any document SoCalGas maintained regarding data request summaries. SoCalGas and SED agreed that SoCalGas would not create a responsive document but would produce responsive document(s) in its possession which are not protected by the attorney-client privilege or attorney work product doctrine.

a. Please see enclosed document with Bates number I1906016_SCG_SED_DR_45_0000001. SoCalGas provided CPUC-SED a copy of the index of formal, written Blade data requests on November 5, 2019 (see (AC_CPUC_SED_DR_35_0001382) which was previously provided to CPUC-SED on April 26, 2019 in response to CPUC-SED Data Request 35.
b. SoCalGas objects to this request on the ground it does not ask a question.
c. SoCalGas objects to this request on the grounds that it is vague and ambiguous as to the term "substantive response," is overly burdensome, is not reasonably calculated to lead to the discovery of admissible evidence, and to the extent it seeks information that is readily available to SED. SoCalGas has responded to all reasonable discovery requests, and has inserted appropriate objections, as it

deemed necessary.

d. SoCalGas objects to this request on the grounds it is overly burdensome, is not reasonably calculated to lead to the discovery of admissible evidence, and to the extent it seeks information that is readily available to SED.

QUESTION 2:

In a list, please Identify all types of records kept by SCG related to the operation of the Aliso Canyon Underground Storage Reservoir (Reservoir Records)

a. For each item listed, please note the frequency of the records (continuous, hourly, weekly, monthly, annually).
b. For each item, please identify in which format the records are normally kept.
c. For each item, please identify where the records are kept.
d. For each item, please identify the person most knowledgeable at SoCalGas who normally has access to these records.

RESPONSE 2:

SoCalGas objects to this request on the grounds that it is overly broad and unduly burdensome under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks "all types of records related to the operation of the Aliso Canyon Underground Storage Reservoir," and furthermore, for the same reason, is outside the scope of the proceeding set forth in the Assigned Commissioner's Scoping Memo and Ruling dated September 26, 2019. SoCalGas also objects on the grounds the request is vague and ambiguous, particularly with respect to the terms "types," "related to the operation of," "Aliso Canyon Underground Storage Reservoir," and "normally." Subject to and without waiving the foregoing objections, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed to allow SoCalGas to respond to this request by Monday, November 18, 2019.

QUESTION 3:

Provide Reservoir Records that show the injection volumes, rates, and reservoir

pressure for three days leading up to the failure of Well SS-25.

RESPONSE 3:

SoCalGas objects to this request on the grounds it is vague and ambiguous, particularly with respect to the phrase "Reservoir Records." Subject to and without waiving the foregoing objection, SoCalGas responds as follows: SoCalGas interprets this request as calling for the Aliso Canyon reservoir pressure, field injection volume, and field inventory for 10/20/15 10/21/15, and10/22/15.

Reservoir Pressure

At Aliso Canyon, surface wellhead pressures in designated pressure monitoring wells are used to determine "bottom hole" or "reservoir pressure." During the timeframe requested, wells Standard Sesnon 5 (SS5) and Ward 3A (W3A) were primarily utilized for this purpose, for the west field and east field, respectively. Please refer to the table below for SS5 and W3A daily wellhead pressures from October 20, 2015 through October 22, 2015.

Date	SS-5 (West Field)	Ward 3A (East Field)
October 20, 2015	2632	2764
October 21, 2015	2641	2764
October 22, 2015	2649	2764

Field Injection Volume

The injection volumes for the Aliso Canyon storage field on the 3 days prior to October 23, 2015 are provided in the table below.

Date	MMcfd
October 20, 2015	104
October 21, 2015	51
October 22, 2015	104

Field Inventory

Date	MMcf
October 20, 2015	77086
October 21, 2015	77184
October 22, 2015	77222

QUESTION 4:

Provide all injection pressure records for Wells SS-25 for three days preceding the failure of Well SS-25.

RESPONSE 4:

SoCalGas objects to this request on the grounds it assumes injection pressure records are maintained for individual wells, and that such records are prepared on a daily basis. Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

Underground gas storage wells at Aliso Canyon were not equipped with continuous pressure monitoring. Pressure measurements were collected on a weekly basis. The last pressure reading on SS-25 casing was collected on 10/15/15. The measurement was 2595 psig.

QUESTION 5:

On October 23, 2015, at the time of the failure of Well SS-25, identify the amount of gas owned by SCG stored in Aliso Canyon Underground Storage Unit and the amount of gas stored for others in the Aliso Canyon Underground Storage Unit.

RESPONSE 5:

SoCalGas objects to this request on the ground it assumes gas ownership is specific to a storage field. Subject to and without waiving the foregoing objection, SoCalGas

responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed to allow SoCalGas to respond to this request by Monday, November 18, 2019.

QUESTION 6:

Provide a list of the titles and dates of all Failure Analyses performed on Aliso Canyon well casings or tubing prior to October 23, 2015.

RESPONSE 6:

SoCalGas objects to this request on the grounds it is overly broad and unduly burdensome pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure in that there were 114 wells at the Aliso Canyon storage facility on October 23, 2015 and the request is not limited by specific wells or periods of time; seeks information that is outside the scope of this proceeding, as set forth in the Assigned Commissioner's Scoping Memorandum and Ruling dated September 26, 2019; and is vague and ambiguous with respect to the term "Failure Analyses." Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed to allow SoCalGas to respond to this request by Monday, November 18, 2019.

QUESTION 7:

Identify by name and title all Metallurgists who were employed by SCG prior to October 23, 2015.

RESPONSE 7:

SoCalGas objects to this request on the grounds it is overly broad and unduly burdensome in that it is not limited to any particular time frame and is vague and

ambiguous with respect to the term "Metallurgists." Subject to and without waiving the foregoing objections, SoCalGas responds as follows.

SoCalGas understands "Metallurgists" to mean employees as of October 23, 2015 who have either a degree in metallurgical engineering or metallurgy, or held the position Senior Engineer – Metallurgical. The employees are as follows: Laurie S. Perry, Gerald T. Abbott, Lev Berkovich, Yiyin Chao, Jaffar Chini, Nii A. Dodoo, Zareh Gharapetian, Paul K. Lee, Elizabeth A. Musich, Vadim Rapoport, Gerald W. Routt Jr., Travis T. Sera, Siari S. Sosa, Raymond K. Standford, Marco A. Tachiquin, Ganesh S Venkat, and Armando Zubiate.

QUESTION 8:

For this next set of questions, please reference the Blade Report, page 173, which states in part, A SoCalGas Interoffice correspondence dated August 20, 1991, discussed an 8-5/8-inch casing inspection log showing metal loss and a corrosion protection log run in FF-34A. A recommendation was made to equip FF-34A with cathodic protection (CP). CP was implemented in FF-34A and four other wells according to SoCalGas in response to a February 18, 2018, information request. The documents also states that:

> …The possible regional external casing corrosion problem in the southeastern portion of the field will be further studied and a report issued. Additional investigation of well histories and well logs is required before a recommendation can be made as to whether regional CP is necessary. While casing inspection logs show shallow (1000 feet to 3000 feet ELM), casing metal loss in FF-35C, MA-1A and MA-5A, there is not enough evidence to substantiate a regional corrosion problem….
> In the data provided, Blade was not able to find documentation with results of the proposed study or if the study was done or not.

With this information in mind, please answer:

a. Was the study mentioned in this passage done?
b. If so, please provide it.

ORDER INSTITUTING INVESTIGATION ON THE COMMISSION'S OWN MOTION INTO THE OPERATIONS AND PRACTICES OF SOUTHERN CALIFORNIA GAS COMPANY WITH RESPECT TO THE ALISO CANYON STORAGE FACILITY AND THE RELEASE OF NATURAL GAS, AND ORDER TO SHOW CAUSE WHY SOUTHERN CALIFORNIA GAS COMPANY SHOULD NOT BE SANCTIONED FOR ALLOWING THE UNCONTROLLED RELEASE OF NATURAL GAS FROM ITS ALISO CANYON STORAGE FACILITY (I.19-06-016)

SOUTHERN CALIFORNIA GAS COMPANY

(DATA REQUEST SED-SCG-DR45 DATED NOVEMBER 8, 2019)

SOCALGAS RESPONSE DATED NOVEMBER 14, 2019

RESPONSE 8:

SoCalGas objects to this request on the grounds that it assumes the accuracy of the applicable findings and conclusions in the Blade Report. Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed to allow SoCalGas to respond to this request by Monday, November 18, 2019.

QUESTION 9:

For this next set of questions, please reference the Blade Report, page 2, which states in part,

> "The FF-34A well file mentioned a study of the possible external casing corrosion problems in the southeastern portion of the field, but Blade was not able to locate any documentation related to this study."

With this information in mind, please answer:

a. Was the study mentioned in this passage done?
b. If so, please provide it, including all documentation related to it.

RESPONSE 9:

SoCalGas objects to this question on the ground it is duplicative of Question 8 hereinabove. Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed to allow SoCalGas to respond to this request by Monday, November 18, 2019.

ORDER INSTITUTING INVESTIGATION ON THE COMMISSION'S OWN MOTION INTO THE OPERATIONS AND PRACTICES OF SOUTHERN CALIFORNIA GAS COMPANY WITH RESPECT TO THE ALISO CANYON STORAGE FACILITY AND THE RELEASE OF NATURAL GAS, AND ORDER TO SHOW CAUSE WHY SOUTHERN CALIFORNIA GAS COMPANY SHOULD NOT BE SANCTIONED FOR ALLOWING THE UNCONTROLLED RELEASE OF NATURAL GAS FROM ITS ALISO CANYON STORAGE FACILITY (I.19-06-016)

SOUTHERN CALIFORNIA GAS COMPANY

(DATA REQUEST SED-SCG-DR45 DATED NOVEMBER 8, 2019)

SOCALGAS RESPONSE DATED NOVEMBER 18, 2019

SoCalGas provides the following Responses to the Safety Enforcement Division (SED) data request dated November 8, 2019 in I.19-06-016. The Responses are based upon the best available, nonprivileged information that SoCalGas was able to locate through a diligent search within the time allotted to respond to this request, and within SoCalGas' possession, custody, or control. SoCalGas' responses do not include information collected or modeled by Blade Energy Partners' during its Root Cause Analysis Investigation. SoCalGas reserves the right to supplement, amend or correct the Responses to the extent that it discovers additional responsive information.

SoCalGas objects to the instructions submitted by SED and to the continuing and indefinite nature of this request on the grounds that they are overbroad and unduly burdensome. Special interrogatory instructions of this nature and continuing interrogatories are expressly prohibited by California Code of Civil Procedure Section 2030.060(d) and 030.060(g), respectively. SoCalGas will provide responsive documents in existence at the time of its response. Should SED seek to update its request, SoCalGas will respond to such a request as a new data request in the future.

SoCalGas submits these Responses, while generally objecting to any Request that fails to provide a defined time period to which SoCalGas may tailor its Response, and to the extent that any Request is overly broad, vague, ambiguous, unduly burdensome, assumes facts, or otherwise fails to describe with reasonable particularity the information sought. SoCalGas further submits these Responses without conceding the relevance of the subject matter of any Request or Response. SoCalGas reserves the right to object to use of these Responses, or information contained therein, in any dispute, matter or legal proceeding. Finally, at the time of this Response, there are no pending oral data requests SED to SoCalGas.

QUESTION 1:

Provide a summary of all data requests (DR) that SCG has received related to I.19-06-016, including those received from CPUC before and after the initiation of the Investigation, from DOGGR, Blade, and third parties, including parties to I.19-06-016.

a. Provide the summary in the format kept by SCG, in Excel or PDF format.
b. Ideally, the summary would show at a minimum:
    i. the date each DR was received,
    ii. date(s) SCG responded,

iii. short descriptions of each DR and related response.

c. Please Identify all DRs for which SCG did not provide substantive responses.
d. Please identify all DRs to which SCG objected.

RESPONSE 1:

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed that SoCalGas would respond to this request by Thursday, November 14, 2019. Please see SoCalGas' response dated November 14, 2019.

QUESTION 2:

In a list, please Identify all types of records kept by SCG related to the operation of the Aliso Canyon Underground Storage Reservoir (Reservoir Records)

a. For each item listed, please note the frequency of the records (continuous, hourly, weekly, monthly, annually).
b. For each item, please identify in which format the records are normally kept.
c. For each item, please identify where the records are kept.
d. For each item, please identify the person most knowledgeable at SoCalGas who normally has access to these records.

RESPONSE 2:

SoCalGas objects to this request on the grounds that it is overly broad and unduly burdensome under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks "all types of records related to the operation of the Aliso Canyon Underground Storage Reservoir," and furthermore, for the same reason, is outside the scope of the proceeding set forth in the Assigned Commissioner's Scoping Memo and Ruling dated September 26, 2019. SoCalGas also objects on the grounds the request is vague and ambiguous, particularly with respect to the terms "types," "related to the operation of," "Aliso Canyon Underground Storage Reservoir," and "normally." Subject to and without waiving the foregoing objections, SoCalGas responds as follows.

SoCalGas interprets "reservoir records" to mean reservoir pressures, rates, and inventory. As of October 23, 2015, these records were located in Soft OSI PI.

ORDER INSTITUTING INVESTIGATION ON THE COMMISSION'S OWN MOTION INTO THE OPERATIONS AND PRACTICES OF SOUTHERN CALIFORNIA GAS COMPANY WITH RESPECT TO THE ALISO CANYON STORAGE FACILITY AND THE RELEASE OF NATURAL GAS, AND ORDER TO SHOW CAUSE WHY SOUTHERN CALIFORNIA GAS COMPANY SHOULD NOT BE SANCTIONED FOR ALLOWING THE UNCONTROLLED RELEASE OF NATURAL GAS FROM ITS ALISO CANYON STORAGE FACILITY (I.19-06-016)

SOUTHERN CALIFORNIA GAS COMPANY

(DATA REQUEST SED-SCG-DR45 DATED NOVEMBER 8, 2019)

SOCALGAS RESPONSE DATED NOVEMBER 18, 2019

QUESTION 3:

Provide Reservoir Records that show the injection volumes, rates, and reservoir pressure for three days leading up to the failure of Well SS-25.

RESPONSE 3:

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed that SoCalGas would respond to this request by Thursday, November 14, 2019. Please see SoCalGas' response dated November 14, 2019.

QUESTION 4:

Provide all injection pressure records for Wells SS-25 for three days preceding the failure of Well SS-25.

RESPONSE 4:

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed that SoCalGas would respond to this request by Thursday, November 14, 2019. Please see SoCalGas' response dated November 14, 2019.

QUESTION 5:

On October 23, 2015, at the time of the failure of Well SS-25, identify the amount of gas owned by SCG stored in Aliso Canyon Underground Storage Unit and the amount of gas stored for others in the Aliso Canyon Underground Storage Unit.

RESPONSE 5:

SoCalGas objects to this request on the ground it assumes gas ownership is specific to a storage field. Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

The amount of working gas in the Aliso Canyon storage facility was approximately 77.3 Bcf on October 23, 2015. SoCalGas operates its storage fields on a combined basis so

when gas is scheduled into storage, it is not scheduled into a specific storage field; therefore, there is no way to identify who owns the gas stored at a specific field.

QUESTION 6:

Provide a list of the titles and dates of all Failure Analyses performed on Aliso Canyon well casings or tubing prior to October 23, 2015.

RESPONSE 6:

SoCalGas objects to this request on the grounds it is overly broad and unduly burdensome pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure in that there were 114 wells at the Aliso Canyon storage facility on October 23, 2015 and the request is not limited by specific wells or periods of time; seeks information that is outside the scope of this proceeding, as set forth in the Assigned Commissioner's Scoping Memorandum and Ruling dated September 26, 2019; and is vague and ambiguous with respect to the term "Failure Analyses." Subject to and without waiving the foregoing, SoCalGas responds as follows.

On November 11, 2019, SoCalGas and SED held a meet-and-confer at which time SED agreed to limit the scope of this request to the wells identified in "the 1988 memo," SS25A and SS25B, and agreed that SoCalGas would have additional time to (a) ascertain how long it would take to identify responsive documents and (b) provide a response to SED. SoCalGas understands "the 1988 memo" to refer to the 1988 Interoffice Correspondence attached to Page B-1 of Blade Energy Partner's (Blade) SS-25 RCA Supplementary Report Vol 4. – Regional and Local Flow Analysis.
In accordance with this understanding, a further response will be provided in the future.

Please refer to the following well files which have been previously provided to CPUC-SED:

WELL FILE	BATES RANGE
Porter 34	AC_CPUC_0090974 – AC_CPUC_0092612
Porter 37	AC_CPUC_0093975 – AC_CPUC_0095652

Porter 44	AC_CPUC_0025029 – AC_CPUC_0026077
Porter 46	AC_CPUC_0103865 – AC_CPUC_0105893
Porter 47	AC_CPUC_0105894 – AC_CPUC_0107436
Standard Sesnon 6	AC_CPUC_0109733 – AC_CPUC_0111547
Standard Sesnon 7	AC_CPUC_0031433 – AC_CPUC_0032449
Standard Sesnon 8	AC_CPUC_0111548 – AC_CPUC_0113261
Standard Sesnon 9	AC_CPUC_0113262 – AC_CPUC_0115072
Standard Sesnon 10	AC_CPUC_0032450 – AC_CPUC_0033456 AC_CPUC_0044537 – AC_CPUC_0045232
Standard Sesnon 17	AC_CPUC_0115073 – AC_CPUC_0116614
Standard Sesnon 25	AC_CPUC_0000023 – AC_CPUC_0000759 AC_CPUC_0012388- AC_CPUC_0012389
Standard Sesnon 25A	AC_CPUC_0000001 – AC_CPUC_0000011 AC_CPUC_0000760 – AC_CPUC_0001198
Standard Sesnon 25B	AC_CPUC_0000012 – AC_CPUC_0000022 AC_CPUC_0001199 – AC_CPUC_0001587
Standard Sesnon 29	AC_CPUC_0116615 – AC_CPUC_0118690

Frew 2	AC_CPUC_0061080 – AC_CPUC_0064036
Frew 4	AC_CPUC_0064037 – AC_CPUC_0065430

The following well files have not previously been provided to CPUC-SED. SoCalGas *anticipates* providing these well files by November 22, 2019.

Standard Sesnon 2
Standard Sesnon 4
Standard Sesnon 11
Standard Sesnon 24
Frew 5

QUESTION 7:

Identify by name and title all Metallurgists who were employed by SCG prior to October 23, 2015.

RESPONSE 7:

On November 11, 2019, SoCalGas and SED held a meet-and-confer during which SED agreed that SoCalGas would respond to this request by Thursday, November 14, 2019. Please see SoCalGas' response dated November 14, 2019.

QUESTION 8:

For this next set of questions, please reference the Blade Report, page 173, which states in part, A SoCalGas Interoffice correspondence dated August 20, 1991, discussed an 8-5/8-inch casing inspection log showing metal loss and a corrosion protection log run in FF-34A. A recommendation was made to equip FF-34A with cathodic protection (CP). CP was implemented in FF-34A and four other wells according to SoCalGas in response to a February 18, 2018, information request. The documents also states that:

…The possible regional external casing corrosion problem in the southeastern

portion of the field will be further studied and a report issued. Additional investigation of well histories and well logs is required before a recommendation can be made as to whether regional CP is necessary. While casing inspection logs show shallow (1000 feet to 3000 feet ELM), casing metal loss in FF-35C, MA-1A and MA-5A, there is not enough evidence to substantiate a regional corrosion problem….
In the data provided, Blade was not able to find documentation with results of the proposed study or if the study was done or not.

With this information in mind, please answer:

a. Was the study mentioned in this passage done?
b. If so, please provide it.

RESPONSE 8:

On September 10, 1990 a downhole condition was discovered in the FF-34A injection/withdrawal well. Surface casing pressures in nearby wells FF-34B and MA-5A has increased to 580 psi and 760 psi, respectively. The FF-34A well was subsequently killed on September 11, 1990. SoCalGas staff initiated an investigation as to the source of the subsurface condition and ran the following initial surveys to provide detailed information about the location and cause of the leak:

- 9/12/90 - temperature/noise/spinner surveys were run to help pinpoint the location of the leak. A cooling anomaly and high noise levels were observed from 1440' to 2060'.
- 9/12/90 - tracer survey was run to verify the leak.
- 9/14/90 - TDT log to determine gas saturation outside of the casing. The log indicated high gas concentrations behind the 8 5/8" production casing over the interval 1470' – 1515'. It was hypothesized that this was the entry level for the leaking gas, which pressured up a shallow Pliocene sand causing the elevated casing pressures in the two offset wells.

In September and October 1990, immediately after the leak, SoCalGas conducted a numerical simulation study to model the flow of the gas and to simulate the gas migration updip from the FF-34A well. The study also helped to determine the volume of gas lost at the FF-34A during the leak. The modeling study confirmed that

approximately 123 MMcf of gas was lost to a shallow sequence of interbedded sandstones and shales over the interval 1500' to 2000'.
The well workover to repair the leak was conducted in May 1991:

- 5/8/91 - During well workover, found holes in casing from 2093' to 2098'.
- 5/10/91 - During well workover, Schlumberger CPET (cathodic protection evaluation tool) log was run from 4000' to surface.
- 5/11/91 - During well workover, Schlumberger Multi-Frequency Electromagnetic
- 5/21/91 – Casing patch set from 2080' to 2120'.

In August 1991, SoCalGas staff recommended that the FF-34A be equipped with cathodic protection. The previous casing inspection logs showed severe metal loss at 2104', and shallow (1000' to 3000') metal loss which averaged 15%. The CPET log showed several anodic intervals opposite the 8 5/8" casing. Cathodic protection was subsequently installed on FF-34A.

Please refer to the well file for FF-34A previously provided to SED in electronic documents with the following Bates ranges.

Date of Response	Bates Range
March 3, 2017	AC_CPUC_0021524 – AC_CPUC_0021523
April 11, 2017	AC_CPUC_0037629 – AC_CPUC_0039274
August 10, 2017	AC_CPUC_0132688 – AC_CPUC_0132872

QUESTION 9:

For this next set of questions, please reference the Blade Report, page 2, which states in part,

> "The FF-34A well file mentioned a study of the possible external casing corrosion problems in the southeastern portion of the field, but Blade was not able to locate any documentation related to this study."

With this information in mind, please answer:

a. Was the study mentioned in this passage done?
b. If so, please provide it, including all documentation related to it.

RESPONSE 9:

SoCalGas objects to this question on the ground it is duplicative of Question 8 hereinabove. Subject to and without waiving the foregoing objection, SoCalGas responds as follows.

Please see response to Question 8.

SoCalGas August 30, 1988
Interoffice Memo Recommending
Casing Inspection Surveys

INTEROFFICE CORRESPONDENCE

gas COMPANY

RMD 1-2

TO R. W. Weibel FROM M. E. Melton DATE Sept. 2, 1988

SUBJECT Candidate Wells for Casing Inspection, Aliso Canyon Field

Attached is Dave Horstman's recommendations and priorities for inspection of casing flow wells originally completed in the 1940's and 50's.

I agree with Dave's priorities and recommend that all 19 wells listed be logged and pressure tested over the next two year period.

MEM:hr
Attachments

cc: N. W. Buss
J. D. Mansdorfer

INTEROFFICE CORRESPONDENCE

gas COMPANY

TO M. E. Melton FROM D. R. Horstman DATE August 30, 1988

SUBJECT Candidate Wells for Casing Inspection, Aliso Canyon Field

Attached is a listing of all casing flow wells of 1940's and 1950's vintage currently in operation at the subject field. It is recommended that casing inspection surveys (vertilogs) be run to determine the mechanical condition of each well casing. In addition, each well should be pressure tested to identify any leaks at the casing collars.

The wells included on the attached list are prioritized based upon deliverability, operational history, and the length of time since their last workover. Please advise should you have any questions or require additional information.

DRH:hr
Attachments

Aliso Canyon Casing Flow Wells of 1940's and 1950's Vintage

Well	Completed	Deliverability @ 19.8 Bcf (MMcf/d)	Most Recent Workover	Comments	Priority
34	5/45	9	10/77	Casing pressure tested, SSSV run.	High
37	8/46	24	9/77	Casing pressure tested, SSSV run.	High
44*	1/56	26	4/78	Redrilled from 7805', casing patch set 3971'-4012', SSSV run.	Low
46	2/44	35	8/77	Reperf'd 7730'-7920', SSSV run.	High
47	8/43	21	6/77	Pulled 2-3/8" liner, squeezed perf's @ various depths. Temp anomaly @ shoe (3/23/88).	Low
3 2	9/43	16	8/83	Repaired shoe leak, CBL run 7/73.	Low
3 4	1/45	0(FL)	12/81	Repaired shoe leak, CBL run 11/80.	Low
3 6	9/45	10	9/82	Repaired shoe leak, CBL and TDT run 5/73.	Low
3 7	2/46	1	9/77	Casing pressure tested, SSSV run.	Medium
3 8	8/46	15	7/78	Casing pressure tested, SSSV repaired.	High
3 9	2/47	15	2/79	Casing pressure tested, SSSV replaced.	High
3 10*	6/47	25	12/78	Casing patch run 4474'-4516', SSSV replaced.	Low
3 11	11/47	9	6/80	Repaired shoe leak. CBL and TDT run 7/73. New temp anomaly @ shoe (2/88).	Low
3 17**	6/51	7	8/77	Casing pressured tested, SSSV run. Well has a shoe leak.	Low

Well	Completed	Deliverability @ 19.8 Bcf (MMcf/d)	Most Recent Workover	Comments	Priority
3 24	4/53	11	3/85	Repaired shoe leak. CBL run 7/73.	Low
3 25	2/54	38	2/79	Replaced SSSV. Temp anomaly @ shoe (3/3/88).	Low
3 29**	9/53	22	3/79	Replaced SSSV and set packer @ 8040'. Well has a shoe leak.	Low
2	7/44	1	9/77	Casing pressure tested, SSSV run.	Medium
4	1/48	12	9/77	Workover planned for 1988. Will log at that time.	-
5	7/48	2	8/77	SSSV run.	Medium

quipped with casing patch.
* Identified shoe leak. Casing will be inspected during workover.
L - Fluid loaded

RH:hr
/30/88