



State of California • Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources
801 K Street • MS 18-05
Sacramento, CA 95814
(916) 445-9686 • FAX (916) 319-9533

Edmund G. Brown Jr., Governor
Kenneth A. Harris Jr., State Oil and Gas Supervisor

January 3, 2017

SENT VIA EMAIL

Mr. Rodger Schwecke
Vice President
Transmission and Storage
Southern California Gas Company
RSchwecke@semprautilities.com

FINDING THAT WELL STANDARD SESNON 3 (API NO. 03700756) HAS PASSED THE FIRST BATTERY OF TESTS AND WAS TAKEN OUT OF SERVICE AND ISOLATED FROM THE UNDERGROUND GAS STORAGE RESERVOIR

Dear Mr. Schwecke:

I am writing regarding the safety review results of one of the 114 wells at the Aliso Canyon gas storage facility (Facility). Each of the wells are subject to the comprehensive safety review that State Oil and Gas Supervisor Order 1109 and SB 380¹ require to be completed before the Division of Oil, Gas, and Geothermal Resources (Division) may authorize resumption of injection operations at the Facility. Order 1109 describes two batteries of well tests. To complete the review, each well must (1) pass both batteries of tests, (2) pass the first battery of tests and be taken out of service and isolated from the underground gas storage reservoir, or (3) be properly plugged and abandoned.

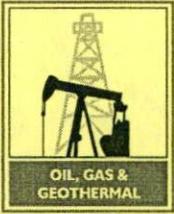
The first battery of tests assesses the casing using temperature and noise logs to ensure that there is no migration of fluids near the wellbore. If a well passes those tests, it may (1) undergo the second battery of tests for potential approval to use for injection if and when injections may resume, or (2) be taken out of service and isolated from the underground gas storage reservoir as specified in Steps 4b through 7b of the Safety Review Testing Regime of Order 1109 (Testing Regime). The Division posts the current status and testing results for each of the 114 wells on its website at <http://www.conservation.ca.gov/dog/AlisoCanyon/Pages/Well-Detail.aspx>.

After receiving and evaluating all test results and other data concerning the well, I find for purposes of Order 1109 and SB 380, that well Standard Sesnon 3 (API No. 03700756) has completed the first battery of the Testing Regime and was taken out of service and, on September 29, 2016, the well was isolated from the underground gas storage reservoir as specified in Step 6b of the Testing Regime. Monitoring and testing of the well must continue as required by Order 1109 and any applicable law. If the well does not pass the second battery of tests within one year of being isolated from the reservoir, then the well must be plugged and abandoned in accordance with Public Resources Code section 3208.

Sincerely,

Kenneth A. Harris Jr.,
State Oil and Gas Supervisor

¹ Senate Bill 380 (Pavley, Chapter 14, Statutes of 2016) codified in part at Public Resources Code section 3217.



RAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
1000 S. Hill Rd, Suite 116 Ventura, CA 93003-4458
Phone:(805) 654-4761 Fax:(805) 654-4765

No. T 216-0287

REPORT ON OPERATIONS

GAS STORAGE PROJECT
"Sesnon-Frew" - Modelo (Miocene-Eocene) Formation

Amy Kitson
Southern California Gas Company (S4700)
12801 Tampa Ave., SC9382
Northridge, CA 91326

Ventura, California
August 15, 2016

Your operations at well "**Standard Sesnon**" 3, A.P.I. No. **037-00756**, Sec. **28**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **7/21/2016**, by **Randall Morlan**, a representative of the supervisor.

The operations were performed for the purpose of **determining casing integrity**.

DECISION:

APPROVED

RM/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By

Patricia A. Abel

Patricia A. Abel, District Deputy

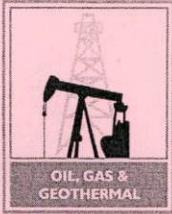
CK721.

State of California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

No. T 216-0287
16,1

**INTERNAL MECHANICAL INTEGRITY TEST (MIT)
(Standard Annulus Pressure Test-SAPT)**

Operator: Southern California Gas Co.				Well: "Standard Sesnon" 3	
Sec. 28	T. 03N	R. 16W	B.&M. SB	API No.: 037-00756	Field: Aliso Canyon
County: Los Angeles				Witnessed/Reviewed on: 7/21/2016	
Randall Morlan, representative of the supervisor, was present from 0928 to 1028					
Also present were: Mike Giuliani, Interact					
Casing record of the well:					
The Internal MIT was performed for the purpose of pressure testing the 7" casing above 8605'					
<input checked="" type="checkbox"/> The Internal MIT is approved since it indicates that the 7" casing has mechanical integrity above 8605' at this time.					
<input type="checkbox"/> The Internal MIT is not approved due to the following reasons: (specify)					
INDICATE WHERE PACKER WAS SET AND HOW LONG PRESSURE WAS HELD ALONG WITH ANY BLEEDOFF DATA.					
Start time: 9:28			Packer: 8605'		
Start pressure: 1104 psi			Tubing Plug: 8629'		
End Time: 10:28			Sliding sleeve (opened): 8570'		
End pressure: 1094 psi					



NATURAL RESOURCES AGENCY OF CALIFORNIA
 DEPARTMENT OF CONSERVATION
 DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
 1000 S. Hill Rd, Suite 116 Ventura, CA 93003 - 4458

No. P 216-0143

PERMIT TO CONDUCT WELL OPERATIONS

Old	New
010	010
FIELD CODE	
00	00
AREA CODE	
30	30
POOL CODE	

Gas Storage
 Plugback and Suspend for One Year
 "Sesnon-Frew" - Modelo (Miocene-Eocene) Formation

Ventura, California
 July 20, 2016

Amy Kitson, Agent
 Southern California Gas Company (S4700)
 12801 Tampa Ave., SC9382
 Northridge, CA 91326

Your proposal to **Rework** well "**Standard Sesnon**" 3, A.P.I. No. **037-00756**, Section **28**, T. **03N**, R. **16W**, **SB B. & M.**, **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **7/15/2016**, received **7/15/2016** has been examined in conjunction with records filed in this office. (Lat: **34.312277** Long: **-118.563706** Datum:**83**)

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
 - a. **Class I Note: work to be completed without the removal of the injection assembly.**
2. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. A pressure test is conducted to demonstrate the mechanical integrity of the **7"** casing.
4. This well is to be taken out of service and isolated from the storage reservoir. The well shall be re-evaluated or abandoned within 1 year of the completion of the pressure testing pursuant to Order #1109 and its amendments.
5. In all other respects, the provisions of Division Order #1109 and its amendments shall remain in effect.
6. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.
7. **THIS DIVISION SHALL BE NOTIFIED TO:**
 - a. Witness a pressure test on the **7"** casing and tubing plug.

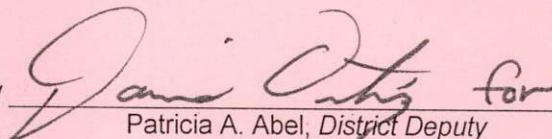
Continued on Next Page

Blanket Bond Dated: 7/6/1999
 UIC Project No. 0100006
 cc:

Engineer Clifford R. Knight
 Office (805) 654-4761

CRK/do

Kenneth A. Harris Jr.
 State Oil and Gas Supervisor

By  for
 Patricia A. Abel, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

Well #: "Standard Sesnon" 3

API #: 037-00756

Permit : P 216-0143

Date: July 20, 2016

NOTE:

1. The base of the freshwater zone is at **800'±**.
2. No operation shall be undertaken or continued that will contaminate or otherwise damage the environment.
3. This permit is being issued as part of Division Order No. 1109 dated March 4, 2016. Any well that fails any of the testing must be taken out of service and isolated from the storage reservoir pursuant to the Safety Review Testing Regime.
4. The required History of Oil or Gas Well (OG103) shall include a complete description of the required pressure testing. **An updated casing and tubing diagram shall be included with the well history.**
5. **A Well Summary Report (Form OG 100)** and **Well History (Form OG 103)** shall to be submitted to the Division within 60 days after the well is drilled, reworked, plugged and abandoned, or if the work is suspended. Any additional well work will require an additional notice to be submitted to this office prior to resuming well operations.

Enclosure: **Attachment 1 to DOGGR Order 1109. Safety Review Testing Regime for the Aliso Canyon Natural Gas Storage Facility**

**ATTACHMENT 1
TO DOGGR ORDER 1109**

**SAFETY REVIEW TESTING REGIME
FOR THE ALISO CANYON NATURAL GAS STORAGE FACILITY**

This document identifies the requirements of this comprehensive safety review that shall be completed by the Southern California Gas Company (Operator) and verified by the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division). The Operator shall use accepted industry practices and procedures.

The Division has consulted with independent technical experts from the Lawrence Berkeley, Lawrence Livermore, and Sandia National Laboratories ("National Laboratories") to develop the requirements of this facility safety review. The National Laboratories experts independently reviewed and concurred with the testing requirements for the safety review detailed below.

This comprehensive safety review requires that each of the active injection wells in the Aliso Canyon Storage facility either pass a thorough battery of tests in order to resume gas injection or be taken out of operation and isolated from the underground gas storage reservoir. Several steps, detailed below, are required in this safety review. Documentation of all testing required under this comprehensive safety review shall be provided electronically to the Division within 72 hours of completion of a test in digital (i.e. LAS) and printed (i.e. pdf) form. All pressure tests required under this comprehensive safety review shall be witnessed by Division staff. A well that is properly plugged and abandoned in accordance with Public Resources Code section 3208 is not subject to testing under this comprehensive safety review. A well that does not pass all tests must be repaired, retested, and pass all tests, or be plug and abandoned.

REQUIRED TESTS FOR EACH WELL IN THE FACILITY

- Step 1:** The Operator shall perform an initial casing assessment on the well consisting of temperature and noise logs.
- a. **Temperature Log:**
A temperature survey shall be run from the surface to the packer to measure the temperature within the wellbore. A temperature survey that demonstrates no unexplained anomalous temperature changes in the well is one indication of casing integrity.
 - b. **Noise Log:**
An acoustic sensor survey capable of detecting the sound of fluid flow will be conducted the length of the well above the packer to the surface. The survey will include stops at least every 250 feet and at the midpoint of any anomaly detected by the temperature survey. The absence of anomalous sound above the packer is an indication of well integrity

Step 2: The results of the Temperature Logs and Noise Logs will be independently reviewed by Division engineers. Any unexplained abnormal findings in this set of tests shall be addressed by the Operator in one of the following ways:

- a. Conduct further investigation and demonstrate to the Division's satisfaction that the abnormal finding is not an indicator of a lack mechanical integrity;
- b. Remediate the well to the Division's satisfaction; or
- c. With Division review and approval, remove the well from operation and isolate the well from the underground gas storage reservoir in accordance with Steps 4b through 7b below.

Necessary actions to remediate any abnormalities revealed by these tests will be reviewed by Division engineers. Once repairs or mitigations are completed, the Temperature Log and Noise Log must then be repeated on the well and reviewed by Division engineers to ensure that there are no additional abnormal test results and to confirm the issue was repaired.

Step 3: After these tests are completed on the well, and all required action has been completed, the operator shall either:

- a. Conduct the additional tests and evaluations on the well, outlined in Steps 4a through 7a below, in order to gain approval for injecting gas through that well; or
- b. Remove the well from operation and isolate the well from the underground gas storage reservoir in accordance with Steps 4b through 7b below.

REQUIRED TESTS IF A WELL IS INTENDED TO RESUME OPERATIONS

If Temperature and Noise Logs have been completed on a well and they indicate well integrity, and the Operator designates the well to return to injection operations, then the Operator shall perform the additional testing outlined in Steps 4a through 7a. The results of these tests will be independently reviewed by Division engineers and posted publicly. Each of the following tests requires that the production tubing be removed from the well.

Step 4a: The Operator shall conduct a **Casing Inspection log**.

The Operator shall conduct a Casing Inspection log of the well that measures the thickness of the production casing, from the surface to the bottom of the gas storage reservoir cap rock. If the inspection reveals a reduction in wall thickness, the current minimum strength of the casing will be calculated. If the current minimum strength of the casing has diminished to the point that it cannot withstand authorized operating pressures for the well plus a built-in additional safety factor of pressure, the well has failed this test. *A passing test for a casing inspection log would show no thinning of the casing that diminishes the casing's ability to contain at least 115% of the well's maximum allowable operating pressure as authorized in the current Project Approval Letter.*

Step 5a: The Operator shall conduct a **Cement Bond Log** for the well.

The Operator shall conduct a Cement Bond Log (CBL) that measures the bonding between cement and the production casing of the well, and also the bonding between the annular cement and the formation. Cement should be solidly bonded to both the well's production casing and the geologic formation to ensure a seal that prevents fluids from migrating up or down the outside of the well. *A passing test for a cement bond log shows definitive bond, as demonstrated by sonic waveform,*

between cement and casing and between cement and the gas storage formation and/or cap rock for at least 100 feet above the top of the gas storage reservoir.

Step 6a: The Operator shall conduct a **Multi-Arm Caliper Inspection** of the well.

The operator shall conduct an inspection that measures any internal degradation or significant changes to the well's geometry from the surface to the top of the gas storage reservoir, using a minimum 32-arm caliper tool. If the inspection reveals a thinning or deformity of the casing, the current strength of the casing will be calculated. If the current strength of the casing has diminished, such that it cannot withstand authorized operating pressures plus a built-in safety factor of additional pressure, the well fails this inspection. *A passing test for a Multi-Arm Caliper Inspection would show no deformation or thinning of the casing that diminishes the casing from being able to properly contain at least 115% of each well's maximum operating pressure.*

Step 7a: The Operator will conduct a **Pressure Test** of the production casing and of the well once the production tubing has been reinstalled. The Operator may conduct the casing pressure test prior to reinstalling the production tubing. Using a digital recorder, the operator will conduct a liquid-filled positive pressure test within the production tubing of the well, and in the annular space between the production tubing and the casing, to determine the well's ability to withstand normal operating pressures. The production tubing will be isolated and then pressure tested. The annular space between tubing and casing will be pressure tested. This testing also evaluates the integrity of any packers, which seal the annular space between the tubing and casing. The pressure test will be one hour and begin at a pressure of 115% of the maximum operating pressure or the minimum yield strength of the casing and tubing, whichever is less. *A passing pressure test is a pressure loss not exceeding 10% for any 30 minute period during the hour long test.*

After conducting the above tests, the Operator will conduct any indicated remediation so that the well can pass these tests. All remediation will be subject to the review of Division engineers. The well would then be required to undergo the tests once again to demonstrate well integrity.

If the well passes the Casing Wall Thickness Inspection, the Cement Bond Log, the Multi-Arm Caliper inspection and the Pressure Test to the Division's satisfaction, then the Division may clear the well for use for gas injections and withdrawal, once the Division has authorized resumption of injection into the gas storage reservoir. As noted below, wells approved for operation will only be permitted to inject or withdraw gas through the production tubing.

REQUIRED ACTIONS IF THE WELL IS TO BE TAKEN OUT OF OPERATION AND ISOLATED FROM THE GAS STORAGE RESERVOIR:

If the operator elects to take a well out of service, then the following steps shall be taken to isolate the well from the gas storage reservoir:

Step 4b: The Operator shall confirm the presence of cement outside the well's external casing in the section of the well that prevents the movement of gas from the underground gas storage reservoir to shallower geologic zones above the gas storage reservoir. Existing cement bond logs and well construction

records may be used to make this confirmation. This confirmation requires concurrence from Division engineers.

Step 5b: The Operator shall install a mechanical seal or "packer" within the well's production casing and install a mechanical plug within the well's production tubing, if applicable. These seals shall be set in place near the bottom of the well, within the portion of the well surrounded by cement. This kind of seal is an industry standard practice for isolating a well from reservoir gases or fluids and will further protect the casing from internal gas pressure.

Step 6b: The Operator shall fill the well with fluid to the well's surface in order to create appropriate downward hydrostatic pressure in the well that further contributes to the integrity of the well seal.

These measures will isolate a well from the underground gas reservoir, as confirmed by National Laboratory experts. Each of the above actions is subject to review and approval by Division Engineers.

Step 7b: Once the Operator has completed steps 4b, 5b, and 6b, and the seal is in place at the bottom of the well and the well is filled with fluid above the seal, the operator shall:

- a. Conduct daily gas monitoring at the surface of the non-operational well, including monitoring the area around the well perimeter and in the annular space between the plugged casing string and the outmost casing;
- b. Conduct noise log, temperature log and positive pressure test every six months;
- c. Conduct weekly monitoring of fluid levels in the well or, install and operate real-time pressure monitors that provide immediate notification to the operator when pressures deviate from normal in the well's interior tubing and its annular space.

The above monitoring shall be reported to Division engineers and maintained as a part of the well file. Division engineers will review all submitted information for evaluation on a regular basis to ensure that the well taken out of service has maintained safety, and the operator shall take all necessary steps maintain the safety of the well.

Any well taken out of operation cannot be approved to resume operations and gas injection until the successful completion of the battery of tests outlined above in Steps 4a through 7a (Casing Wall Thickness Inspection, the Cement Bond Log, the Multi-Arm Caliper Extension and the Pressure Test) is completed. Those tests must be successfully completed within one year of completing step 6b. If a well cannot successfully complete all necessary steps required in this safety review after one year of completing step 6b, then the well shall be properly plugged and abandoned in accordance with Public Resources Code section 3208.

REQUIREMENTS FOR WELLS RESUMING OPERATIONS IN ALISO CANYON

The Division's authorization to resume injection in the Aliso Canyon Storage Facility will be contingent on the successful completion of this comprehensive safety review. The State Oil and Gas Supervisor must confirm in writing that all wells in the facility have either completed and passed the full battery of tests required in the safety review, been taken out of service and isolated from the underground gas storage reservoir, or been properly plugged and abandoned in accordance with Public Resources Code Section 3208.



NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

Rec'd 07-15-16 DOGGR Ventura

FOR DIVISION USE ONLY		
Bond	Forms	
	OGD114	OGD121
CALV WIMS	115V	

P216-0143

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework / redrill well Standard Sesnon 3, API No. 037-00756
(Check one)

Sec. 28, T. 3N, R. 16W, SB B.&M., Aliso Canyon Field, Los Angeles County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

See attached wellbore schematic and completed work summary

The total depth is: 9196 feet. The effective depth is: 9196 feet.

Present completion zone(s): Sesnon Anticipated completion zone(s): Same
(Name) (Name)

Present zone pressure: storage psi. Anticipated/existing new zone pressure: storage psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes No

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency?
Yes No If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

7b - MIRU pump, with casing valve closed, pressure-up on tubing to 1000 psi for 1 hour (will test csg., packer and tubing plug all at same time).

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth at total depth: _____ feet and _____ feet Estimated true vertical depth: _____
(Direction) (Direction)

Will the Field and/or Area change? Yes No If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator Southern California Gas Company		
Address P.O. Box 2300	City/State Chatsworth, CA	Zip Code 91313-2300
Name of Person Filing Notice A.J. Alshamasi	Telephone Number: (818) 700-3887	Signature:  Date 07/15/2016
Individual to contact for technical questions: Mike Giuliani	Telephone Number: (805) 290-2074	E-Mail Address: mike.giuliani@interactprojects.com

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

Completed Work Summary - Standard Sesnon 3		
Step	Work Completed	Date
4b	ETOC at 7922' (Top MP at 8466') History Shows no CBL was run	
5b	7" permanent packer set at 8605'	12/30/1995
5b	Tubing plug installed in No-Go Nipple at 8629'	1/28/2016
6b	Circulated well ful off 3% KCl through sliding sleeve at 8615'	2/9/2016

Well Standard Sesnon 3 RD

API #: 04-037-00756-01
Sec 28, T3N, R16W

Operator: So. California Gas Co.

Lease: Standard Sesnon
Field: Aliso Canyon
Status: Active Gas Storage
BFW:
USDW:

Ground Elevation: 2724.32' asl
Datum to Ground: 19' KB

Spud Date: 11/29/1943
Redrill (RD) Kick-off Date: 12/10/1994
Completion Date: 2/3/1995

Junk: None

Wellbore History

Orig. Hole (OH) TD @ 9038'
(See Standard Sesnon 3 OH)
RD KOP @ 8691'
Drilled 6" Core Hole to 8962'
CMT Plug @ 8705' - 8962'
(76 CF, C/O CMT f/ 8587')
Kicked-off into horizontal RD
TD @ 9196'

Notes

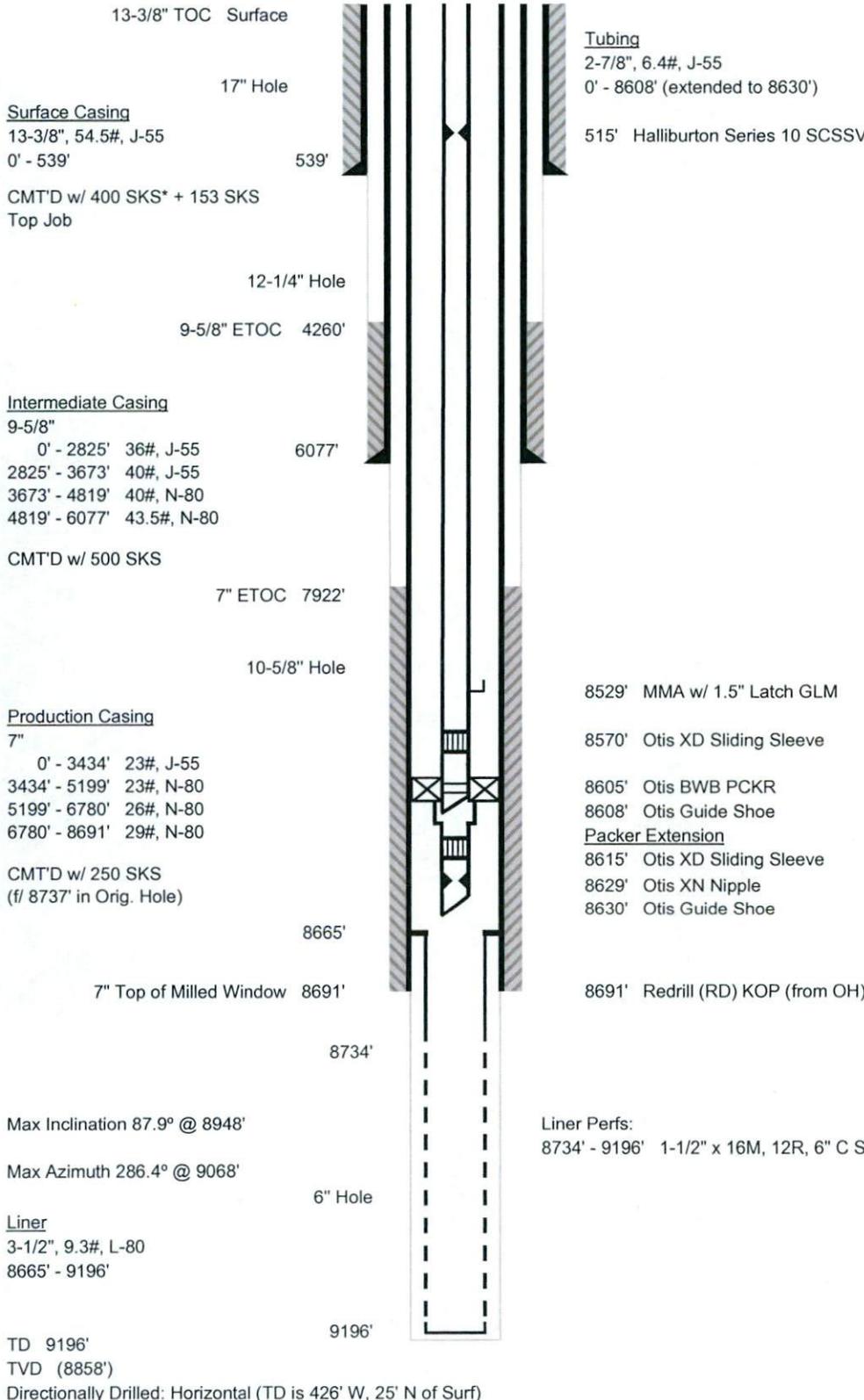
+12' datum adjustment from
Orig. Hole (OH) to RD

*CMT'D 13-3/8" w/ 400 SKS, lost circ
w/ 385 CF left to displace. After two
hours found CSG loose. Pulled CSG
and cleaned out to 527'. Re-ran CSG
w/ ~400 SKS CMT & had CMT
Returns to Surface after displacing
276 CF CMT, then lost circ. after
displacing 319 CF of CMT.

Top of Zone Markers md (tvd)	
A1	4585' (4585')
A36	5632' (5632')
UP	5952' (5952')
LP	6382' (6382')
UDA1	6712' (6712')
MDA	7643' (7643')
LDA	7873' (7873')
MP	8466' (8466')
S1	8661' (8660')
S4	8742' (8741')
S8	8845' (8844')

Prepared by: MAM (2/23/2016)
Updated by: LD (7/13/2016)

InterAct



Max Inclination 87.9° @ 8948'

Max Azimuth 286.4° @ 9068'

Liner
3-1/2", 9.3#, L-80
8665' - 9196'

TD 9196'
TVD (8858')
Directionally Drilled: Horizontal (TD is 426' W, 25' N of Surf)

Liner Perfs:
8734' - 9196' 1-1/2" x 16M, 12R, 6" C Slots

Casing Pressure Test Safety Check (1000 psi)

Well	Packer Depth MD/TVD	Casing Size/Grade/Weight	Depth MD	Burst PSI	85% of Burst PSI	Pressure at Depth w/500 psi Surface Pressure	Press < 85% of Burst
Standard Sesnon 3	8605	7", 23#, J-55	3434	3664	3114	2518	Yes
		7", 23#, N-80	5199	5055	4297	3298	Yes
		7", 26#, N-80	6780	6616	5624	3997	Yes
		7", 29#, N-80	8691	8160	6936	4841	Yes

Knight, Clifford@DOC

From: Alshammasi, Ahmed J <AAlshammasi@semprautilities.com>
Sent: Tuesday, July 19, 2016 12:34 PM
To: Knight, Clifford@DOC
Cc: McMahon, Thomas D.; Iguaz, Jose; mike.giuliani@interactprojects.com; ZACHRY, JAKE M (KRUMMRICH)
Subject: Typo Mistake on the last page on NOI's (SS 2, SS 3, SS 29, SS 31, FF 32 and F 6)

Cliff,

Thanks for contacting me today regarding this matter. We have a typo on our NOI's that we submitted recently on the very last page for the Following wells SS 2, SS 3, SS 29, SS 31, FF 32 and F 6. The Pressure Test for these wells should be 1000 psi for 60 min.

Casing Pressure Test Safety Check (1000 psi)

Well	Packer Depth MD/TVD	Casing Size/Grade/Weight	Depth MD	Burst PSI	85% of Burst PSI	Pressure at Depth w/500 psi Surface Pressure	Press < 85% of Burst
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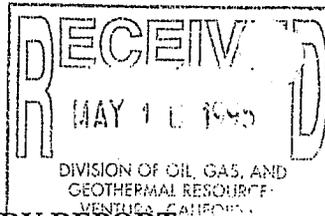
For the pointed Pressure this should be a 1000 Psi. I also want to clarify that all the calculations for the Burst are calculated for 1000 psi. please let me know if you have any other questions.

Best Regards,

Ahmed J (AJ) Alshammasi
Gas Storage Engineer
Southern California Gas Company
Direct: (818) 700-3887
Cell: (818) 269-6083
aalshammasi@semprautilities.com



A Sempra Energy utility



WELL SUMMARY REPORT

Operator SOUTHERN CALIFORNIA GAS COMPANY	Well Standard Sesnon 3H
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Field Aliso Canyon	County Los Angeles	Sec. 28	T. 3N	R. 16W	B.&M. SB
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Location (Give surface location from property or section corner, street center line and/or California coordinates) Northing: 1936503.5924, Easting: 6391448.0442	Elevation of ground above sea level 2724'
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Commenced drilling (date) 11/16/94	Total depth			Depth measurements taken from top of:		
	(1st hole) 9050'	(2nd) 8962'	(3rd) 9196'	<input type="checkbox"/> Derrick Floor <input type="checkbox"/> Rotary Table <input checked="" type="checkbox"/> Kelly Bushing Which is 19 feet above ground		
Completed drilling (date) 12/31/94	Present effective depth 9196'			GEOLOGICAL MARKERS		
Commenced producing (date) 2/3/95 <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift	Junk NONE			DEPTH		
				Top of MP 8477' Top of S4 8763' Top of S6 8872'		
Name of producing zone(s) Sesnon				Formation and age at total depth Sesnon		

Clean Oil (bbl per day)	Gravity Clean Oil	Percent Water including emulsion	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production			Gas Storage		
Production After 30 day:					

CASING RECORD (Present Hole)

Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New or Second Hand	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)
13-3/8"	0'	539'	55#	J55, T&C	NA	17"	400 Sks	
9-5/8"	0'	6077'	36#, 40#, 43.5#	J55, N80	NA	12-1/4"	500 Sks	
7"	0'	8737'	23#, 26#, 29#	J55, N80	NA	10-5/8"	250 Sks	
3-1/2"	8665'	9196'	9.3#	L80, Hydril 501	NEW	5-1/2"	NONE	

PERFORATED CASING (Size, top, bottom perforated intervals, size and spacing of perforations and method.)

Slotted Liner (8734' - 9196') with 1-1/2" x .016" slots, 12 rows, 6" centers

Was the well directionally drilled? If yes, show coordinates at total depth
 YES NO

At 9196' MD, wellbore is 25°N and 427°W of surface location.

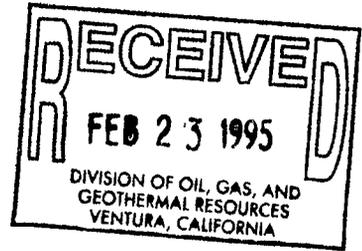
Other surveys

Directional Survey, Mud Log

In compliance with Sec. 3215, Division 3 of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name D. G. Neville for M. A. Woiemberghe	Title Drilling Engineer
Address 555 W. Fifth Street	City Los Angeles
Telephone Number (213) 244-2658	Zip Code 90013
Signature 	Date 5/8/95

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
Well: Standard Sesnon 3H

Field: Aliso Canyon
Sec: 28 T 3N

County: Los Angeles
R: 16W , SB B. & M.

A.P.I. No.: 037-00756

Name: M. A. Woiemberghe
(Person submitting report)

Title: Agent
(President)

Date: February 21, 1995
Secretary or Agent

Signature:

D.G. Neville For Mike Woiemberghe

P.O. Box 3249, Los Angeles, California, 90051-1249
(Address)

213-244-2658
(Telephone Number)

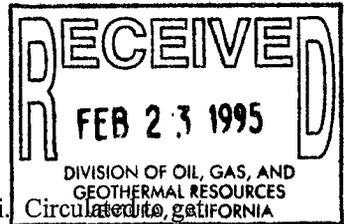
History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked hunk, bailing tests and initial production data.

Date

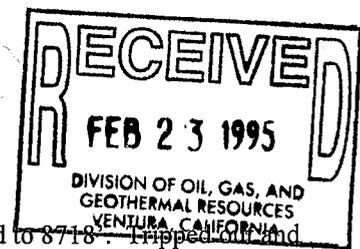
~~1994~~
1995

- 11/15 Pre-rig activities. Set Camco tubing plug in no-go nipple. Pulled gas lift valve. Killed well with 320 bbls of clay based mud. Prepared location for drilling rig. Ran gyro survey from surface to 8630'.
- 11/16 Moved in drilling rig (Kenai #7).
- 11/17 Continued rigging up.
- 11/19 Pressure tested BOPE. Prepared to pull doughnut and back pressure valve.
- 11/20 Attempted to pull back pressure valve. Unable to stab-in. Made up pulling tool on tubing and pulled back pressure valve. Attempted to release packer. Weight indicator not reading correct weight. Repaired weight indicator (3 hours). Attempted to release from packer. Worked rotation to packer but would not release. Called Dialog to free point and cut tubing. Waited on Dialog. Rigged up Dialog. Ran free point indicating tubing free to 8622'. Packer is at 8650'. Cut tubing at 8587'. Rigged down Dialog. Pulled doughnut, rigged up to circulate. Circulating well before pulling out of hole.
- 11/21 Circulated well and rigged up lay down machine. Pulled out of well laying down 2-7/8" tubing. Loaded out 2-7/8" handling tools and power tongs. Changed out 2-7/8" pipe rams to 3-1/2" pipe rams. Ran in well picking up 3-1/2" drill pipe.
- 11/22 Picked up 3-1/2" drill pipe. Laid down 4-1/2" kelly and picked up 3-1/2" kelly. Picked up 3-1/2" drill pipe. Tagged top of fish at 8610'. Cleaned out over fish to 8656'. Circulated bottoms up. Had 8'-10' of fill on top of fish. Pulled out of well with 3-1/2" drill pipe and fishing tools. Laid down washover pipe and picked up overshot. Ran in well with 3-1/2" drill pipe to release seal assembly.

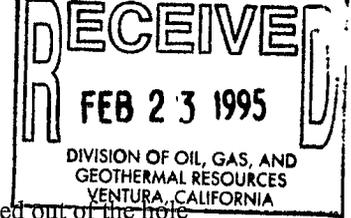
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DOG 2/22/95



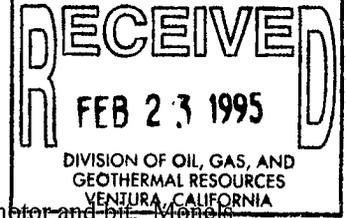
- 11/23 Picked up kelly and function tested bag and pipe rams. Tested bag to 500 psi. Circulated to, CALIFORNIA
slow pump rate. Worked on accumulator and repaired swivel. (Rig down 5 hours). Ran in well
and tagged top of fish at 8607'. Spaced out with 3-1/2" drill pipe pups and rigged up power tongs.
Released seal assembly from packer, shut in well and circulated through choke (no gas or pressure at
surface). Mixed dry job and pulled out of well with seal assembly. Broke down fishing tools.
Recovered all of fish. Picked up packer retrieving tools and three 4-3/4" drill collars. Ran in well to
top of packer at 8655' and circulated before stinging in.
- 11/24 Circulated on top of fish (Baker Retrieva "D" Packer). Worked into packer at 8662' and jarred on
packer with 30,000 - 40,000 lbs over pull. Attempted to circulate on fish, pushed packer up the
well. Pulled out of well with fish filling on every 3 stands. Packer swabbing well. Picked up kelly
and circulated and continued out of well. Pulled out of the well slowly to prevent swab.
- 11/25 Pulled out of well with 3-1/2" drill pipe and fish. Broke down fish and fishing tools. Recovered all
the fish (Baker Retrieva "D" Packer). Made up 60' of 2-3/8" tubing stinger and ran in well to
1453'. Cut and slip drilling line. Ran in well and tagged liner top at 8693.5' (DP measurements).
Picked up kelly and circulated and conditioned mud. Pulled out of well and laid down 2-3/8"
stinger. Nippled down pitcher nipple and flow line. Rigged up shooting flange, lubricator and
Dialog. Ran in well with jet cutter and cut 5" liner at 8712'. Rigged down Dialog. Installed pitcher
nipple and flow line. Made up fishing tools.
- 11/26 Made up HW drill pipe and ran in well to top of fish. Engaged top of liner @ 8696' (new KB-19')
and picked up on fish. Pulled out of well with fish (cut liner). Broke down fishing tools and laid
down liner. Recovered 24' of liner and hanger. Made up 15 joints of 2-3/8" tubing stinger and ran
in well. Tagged fill at 8973' and cleaned out to 8996'. Circulated well clean. Rigged up cementers,
mixed and pumped as follows: 10 bbls water; 96 cu.ft. Class G with .8% Halad 322, 2 bbls water.
Displaced with 58 bbls of mud. Pulled 15 stands. Circulated clean, no cement returns. Pulled out
of well with stinger.
- 11/27 Pulled out of well and laid down tubing tail. Cleared floor, installed wear bushing and picked up 6"
bit. Made up drilling bottom hole assembly. Ran in well to 7000' and shut down for rig repairs.
Worked on rig, SCR house, kelly spinner and pump No. 1 (5-1/2 hour downtime rig). Ran in well
and tagged cement at 8635'. Cleaned out to 8660'. Witnessed by D.O.G (Bob Weidle). Pressure
tested casing to 1500 psi for 20 minutes. Continued to drill cement at 8714'. Circulated and
conditioned mud. Pulled out of well with bottom hole assembly and bit. Picked up whip stock.
- 11/28 Worked on bottom trip on the whip stock. Cut and slipped drilling line. Picked up whip stock
starting mill and bottom hole assembly. Waiting on new bottom trip for whip stock. Finished
making up whip stock and ran in hole slowly. Picked up kelly and circulated at 8652'. Conditioned
mud. Rigged up to run gyro. Gyro not setting in seating nipple. Pulled out of hole with gyro. Ran
kelly in the hole to 8683'. Circulated and removed centralizers from gyro. Reran gyro and turned
whip stock to 265°. Set whip stock at 8713'. Top at 8691'. Pulled out of well and rigged down
wireline. Milled from 8691' to 8693'. Circulated well clean. Pulled out of well with starting mill.
- 11/29 Pulled out of well and laid down mills. Made up string mill and watermelon mill and ran in well.
Ran in well slow due to high winds. Worked on mud pumps (3 hours down time on rig). Continued
running in well. Milled from 8693' to 8704'. Circulated and pulled out of well. Laid down 1 joint
of 3-1/2" drill pipe and mills. Picked up 1 joint of 3-1/2" drill pipe and string mills to clean up
window. Ran in well to finish milling.
- 11/30 Ran in well with window dressing mills. Broke circulation at 8670' and begin milling at 8691'.
Milled to 8695'. Dressed up window. Pumped dry job. Pulled out of well to pick up drilling
assembly. Laid down milling tools. Picked up drill assembly. Ran in hole to 8700'. Attempted to
work through window without success. Pumped dry job and pulled out of well. Laid down drilling
assembly. Made up window mills. Ran in well.



- 12/01 Ran in well. Broke circulation at 8676'. Dressed window and milled to 8718'. Tipped bit and made up 6" bit on 6" string mill. Ran in well. Bit stopped at bottom of whip stock. Dressed window with string mill. Drilled from 8715' to 8747'. Circulated. Surveyed at 8730' 3"13. Pulled out of well.
- 12/02 Pulled out of well. Made up Baker Hughes Inteq core barrel. Ran in well to 8747'. Circulated and dropped ball. Cored from 8747' to 8777'. Pulled out of well. Recovered 5' core. Made up core barrel #2. Ran in well. Circulated and dropped mud water loss to 7. Cored from 8777' to 8792', 15' 2 hours. Pulled out of well. Recovered 6.8' of core.
- 12/03 Ran in well with core barrel #3. Slipped and cut drilling line. Circulated at 8791' and dropped ball. Cored from 8791' to 8811' 20'. Pulled out of well. Found core barrel tool joint flared. Waited on new top sub for core barrel. Made up core barrel #4. Ran in well to 8811'. Circulated and dropped ball. Cored from 8811' to 8821'. Pulled out of well.
- 12/04 Pulled out of well with core barrel #4. Recovered 1.6' of core. Made up core barrel #5. Ran in well to 8821'. Circulated at 8821'. Dropped ball. Cored from 8821' to 8831'. Pulled out of well with core barrel #5. Recovered 7' of core. Made up and ran core barrel #6. Ran in well to 8831'. Circulated and dropped ball. Cored from 8831' to 8852'. Pulled out of well. Recovered 9.45' core.
- 12/05 Laid down core barrel. Made up 6" bit on 4-3/4" monel. Ran in well with drilling assembly to 8789'. Reamed from 8789' to 8852'. Drilled from 8852' to 8862'. Survey at 8819' N-54 E 5'.45'. Drilled ahead to 8962'. Circulated. Surveyed at 8946'. Bad survey. Made wiper trip to 8712'. Ran in to 8962'. Circulated. Surveyed. Pulled out of well (4° N-55-E @ 8995'). Installed shooting flange and lubricator.
- 12/06 Ran DIL-Gamma Ray -SP from 8956' to top MP marker at 8465' Ran side wall core guns. Stuck side wall guns at 8792'. Worked line for 2 hours. Unable to free tools. Pulled out of rope socket. Slipped and cut drilling line. Made-up 4-1/16" OD overshot with 2-3/8" grapple with circular sub and bumper sub. Ran in well. Overshot stopped at 8777'. Pushed tools down well to 8837', measured out of well. No recovery. Ran in well with fishing tools. Pushed wire tools down well to 8936'. Worked over tools. Pulled out of well.
- 12/07 Pulled out of well with fishing tools. Didn't recover logging tools. Made-up 4-1/16" overshot with 3-3/8" grapple. Ran in well to 8935'. Worked over fish. Pulled out of well. Recovered all of the logging tools. Broke down fishing tools. Made up 445' of 2-3/8" CS tubing tail on 3-1/2" drill pipe. Ran in well to 8962'. Slow trip due to high winds. Circulated at 8962' with tubing tail at 8958'. Mixed and pumped 76 cf of 17 lb/gal. class "G" cement with .75% CFR-3, 1% HR-7, preceded cement with 10 bbls. water. Displaced with 30 bbls. water, 60 bbls mud. Cement in place at 3:23 am. Fariba Nesse with Division of Oil and Gas waived witnessing pumping of cement. Pulled up to 8100'. Circulated well clean. Pulled out of well.
- 12/08 Pulled out of well. Laid down 2-3/8" CS tubing. Made-up 6" bit on 90' 4-3/8" drill collars and 20 joints of heavy weight drill pipe. Ran in well, tagged top of cement at 8587. Drilled out hard cement from 8587' to 8688'. Circulated and conditioned mud to run gamma ray log. Ran gamma ray log to tie drill pipe to log depth. Drilled out cement to 8705'. Circulated well clean. Changed well over to clean sized salt system. Pulled out of well.
- 12/09 Pulled out of well. Made up kick off assembly. Removed kelly bushings. Worked on tubing tongs. Cleaned mud pits and waited on tubing tongs. Picked up 2-7/8" Hydril PH-6 0-105 8.70# tubing. Ran in well. High winds. Continued running in well with 3 drill collars, 20 joints Hwdp and Dp. Tagged bottom 6' high and rotated bottom hole assembly. Could not work deeper. Rugged up wireline and ran gyro survey to orient tools.



- 12/10 Ran gyro survey through side door sub. Oriented tool face to 284° direction. Pulled out of the hole with gyro survey and laid down sidedoor sub. Set down and time drilled 3' from 8699' to 8702'. Drilled with motor from 8702' to 8709'. Ran gyro. Ran in with steering tool. Stranded wireline. Repaired wireline. Ran in with steering tool (inclination 3.7°, azimuth 86.1°, tool face 340.4° high side 253.8°.) Drilled with mud motor from 8709' to 8756'. Projected at bit 24.8° angle 205 azimuth.
- 12/11 Attempted to turn well from 204° to 281° azimuth. Worked pipe but unable to make hole. Pulled out of hole to check bit and motor. Found 5-1/2" bit and bottom of motor and stator left in well. Waited on fishing tools. Made up 4-11/16" OD short catch overshot with 2-1/8" ID with 3-3/8" grapple on one joint 3-1/2" EUE 8rd tubing. Ran in well to 8744'. Worked over fish. Heavy drag pulling out of open hole. Pulled out of the hole with fishing tools. Recovered fish (5-1/2" bit, bottom of motor and stator). Laid down fishing tools.
- 12/12 Made up new 5-1/2" bit on mud motor. Ran in well to 2000'. Rig down for repairs. Replaced clutches. Ran in well with drilling hookup to 8716'. Ran in with steering tool. Reamed from 8715' to 8750'. Drilled with mud motor from 8750' to 8785'. Turned from 193.5° to 205.4° with 30.2° angle at survey tool (8765').
- 12/13 Continued to drill with mud motor from 8783' to 8790'. Pulled out with wireline. Dropped ball. Pulled out of well. Found bit out of gauge. Made up new bit and motor. Ran in well. Ran through window without problems. Rigged up side entry sub and pumped wireline down.
- 12/14 Ran in hole with wireline tools. Oriented tool face and attempted to take survey. Surveying tool not working. Pulled out of hole with surveying tool. Laid down tool, rehead line and ran in hole with new tools. Drilled from 8790' to 8878'. Projected survey at 8878', 69° and 274° azimuth.
- 12/15 Drilled from 8878' to 8908'. Pulled wireline tools. Dropped ball to shift sleeve. Pulled out of well. Made up and ran rerun bit on 1-1/2" mud motor. Ran in well to 8700'. Ran wireline gyro tools and set in mule shoe. Re-packed side door sub. Ran in the hole to 8908'. Drilled from 8908' to 8921'. Re-surveyed bottom 20' of hole from 8903' to 8883'.
- 12/16 Drilled and surveyed from 8921' to 8938'. Worked pipe, motor failed. Pulled wireline tool and pumped ball. Pulled out of well. Found bit, bit sub and stator missing off bottom of mud motor. Made up 4-11/16" OD overshot on joint of 3-1/2" tubing. Ran in well to 8828'. Worked over fish to 8937'. Pulled out of well. Recovered bit, bit sub and stator lost off motor. Laid down fishing tools and made up new motor. Ran in the hole with directional tools.
- 12/17 Seated steering tools. Ran in the hole with bottom hole assembly. Drilled from 8936' to 8983'. Pulled wireline tools. Dropped ball to shift sleeve. Pulled out of well to check mud motor. Made up new motor. Ran in well.
- 12/18 Ran in well to 8714'. Slipped and cut drilling line. Ran steering tool. Unable to seat tool. Pulled tools. Circulated. Ran steering tools. Unable to seat tools. Pulled tools. Dressed bottom of mule shoe. Ran tools and seated tools. Ran in to 8983'. Drilled with mud motor and steering tools from 8983'. Tools failed. Cut wireline in BOPE stack. Spliced wet connect in line. Made up 8 stands and ran in hole. Ran wireline and attempted wet connect. Tool not functioning. Pulled out with wet connect. Worked on tool. Reran tool and latched into wet connect. Drilled from 8983' to 8994'.
- 12/19 Drilled from 8994' to 9056'.
- 12/20 Drilled from 9056' to 9133'. Pulled out of hole with wet connect and laid down circulation head. Pulled out of hole with drill pipe.



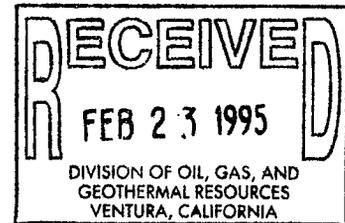
- 12/21 Pulled out of hole with drillpipe. Laid down motor and bit. Picked up new motor and bit. Monels washed out in box. Changed out monels. Ran in well to 9131'. Reamed with mud motor from 9131' to 9133'. Drilled from 9133' to 9139'. Pulled out of the hole with wet latch connection.
- 12/22 Pulled out of the hole to check motor and bit due to slow drilling. Changed out mud motors. Made up 5-1/2" H-T-6 bit on 2-1/4" mud motor. Ran in well to 8700'. Ran steering tool. Drilled with mud motor from 9140' to 9143'.
- 12/23 Drilled from 9143' to 9145'. Circulated and waited on inter prop sand. Spotted 6 sacks 20/40 inter prop sand. Drilled from 9145' to 9191'. Spotted 6 sacks 20/40 inter prop sand. Drilled from 9191' to 9196'.
- 12/24 Pulled out of well. Heavy drag 30' off bottom. Slow trip due to high winds. Found bit in gauge motor bad. Made up low speed high torque motor 1-1/2" with kick pad. Reran bit #8 H-T-5, TIH, fill pipe at 8678'. Ran steering tool. Attempting to drill with mud motor from 9196'. Would not drill, pressure differential o.k. Changed tool face from 40° to 70° left, spotted 2 sacks 20/40 inter prop sand, worked downhole tools, no good. Changed tool face to 40° right then 70° right, mud motor would not drill. Circulated. Pulled out of hole to check mud motor.
- 12/25 Pulled out of well. Bit in gauge. Laid down mud motor. Made up 3-3/8" high speed slick motor 2-1/4". Tested motor, unable to pump through motor. Laid down motor. Made up 3-3/4" low speed motor 1-3/4". Ran in well to 8760'. Filled drill pipe. Ran steering tool and re-spliced wet connection. Ran in well to 9690'. Wet connection failed. Pulled back to 7" shoe with mud motor and bit. Checked wireline, replaced probe, re-head, and ran in hole.
- 12/26 Pulled out of hole with wireline steering tool after finding error in function. Checked same to repair. Run in with pipe to 8719'. Attempted to break circulation. Found plugged. Pulled out of hole with pipe to 6755'. Dropped ball, pressured up to 2500 psi for 20 min. Released pressure again. Pressured to 2400 psi for 15 min. Bypass valve would not open. Continued to pull out of hole wet, using mud saver. Found monels and mud motor plugged with frac sand. Cleaned out monels; unable to clean out motor. Made up 3-3/8" high speed motor on bit. Ran in hole to 7840'. Broke circulation. Ran in to 8709'. Ran in hole with wireline steering tool hung off at 6993'. Finished running in to 9183'. Plugged bit. Pulled out of hole to 8619' with pipe. Pulled steering tool to surface to check probe. Pulled drill pipe to 8713'. Attempted to circulate. Lost 38 bbls mud, no returns. Pulled up into shoe. Mixed and hauled mud volume.
- 12/27 Waiting on 100 bbls of sized salt drilling mud to be mixed and hauled from Bakersfield. Spotted 100 bbls of sized salt fluid. Pumped 60 bbls before getting returns to surface. Waited on fluid. Mixed 200 bbls sized salt. Pumped 30 bbls of fluid. Returns to surface. Tool plugged. Worked pipe. Unplugged motor. Dropped ball to open circulation ports on mud motor (50% returns to surface). Pulled out of well. Mixed salt in fluid in pit. Continued pulling out of the hole.
- 12/28 Pulled out of the hole and laid down monels and motor. Checked fluid level (at 525'). Made up clean out shoe and ran in hole with kill string. Slipped and cut drilling line. Ran in well to 8946'. No mud loss with 100% full circulation. Cleaned out to 8956'. Zone taking fluid at a rate of 1 bbl per/min. Cleaned out to 9196'. Circulated and conditioned fluid. Dropped mud weight to 9.9 ppg. Well stable, no loss of fluid to zone. Spot high vis pill 60 bbls. Pulled out of well. Laid down 2-7/8" tubing. Ran 3-1/2" liner, 460' perfs and 62' of blank. Ran in well.
- 12/29 Ran in well with 3-1/2" liner to 9196'. Set Baker SLP hanger. Top of liner at 8665'. Bottom of liner at 9196'. Perfs 9196' to 8734', 19' K.B. Changed over to 1% KCl water treated with 5 gallons Ucarcide and 5 gallons HIB per/100 bbls, 500 bbls to change over to clean fluid at surface. Well taking fluid. Cleaned mud pits. Pulled out of well. Installed shooting flange. Rigged up wireline and ran production packer to 8605'. Packer did not set. Pulled packer and found packer damaged. Bottom slip spread. Ran in well with drill pipe and waited on new packer.

12/30

Laid down 3-1/2" drill pipe. Changed pipe rams to 2-7/8". Installed shooting flange and lubricator. Ran and set Otis BWB packer at 8605'. Packer 5.875' OD 4" ID cross over 4-3/4" 12 NU thread to 3-1/2" EUE. Cross over 3-1/2" EUE to 2-7/8" EUE, 4' 2-7/8" EUE 8rd pup, Otis 2-7/8" sliding sleeve 2.313', 10' 2-7/8" N-80 pup, Otis XN nipple, 2.205' No-Go, 2.313' packing bore, 45° guide. Installed pitcher nipple. Ran production tubing.

12/31

Ran 2-7/8" production tubing. Spaced out and latched Otis packer at 8605'. Pulled 20,000 lbs over to check latch o.k. Pressure tested 7" and 2-7/8" annulus to 1500 psi for 20 minutes to test packer and 7" casing. Tested o.k. Installed back pressure valve in tubing hanger. Removed BOPE. Installed xmas tree. Tested seals and tree to 5000 psi using Associated Services. Rigged up slickline and opened sliding sleeve at 8572'. Tested safety valve. Closed all valves on wellhead. Released rig.



TMT HORIZONTAL

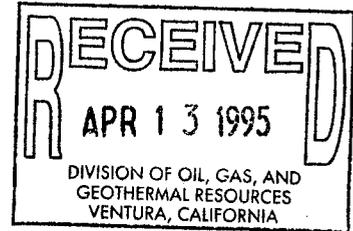
OPERATOR: SOUTHERN CALIFORNIA GAS CO.
 WELL: SS-3 REDRILL (12/1-5/94)
 LOCATION: LOS ANGELES CA
 FIELD: ALISO CANYON

(CORED SIDETRACK
 DATA PER Jim DAYTON)

MCV (SPE-3362)

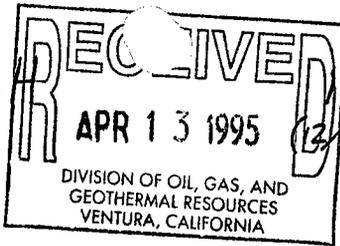
PROPOSED DIRECTION

SUR NO.	MD	INC	TRUE	TVD	N-S	E-W	SECT	DLS/ 100
			AZM		(South & West in Parenthesis)			
0	8,600	0.0	0.0	8,599.5	3.0	-34.0	131.6	46.6
1	8,700	2.5	225.0	8,699.5	1.5	-35.5	1.5	2.5
2	8,819	5.5	54.0	8,818.3	3.0	-32.8	3.0	6.7
3	8,945	4.0	55.0	8,943.9	9.0	-24.3	9.0	1.2
4	8,956	4.0	55.0	8,954.9	9.5	-23.6	9.5	0.0



Standard Season 3

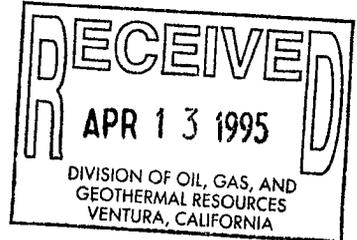
SS-3



2/94
(12/10-24/94)

WELLPATH DATA
B:SES3.

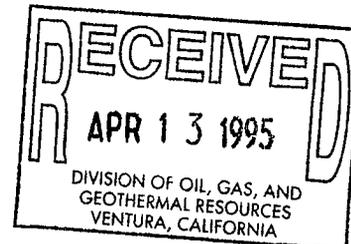
Sta. Num.	M.D. Feet	Incl. Angle Deg.	Azi. Angle Deg.	Coordinates			Vert. Sec. Feet	Closure		Rate Change		Total D.L. Deg/100 Ft	TFO Deg.
				+N,-S Feet	+E,-W Feet	TVD Feet		Dist. Feet	Dire. Deg.	Incl. Deg/100 Ft	Azi. Deg/100 Ft		
1	0.0	0.00	0.00	0	0	0.0	0	0	0.00	0.00	0.0	0.0	
2	100.0	0.28	142.08	-0	0	100.0	-0	0	142.1	0.28	0.00	0.3	0.0
3	200.0	0.49	124.10	-1	1	200.0	-1	1	133.7	0.21	17.98	0.2	0.0
4	300.0	0.36	113.24	-1	1	300.0	-1	2	127.3	-0.13	10.86	0.2	0.0
5	400.0	0.27	133.81	-1	2	400.0	-2	2	126.0	-0.09	20.57	0.2	0.0
6	500.0	0.36	142.83	-2	2	500.0	-2	3	128.6	0.09	9.02	0.1	0.0
7	600.0	0.26	108.98	-2	3	600.0	-3	3	128.6	-0.10	33.85	0.2	0.0
8	700.0	0.03	91.78	-2	3	700.0	-3	3	127.1	-0.23	17.20	0.2	0.0
9	800.0	0.27	153.94	-2	3	800.0	-3	4	128.5	0.24	62.16	0.3	0.0
10	900.0	0.23	109.58	-3	3	900.0	-4	4	129.0	-0.04	44.36	0.2	0.0
11	1000.0	0.04	221.81	-3	3	1000.0	-4	4	128.6	-0.19	112.23	0.3	0.0
12	1100.0	0.25	144.10	-3	3	1100.0	-4	4	129.8	0.21	77.71	0.3	0.0
13	1200.0	0.06	275.70	-3	4	1200.0	-4	5	130.8	-0.19	131.60	0.3	0.0
14	1300.0	0.19	116.51	-3	4	1300.0	-4	5	130.7	0.13	159.19	0.3	0.0
15	1400.0	0.12	247.43	-3	4	1400.0	-4	5	131.3	-0.07	130.92	0.3	0.0
16	1500.0	0.07	91.49	-3	4	1500.0	-4	5	131.9	-0.05	155.94	0.2	0.0
17	1600.0	0.25	281.08	-3	3	1600.0	-4	5	132.8	0.18	170.41	0.3	0.0
18	1700.0	0.18	325.81	-3	3	1700.0	-4	4	133.8	-0.07	44.73	0.2	0.0
19	1800.0	0.53	299.44	-3	3	1800.0	-3	4	135.1	0.35	26.37	0.4	0.0
20	1900.0	0.51	279.42	-2	2	1900.0	-2	3	142.3	-0.02	20.02	0.2	0.0
21	2000.0	0.38	287.25	-2	1	2000.0	-1	2	153.8	-0.13	7.83	0.2	0.0
22	2100.0	0.55	303.45	-2	0	2100.0	-1	2	168.5	0.17	16.20	0.2	0.0
23	2200.0	0.73	295.32	-1	-1	2200.0	0	1	204.1	0.18	8.13	0.2	0.0
24	2300.0	0.80	287.99	-1	-2	2300.0	2	2	245.3	0.07	7.33	0.1	0.0
25	2400.0	0.82	283.97	-0	-3	2399.9	3	3	261.9	0.02	4.02	0.1	0.0
26	2500.0	0.82	276.65	-0	-5	2499.9	5	5	267.5	0.00	7.32	0.1	0.0
27	2600.0	0.82	272.78	-0	-6	2599.9	6	6	269.2	0.00	3.87	0.1	0.0
28	2700.0	0.75	266.44	-0	-7	2699.9	7	7	269.3	-0.07	6.34	0.1	0.0
29	2800.0	0.72	266.99	-0	-9	2799.9	9	9	268.9	-0.03	0.55	0.1	0.0
30	2900.0	0.67	265.26	-0	-10	2899.9	10	10	268.6	-0.05	1.73	0.1	0.0
31	3000.0	0.58	257.73	-0	-11	2999.9	11	11	267.9	-0.09	7.53	0.1	0.0
32	3100.0	0.50	261.22	-1	-12	3099.9	12	12	267.2	-0.08	3.49	0.1	0.0
33	3200.0	0.45	257.50	-1	-13	3199.9	12	13	266.7	-0.05	3.72	0.1	0.0
34	3300.0	0.27	269.71	-1	-13	3299.9	13	13	266.5	-0.18	12.21	0.2	0.0
35	3400.0	0.32	287.12	-1	-14	3399.9	14	14	267.0	0.05	17.41	0.1	0.0
36	3500.0	0.40	288.15	-1	-14	3499.9	14	14	267.9	0.08	1.03	0.1	0.0
37	3600.0	0.50	282.77	-0	-15	3599.9	15	15	268.7	0.10	5.38	0.1	0.0
38	3700.0	0.55	269.08	-0	-16	3699.9	16	16	269.1	0.05	13.69	0.1	0.0
39	3800.0	0.42	253.83	-0	-17	3799.9	17	17	268.8	-0.13	15.25	0.2	0.0
40	3900.0	0.22	246.98	-1	-17	3899.9	17	17	268.3	-0.20	6.85	0.2	0.0
41	4000.0	0.25	264.70	-1	-18	3999.9	18	18	268.0	0.03	17.72	0.1	0.0
42	4100.0	0.35	246.89	-1	-18	4099.9	18	18	267.6	0.10	17.81	0.1	0.0
43	4200.0	0.32	199.98	-1	-19	4199.9	18	19	266.5	-0.03	46.91	0.3	0.0
44	4300.0	0.16	259.54	-1	-19	4299.9	19	19	265.7	-0.16	59.56	0.3	0.0
45	4400.0	0.33	226.68	-2	-19	4399.9	19	19	265.1	0.17	32.86	0.2	0.0
46	4500.0	0.14	188.71	-2	-20	4499.9	19	20	264.2	-0.19	37.97	0.2	0.0
47	4600.0	0.24	253.53	-2	-20	4599.9	19	20	263.8	0.10	64.82	0.2	0.0
48	4700.0	0.34	206.45	-2	-20	4699.9	20	20	262.9	0.10	47.08	0.3	0.0
49	4800.0	0.08	214.68	-3	-20	4799.9	20	20	262.1	-0.26	8.23	0.3	0.0
50	4900.0	0.18	219.27	-3	-20	4899.9	20	21	261.7	0.10	4.59	0.1	0.0



WELLPATH DATA
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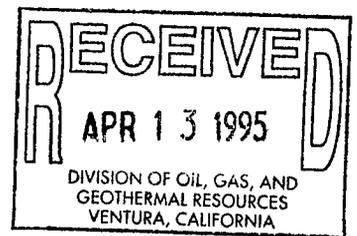
Sta. Num.	M.D. Feet	Incl. Angle Deg.	Azi. Angle Deg.	Coordinates			Vert. Sec. Feet	Closure		Rate Change		Total D.L. Deg/100 Ft	TFO Deg.
				+N,-S Feet	+E,-W Feet	TVD Feet		Dist. Feet	Dire. Deg.	Incl. Deg/100 Ft	Azi. Deg/100 Ft		
51	5000.0	0.23	132.48	-3	-20	4999.9	20	21	260.9	0.05	86.79	0.3	0.0
52	5100.0	0.08	90.81	-3	-20	5099.9	19	20	260.5	-0.15	41.67	0.2	0.0
53	5200.0	0.31	151.50	-4	-20	5199.9	19	20	259.7	0.23	60.69	0.3	0.0
54	5300.0	0.13	90.07	-4	-20	5299.9	19	20	258.9	-0.18	61.43	0.3	0.0
55	5400.0	0.10	146.74	-4	-20	5399.9	19	20	258.6	-0.03	56.67	0.1	0.0
56	5500.0	0.12	11.35	-4	-19	5499.9	19	20	258.7	0.02	135.39	0.2	0.0
57	5600.0	0.10	144.41	-4	-19	5599.9	19	20	258.7	-0.02	133.06	0.2	0.0
58	5700.0	0.08	317.09	-4	-19	5699.9	19	20	258.7	-0.02	172.68	0.2	0.0
59	5800.0	0.17	85.13	-4	-19	5799.9	19	20	258.8	0.09	128.04	0.2	0.0
60	5900.0	0.07	284.72	-4	-19	5899.9	18	20	258.8	-0.10	160.41	0.2	0.0
61	6000.0	0.21	64.93	-4	-19	5999.9	18	19	259.0	0.14	140.21	0.3	0.0
62	6100.0	0.05	296.60	-4	-19	6099.9	18	19	259.2	-0.16	128.33	0.3	0.0
63	6200.0	0.15	345.46	-3	-19	6199.9	18	19	259.7	0.10	48.86	0.1	0.0
64	6300.0	0.43	42.97	-3	-19	6299.9	18	19	260.8	0.28	57.51	0.4	0.0
65	6400.0	0.70	57.36	-2	-18	6399.9	18	18	262.3	0.27	14.39	0.3	0.0
66	6500.0	0.65	60.45	-2	-17	6499.8	17	17	263.8	-0.05	3.09	0.1	0.0
67	6600.0	0.54	72.04	-1	-16	6599.8	16	16	265.0	-0.11	11.59	0.2	0.0
68	6700.0	0.39	29.46	-1	-15	6699.8	15	15	266.4	-0.15	42.58	0.4	0.0
69	6800.0	0.29	40.21	-0	-15	6799.8	15	15	268.2	-0.10	10.75	0.1	0.0
70	6900.0	0.32	39.03	-0	-15	6899.8	15	15	269.7	0.03	1.18	0.1	0.0
71	7000.0	0.26	359.37	0	-15	6999.8	15	15	271.4	-0.06	39.66	0.2	0.0
72	7100.0	0.51	305.06	1	-15	7099.8	15	15	273.2	0.25	54.31	0.4	0.0
73	7200.0	0.94	298.52	1	-16	7199.8	16	16	275.3	0.43	6.54	0.4	0.0
74	7300.0	0.65	279.09	2	-17	7299.8	17	17	276.5	-0.29	19.43	0.4	0.0
75	7400.0	0.87	237.68	2	-19	7399.8	19	19	275.1	0.22	41.41	0.6	0.0
76	7500.0	0.88	227.96	1	-20	7499.8	20	20	272.1	0.01	9.72	0.2	0.0
77	7600.0	0.93	223.85	-0	-21	7599.8	21	21	269.0	0.05	4.11	0.1	0.0
78	7700.0	0.79	235.32	-1	-22	7699.8	22	22	266.5	-0.14	11.47	0.2	0.0
79	7800.0	0.93	257.24	-2	-23	7799.8	23	23	265.3	0.14	21.92	0.4	0.0
80	7850.0	1.18	220.85	-2	-24	7849.8	24	24	264.3	0.50	72.78	1.4	0.0
81	8000.0	1.06	233.60	-4	-26	7999.7	25	27	260.5	-0.08	8.50	0.2	0.0
82	8200.0	1.45	263.50	-6	-30	8199.7	29	31	259.2	0.20	14.95	0.4	0.0
83	8600.0	2.73	8.70	3	-34	8599.5	34	34	275.2	0.32	26.30	0.9	0.0
84	8680.0	3.61	22.00	7	-33	8679.4	33	33	282.6	1.10	16.63	1.4	0.0
85	8707.0	5.10	281.00	8	-33	8706.3	34	34	284.0	5.52	374.07	25.1	0.0
86	8709.0	5.70	281.00	8	-34	8708.3	34	35	283.9	30.00	0.00	30.1	0.0
87	8711.0	6.30	281.00	8	-34	8710.3	35	35	283.9	30.00	0.00	30.1	0.0
88	8713.0	7.10	281.00	8	-34	8712.3	35	35	283.9	40.00	0.00	40.1	0.0
89	8715.0	8.10	281.00	8	-34	8714.3	35	35	283.9	50.00	0.00	50.1	0.0
90	8717.0	8.90	281.00	9	-35	8716.3	35	36	283.9	40.00	0.00	40.1	0.0
91	8719.0	9.90	281.00	9	-35	8718.2	36	36	283.8	50.00	0.00	50.1	0.0
92	8721.0	11.00	281.00	9	-35	8720.2	36	36	283.8	55.00	0.00	55.1	0.0
93	8723.0	11.90	281.00	9	-36	8722.2	37	37	283.8	45.00	0.00	45.1	0.0
94	8725.0	13.00	281.00	9	-36	8724.1	37	37	283.7	55.00	0.00	55.1	0.0
95	8727.0	14.00	206.60	9	-36	8726.1	37	37	283.4	50.00	3720.00	812.4	0.0
96	8729.0	14.80	203.30	8	-37	8728.0	37	38	282.6	40.00	165.00	57.4	0.0
97	8731.0	15.30	201.30	8	-37	8729.9	38	38	281.8	25.00	100.00	36.2	0.0
98	8733.0	16.50	197.60	7	-37	8731.9	38	38	281.0	60.00	185.00	78.6	0.0
99	8735.0	17.30	196.50	7	-37	8733.8	38	38	280.1	40.00	55.00	43.2	0.0
100	8737.0	18.30	194.80	6	-37	8735.7	38	38	279.2	50.00	85.00	56.4	0.0

WELLPATH DATA
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Sta. Num.	M.D. Feet	Incl. Angle Deg.	Azi. Angle Deg.	Coordinates			Vert. Sec. Feet	Closure		Rate Change		Total D.L. Deg/100 Ft	TFO Deg.
				+N,-S Feet	+E,-W Feet	TVD Feet		Dist. Feet	Dire. Deg.	Incl. Deg/100 Ft	Azi. Deg/100 Ft		
101	8739.0	19.10	193.60	5	-38	8737.6	38	38	278.3	40.00	60.00	44.5	0.0
102	8741.0	20.00	193.50	5	-38	8739.5	38	38	277.3	45.00	5.00	45.1	0.0
103	8743.0	21.00	194.10	4	-38	8741.3	38	38	276.2	50.00	30.00	51.2	0.0
104	8745.0	21.70	195.00	3	-38	8743.2	38	38	275.1	35.00	45.00	38.7	0.0
105	8747.0	22.30	196.90	3	-38	8745.1	38	38	274.0	30.00	95.00	46.6	0.0
106	8749.0	23.10	197.90	2	-38	8746.9	38	39	272.9	40.00	50.00	44.5	0.0
107	8751.0	23.90	199.10	1	-39	8748.7	39	39	271.8	40.00	60.00	46.7	0.0
108	8753.0	24.50	200.50	0	-39	8750.6	39	39	270.6	30.00	70.00	41.6	0.0
109	8755.0	25.50	202.30	-0	-39	8752.4	39	39	269.5	50.00	90.00	62.9	0.0
110	8757.0	26.60	203.40	-1	-40	8754.2	39	40	268.3	55.00	55.00	60.1	0.0
111	8759.0	27.70	204.50	-2	-40	8755.9	39	40	267.1	55.00	55.00	60.5	0.0
112	8761.0	28.50	205.90	-3	-40	8757.7	40	41	266.0	40.00	70.00	51.9	0.0
113	8763.0	29.50	207.00	-4	-41	8759.5	40	41	264.8	50.00	55.00	56.7	0.0
114	8765.0	30.20	208.40	-5	-41	8761.2	40	42	263.6	35.00	70.00	49.5	0.0
115	8773.0	33.80	213.00	-8	-43	8768.0	42	44	259.3	45.00	57.50	54.3	0.0
116	8775.0	34.60	214.40	-9	-44	8769.6	42	45	258.3	40.00	70.00	56.2	0.0
117	8777.0	35.60	215.40	-10	-45	8771.3	43	46	257.3	50.00	50.00	57.7	0.0
118	8779.0	36.60	216.70	-11	-45	8772.9	43	47	256.3	50.00	65.00	63.0	0.0
119	8781.0	37.70	218.00	-12	-46	8774.5	44	48	255.4	55.00	65.00	67.6	0.0
120	8783.0	38.70	218.90	-13	-47	8776.0	45	49	254.5	50.00	45.00	57.3	0.0
121	8785.0	39.70	220.10	-14	-48	8777.6	45	50	253.7	50.00	60.00	62.8	0.0
122	8787.0	40.70	221.20	-15	-49	8779.1	46	51	252.9	50.00	55.00	61.4	0.0
123	8789.0	41.50	222.50	-16	-49	8780.6	47	52	252.2	40.00	65.00	58.6	0.0
124	8791.0	42.20	223.80	-17	-50	8782.1	48	53	251.5	35.00	65.00	55.8	0.0
125	8793.0	43.10	225.50	-18	-51	8783.6	48	54	250.8	45.00	85.00	73.1	0.0
126	8795.0	43.80	226.70	-19	-52	8785.0	49	56	250.2	35.00	60.00	54.2	0.0
127	8797.0	44.50	228.30	-20	-53	8786.5	50	57	249.7	35.00	80.00	65.9	0.0
128	8799.0	44.90	229.70	-21	-54	8787.9	51	58	249.2	20.00	70.00	53.2	0.0
129	8801.0	45.50	231.40	-22	-56	8789.3	52	60	248.8	30.00	85.00	67.4	0.0
130	8803.0	46.00	233.00	-22	-57	8790.7	53	61	248.4	25.00	80.00	62.6	0.0
131	8805.0	46.40	234.30	-23	-58	8792.1	54	62	248.0	20.00	65.00	51.1	0.0
132	8817.0	49.40	246.20	-28	-66	8800.2	61	71	247.1	25.00	99.17	77.6	0.0
133	8819.0	49.90	247.60	-28	-67	8801.4	62	73	247.1	25.00	70.00	59.0	0.0
134	8821.0	50.50	248.90	-29	-68	8802.7	64	74	247.1	30.00	65.00	58.3	0.0
135	8823.0	51.10	250.60	-29	-70	8804.0	65	76	247.2	30.00	85.00	72.4	0.0
136	8825.0	51.60	252.00	-30	-71	8805.2	66	77	247.2	25.00	70.00	60.2	0.0
137	8827.0	52.20	253.50	-30	-73	8806.5	68	79	247.4	30.00	75.00	66.3	0.0
138	8829.0	52.90	254.90	-31	-74	8807.7	69	80	247.5	35.00	70.00	65.7	0.0
139	8831.0	53.50	256.40	-31	-76	8808.9	71	82	247.6	30.00	75.00	67.2	0.0
140	8833.0	54.20	257.50	-32	-77	8810.1	72	84	247.8	35.00	55.00	56.6	0.0
141	8835.0	54.60	258.30	-32	-79	8811.2	74	85	248.0	20.00	40.00	38.3	0.0
142	8837.0	55.20	259.70	-32	-81	8812.4	75	87	248.2	30.00	70.00	64.7	0.0
143	8839.0	55.80	261.00	-33	-82	8813.5	77	88	248.4	30.00	65.00	61.5	0.0
144	8841.0	56.40	262.40	-33	-84	8814.6	79	90	248.7	30.00	70.00	65.5	0.0
145	8843.0	57.10	263.90	-33	-86	8815.7	80	92	248.9	35.00	75.00	71.9	0.0
146	8845.0	57.70	265.10	-33	-87	8816.8	82	93	249.2	30.00	60.00	58.8	0.0
147	8847.0	58.30	266.40	-33	-89	8817.9	83	95	249.5	30.00	65.00	62.8	0.0
148	8849.0	59.20	267.50	-33	-91	8818.9	85	97	249.8	45.00	55.00	65.1	0.0
149	8851.0	60.00	268.20	-33	-92	8819.9	87	98	250.1	40.00	35.00	50.2	0.0
150	8853.0	60.70	269.40	-33	-94	8820.9	89	100	250.5	35.00	60.00	62.9	0.0

WELLPATH DATA
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Sta. Num.	M.D. Feet	Incl. Angle Deg.	Azi. Angle Deg.	Coordinates			Vert. Sec. Feet	Closure		Rate Change		Total D.L. Deg/100 Ft	TFO Deg.
				+N,-S Feet	+E,-W Feet	TVD Feet		Dist. Feet	Dire. Deg.	Incl. Deg/100 Ft	Azi. Deg/100 Ft		
151	8855.0	61.20	270.50	-33	-96	8821.9	90	102	250.8	25.00	55.00	54.3	0.0
152	8857.0	61.80	271.50	-33	-98	8822.8	92	103	251.1	30.00	50.00	53.3	0.0
153	8859.0	62.50	272.60	-33	-99	8823.8	94	105	251.5	35.00	55.00	60.0	0.0
154	8861.0	63.20	273.70	-33	-101	8824.7	96	106	251.8	35.00	55.00	60.2	0.0
155	8863.0	63.70	274.60	-33	-103	8825.6	97	108	252.2	25.00	45.00	47.5	0.0
156	8865.0	64.20	275.70	-33	-105	8826.4	99	110	252.5	25.00	55.00	55.4	0.0
157	8867.0	64.70	276.40	-33	-107	8827.3	101	111	252.9	25.00	35.00	40.4	0.0
158	8869.0	65.70	277.70	-33	-108	8828.1	103	113	253.3	50.00	65.00	77.4	0.0
159	8871.0	66.60	278.40	-32	-110	8829.0	105	115	253.7	45.00	35.00	55.3	0.0
160	8873.0	67.50	278.90	-32	-112	8829.7	106	116	254.1	45.00	25.00	50.6	0.0
161	8875.0	68.60	279.30	-32	-114	8830.5	108	118	254.4	55.00	20.00	58.1	0.0
162	8877.0	69.70	279.50	-31	-116	8831.2	110	120	254.8	55.00	10.00	55.9	0.0
163	8879.0	70.60	279.90	-31	-118	8831.9	112	122	255.2	45.00	20.00	48.9	0.0
164	8881.0	71.80	279.90	-31	-119	8832.5	114	123	255.6	60.00	0.00	60.1	0.0
165	8883.0	73.00	280.00	-30	-121	8833.1	116	125	255.9	60.00	5.00	60.3	0.0
166	8885.0	74.30	280.00	-30	-123	8833.7	118	127	256.3	65.00	0.00	65.1	0.0
167	8887.0	75.20	280.10	-30	-125	8834.2	120	129	256.6	45.00	5.00	45.4	0.0
168	8889.0	76.20	280.40	-29	-127	8834.7	122	130	257.0	50.00	15.00	52.1	0.0
169	8891.0	77.50	280.60	-29	-129	8835.2	124	132	257.3	65.00	10.00	65.8	0.0
170	8893.0	78.40	280.80	-29	-131	8835.6	126	134	257.6	45.00	10.00	46.1	0.0
171	8895.0	79.20	281.00	-28	-133	8836.0	127	136	258.0	40.00	10.00	41.3	0.0
172	8897.0	80.10	281.10	-28	-135	8836.3	129	138	258.3	45.00	5.00	45.4	0.0
173	8899.0	80.80	281.10	-28	-137	8836.7	131	139	258.6	35.00	0.00	35.1	0.0
174	8901.0	81.40	281.10	-27	-139	8837.0	133	141	258.9	30.00	0.00	30.1	0.0
175	8903.0	81.90	281.10	-27	-140	8837.3	135	143	259.2	25.00	0.00	25.2	0.0
176	8918.0	84.80	270.90	-25	-155	8839.0	150	157	260.8	19.33	68.00	70.2	0.0
177	8933.0	86.70	271.40	-25	-170	8840.1	165	172	261.7	12.67	3.33	13.1	0.0
178	8948.0	87.90	271.60	-25	-185	8840.8	180	187	262.4	8.00	1.33	8.1	0.0
179	8978.0	87.60	275.50	-23	-215	8842.0	210	216	264.0	-1.00	13.00	13.0	0.0
180	8988.0	86.60	276.50	-22	-225	8842.5	220	226	264.5	-10.00	10.00	14.1	0.0
181	8998.0	86.20	277.70	-20	-235	8843.1	230	236	265.0	-4.00	12.00	12.6	0.0
182	9008.0	86.90	278.70	-19	-245	8843.7	240	246	265.6	7.00	10.00	12.2	0.0
183	9018.0	87.00	280.20	-17	-255	8844.3	250	255	266.1	1.00	15.00	15.0	0.0
184	9028.0	86.90	281.40	-15	-264	8844.8	260	265	266.6	-1.00	12.00	12.0	0.0
185	9038.0	86.80	282.60	-13	-274	8845.3	270	275	267.2	-1.00	12.00	12.0	0.0
186	9048.0	86.40	283.70	-11	-284	8845.9	280	284	267.8	-4.00	11.00	11.7	0.0
187	9058.0	85.90	285.30	-9	-294	8846.6	290	294	268.3	-5.00	16.00	16.7	0.0
188	9068.0	86.00	286.40	-6	-303	8847.3	299	303	268.9	1.00	11.00	11.0	0.0
189	9078.0	86.10	286.10	-3	-313	8848.0	309	313	269.4	1.00	3.00	3.2	0.0
190	9088.0	85.90	285.30	-0	-322	8848.7	319	322	269.9	-2.00	8.00	8.2	0.0
191	9098.0	86.30	283.00	2	-332	8849.4	329	332	270.3	4.00	23.00	23.3	0.0
192	9108.0	86.10	283.10	4	-342	8850.0	339	342	270.7	-2.00	1.00	2.3	0.0
193	9118.0	85.20	284.90	7	-351	8850.8	349	352	271.1	-9.00	18.00	20.1	0.0
194	9128.0	84.30	284.50	9	-361	8851.7	359	361	271.5	-9.00	4.00	9.9	0.0
195	9138.0	83.80	283.20	12	-371	8852.8	369	371	271.8	-5.00	13.00	13.9	0.0
196	9148.0	83.50	283.10	14	-380	8853.9	379	381	272.1	-3.00	1.00	3.2	0.0
197	9158.0	84.00	283.30	16	-390	8855.0	389	390	272.4	5.00	2.00	5.4	0.0
198	9168.0	85.00	283.30	18	-400	8855.9	398	400	272.6	10.00	0.00	10.0	0.0
	TD												
199	9196.0	85.00	283.30	25	-427	8858.4	426	428	273.3	0.00	0.00	0.2	0.0



CORE LABORATORIES

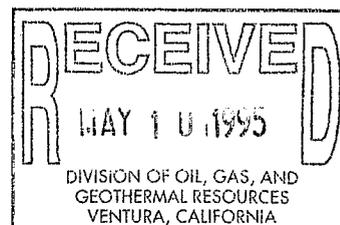
SOUTHERN CALIFORNIA GAS COMPANY

CORE ANALYSIS RESULTS

"STANDARD-SESNON" SS-3 WELL

**ALISO CANYON FIELD
LOS ANGELES COUNTY, CA**

CL FILE #094293

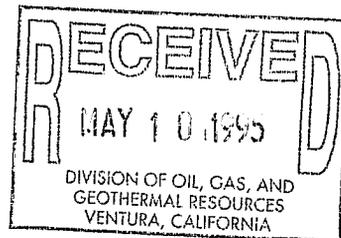


**PERFORMED BY:
CORE LABORATORIES
3430 UNICORN ROAD
BAKERSFIELD, CA 93308
(805) 392-8600**

**FINAL REPORT PRESENTED
JANUARY 5, 1995**

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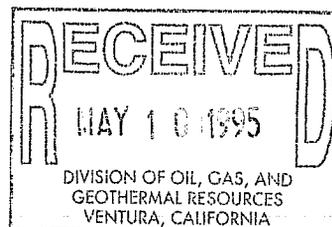
INTRODUCTION

Core Laboratories was selected by Southern California Gas Company to perform a core analysis study upon samples recovered from the Aliso Canyon Field, Los Angeles County, California. Conventional cores were submitted. Presented herein are the results of analysis.

This report is divided into four sections. The first section provides a description of services. The second section contains the tabulated results of the "routine" analysis including composite laser particle size data. Hydraulic unit information in tabular and graphic presentations are included in the third section, and the final section contains an inventory of the core material recovered. An Epilog® plot summarizing the spectral gamma, routine analysis, and hydraulic unit analysis has also been included.

In conjunction with the report, the results of analyses are supplied on an IBM PC compatible floppy diskette. Two data files in ASCII format are included on the diskette for your convenience. (Filename.DAT) as well as a comma separated values ASCII format file (FILENAME.CSV)

We appreciate this opportunity to be of service and hope these data prove beneficial in the development of this reservoir.



ALUMINUM SLEEVE

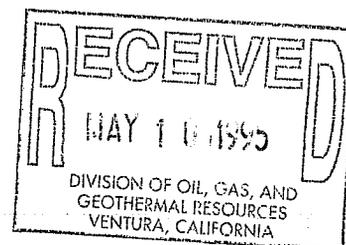
Field Procedures

Aluminum sleeve coring equipment, in conjunction with water base drilling fluids, was used to extract the cores. These cores were handled by Core Laboratories field personnel.

Core Handling and Marking

After each core was cut, the inner core barrel was laid on the cat walk and the sleeve containing the core was extruded from the barrel and cut into three foot sections. Each section was measured and marked for depth at one-foot intervals. Where applicable, depths were assigned such that any core not recovered was attributed to the bottom of the cored interval. The core sections were boxed and then placed in an insulated crate at the well site.

The core was transported to our Bakersfield facility and placed into chilled storage at the laboratory.



Core Processing

Core Slabbing and Lay-out

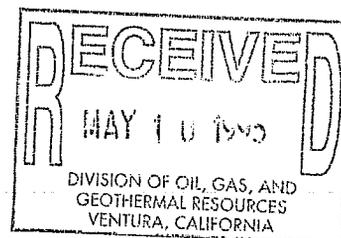
The cores were slabbed parallel to the core axis utilizing a one-third - two-thirds cut. Liquid nitrogen was used as the blade coolant. The one-third sections were placed into slab boxes with styrofoam inserts.

The core was laid out for viewing and description by Southern California Gas Company's representative. Core Laboratories was instructed to perform a profile permeability study (reported separately) and to sample each foot of core at this time. In addition to the foot by foot sampling, several additional points were selected for sieve analysis.

Sample Preparation

Horizontally oriented one-inch diameter plug samples were drilled from each foot of the chilled core sections. Cold nitrogen vapor was used as the bit coolant.

Each plug was placed in a thin-walled metal jacket and fitted with 120 mesh end-screens. The jackets were set to the plugs under hydrostatic loading conditions at a pressure equal to 2000 psig.



Analysis Techniques

Fluid Extraction

Water and some oil was extracted by Dean Stark methods using toluene as the solvent. The samples were kept in the Dean Stark extractors for a minimum of sixteen hours and were removed only after no further water was recovered in the receiving tubes.

Once the water had been removed from the samples, they were placed into Soxhlet extractors for complete hydrocarbon extraction with methylene chloride as the solvent. When the methylene chloride showed no discoloration the samples were removed from the Soxhlets, placed into a convection oven and dried at 240°F until stable weights were attained. Prior to analysis the samples were cooled to laboratory temperature in a desiccator.

Grain Density Determination (Dean Stark Analysis)

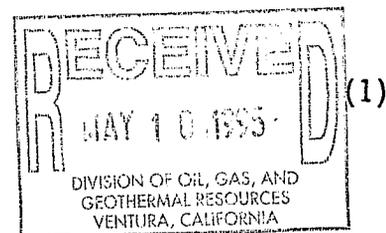
Grain volume determinations were performed using an extended range helium porosimeter utilizing Boyle's Law. Metal jacket and end-screen weight and volume corrections were applied to the jacketed samples. Grain density was calculated using Equation 1.

$$D_{ma} = M_g / V_g$$

Where: D_{ma} = Grain Density

M_g = Grain Mass

V_g = Grain Volume

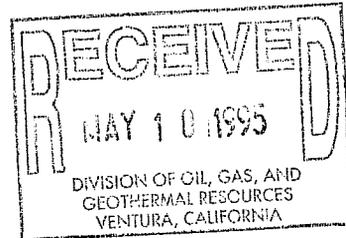


Porosity Determination (Dean Stark Analysis)

Each sample was loaded into a hassler core holder and a 400 psig confining pressure was applied. Direct pore volume measurements were made utilizing Boyle's Law methods with helium as the gaseous medium. Porosity was calculated using Equation 2.

$$\phi = [V_p / (V_p + V_g)] \times 100 \quad (2)$$

Where: ϕ = Porosity, Percent
 V_p = Pore Volume
 V_g = Grain Volume



Fluid Saturation Determination

Oil and water saturations were calculated by Dean Stark methods by using Equations 3 and 4.

$$S_o = [((W_1 - W_2 - H_2O)/D_o)/V_p] \times 100 \quad (3)$$

$$S_w = [H_2O/V_p] \times 100 \quad (4)$$

Where: S_o = Oil Saturation, Percent
 S_w = Water Saturation, Percent
 W_1 = Natural Weight
 W_2 = Extracted and Dried Weight
 H_2O = Extracted Water, Density Assumed 1.0 gm/cc
 D_o = Density of Oil, 13 API°
 V_p = Pore Volume

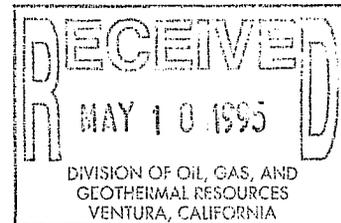
Permeability to Air

Permeability determinations for the sample plugs were made following the pore volume determinations. The samples were confined in Hassler holders again using a confining pressure of 400 psig. Permeability values were calculated utilizing Darcy's Equation for compressible fluids, Equation 5.

$$K_a = \frac{P_a v_g (1000)}{(P_1 - P_2) \frac{(P_1 + P_2)}{2}} \times \frac{Q_a \times L^2}{V_b} \quad (5)$$

Where:

- K_a = Permeability to Air
- v_g = Gas Viscosity
- $P_1 - P_2$ = Differential Pressure
- $\frac{(P_1 + P_2)}{2}$ = Mean Pressure
- P_a = Atmospheric Pressure
- Q_a = Flow Rate
- L = Length
- V_b = Bulk Volume



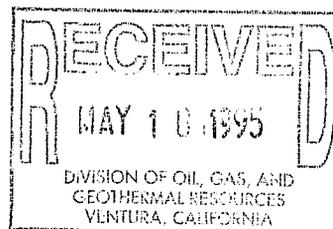
Hydraulic Unit Analysis

After all rock property measurements had been completed, a hydraulic unit analysis was performed. Reservoir quality index (average pore throat size) and pore ratio values were calculated for each sample using Equations 6 and 7 respectively.

$$RQI = 0.0314 \times \text{SQRT}(K/\text{PHI}) \quad (6)$$

$$PR = \text{PHI}/(1-\text{PHI}) \quad (7)$$

Where: RQI = Reservoir Quality Index
K = Permeability to Air
PHI = Fractional Porosity
PR = Pore Ratio



The RQI and PR values were then cross-plotted on a log-log scale and the data grouped into hydraulic units. Each hydraulic unit represents a unique pore geometry relationship and provides the foundation for the integration of core and electric log data. The results are presented in two tabulated formats in order to make representative sample selection for any additional testing easier. The data is first presented sorted by depth and then presented sorted by hydraulic unit.

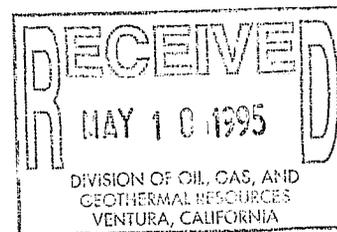
Laser Particle Size Analysis

The three composite samples were disaggregated using a mortar and teflon-tipped pestle. The sample material is then passed through a series of five screens graduated at 0.5 phi intervals to determine the quantity and size distribution of any material greater than 20 mesh (.033"). The portion of sample remaining on each of the screens is weighed to the nearest hundredth of a gram and the weight recorded.

The size distribution of material passing the 20 mesh sieve is determined using laser diffraction techniques (modified ASTM D-4464). The sample is dispersed in a liquid medium and repeatedly passed through a laser beam. The resultant dispersion patterns are recorded and analyzed by computer. Laser results are combined with the sieve data and are presented in tabular and graphic forms.

Sample Disposition

The core is stored chilled at a commercial warehouse in Bakersfield, California pending instructions for additional work or permanent storage arrangements.



CORE LABORATORIES

Company : SOUTHERN CALIFORNIA GAS COMPANY
 Well : STANDARD-SESNON SS-3
 Location : SEC.28-T4N/R16W
 Co.State : LOS ANGELES COUNTY, CA

Field : ALISO CANYON FIELD
 Formation : SESNON
 Coring Fluid : WATER BASED
 Elevation : 2680'GR

File No. : 94293
 Date : 14-DEC-94
 API No. : 04-037-00756
 Analysts: BAKERSFIELD

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) K _{air} md	POROSITY (HELLUM) %	SATURATION		TOTAL FLUIDS	OIL WATER RATIO	GRAIN DENSITY gm/cc	DESCRIPTION
				(PORE VOLUME) OIL %	WATER %				
1	8747.6	0.25	12.9	1.4	64.9	66.2	0.02	2.70	Sltst gry-brn shly calc m sp stn dull gld flu
2	8748.8	39	23.6	28.2	26.4	54.6	1.07	2.66	Sst brn vfgr sity m stn dull gld flu
3	8749.7	1.9	14.6	23.2	32.4	55.6	0.72	2.67	Sst brn vfgr v sity calc sltst inc m stn dull gld flu
4	8750.5	3.6	19.0	28.4	32.1	60.5	0.89	2.65	Sst brn vf-fgr v sity dk stn v dull gld flu
5	8751.7	0.24	19.4	24.5	29.7	54.2	0.82	2.69	Sst lt brn vfgr v sity m stn v dull gld flu
6	8777.3	11	21.1	29.3	33.4	62.6	0.88	2.65	Sst brn vfgr sity dk stn v dull gld flu
7	8778.6	11	23.6	31.1	22.5	53.6	1.38	2.66	Sst brn vf-fgr sity dk stn v dull gld flu
8	8779.2	13	22.2	37.2	24.7	61.9	1.51	2.66	Sst brn vf-fgr sity dk stn v dull gld flu
9	8780.3	7.7	23.5	31.6	24.8	56.3	1.27	2.66	Sst brn vf-fgr v sity dk stn v dull gld flu
10	8781.2	2.3	19.4	38.7	31.8	70.5	1.22	2.67	Sst brn vfgr v sity dk stn v dull gld flu
11	8782.3	0.36	25.2	9.3	32.4	41.8	0.29	2.68	Sst brn vf-fgr v sity dk stn v dull gld flu
12	8783.0	0.05	12.6	2.2	63.3	65.5	0.04	2.70	Sltst gry-brn shly calc lt sp stn v dull or flu
13	8791.5	0.02	11.2	3.3	56.2	59.5	0.06	2.71	Sltst tn shly calc lt stn v dull or flu
14	8792.6	0.11	14.6	15.6	50.2	65.8	0.31	2.68	Sst lt brn vfgr v sity lt stn dull gld flu
15	8811.5	83	22.9	16.3	45.2	61.6	0.36	2.65	Sst brn vfgr sity m stn v dull gld flu
16	8812.6	38	20.8	14.4	48.0	62.4	0.30	2.65	Sst brn vfgr sity m stn v dull gld flu
17	8813.4	23	22.1	11.4	47.7	59.1	0.24	2.66	Sst brn vfgr sity m stn v dull gld flu
18	8821.5	0.57	15.3	14.7	36.9	51.6	0.40	2.67	Sst lt brn vfgr v sity m stn dull gld flu
19	8822.5	32	22.8	12.8	30.9	43.7	0.41	2.67	Sst tn vfgr sity lt stn dull gld flu
20	8823.4	0.15	11.0	1.0	60.7	61.7	0.02	2.67	Sltst gry-brn shly calc lt sp stn dull gld flu
21	8824.5	0.09	11.4	1.0	53.0	54.0	0.02	2.68	Sltst gry-brn shly calc lt sp stn dull gld flu
22	8825.4	0.02	5.4	0.0	44.6	44.6	0.00	2.73	Sltst gry shly calc no stn no flu
23	8826.3	0.64	17.5	10.6	46.2	56.8	0.23	2.68	Sst brn vfgr v sity shly lam m stn dull gld flu
24	8827.5	0.58	17.1	16.3	52.7	69.0	0.31	2.69	Sst lt brn vfgr v sity m stn dull gld flu
25	8831.5	0.09	23.2	12.7	36.8	49.4	0.34	2.66	Sst brn vfgr v sity m stn dull gld flu
26	8832.5	24	10.6	5.6	66.6	72.2	0.08	2.69	Sst gry-brn shly calc lt spst stn gld flu
27	8833.3	0.82	17.7	13.3	42.0	55.3	0.32	2.68	Sst lt brn vfgr v sity m stn dull gld flu

CORE LABORATORIES

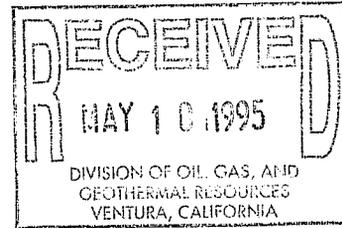
Company : SOUTHERN CALIFORNIA GAS COMPANY
 Well : STANDARD-SESNON SS-3

Field Formation : ALISO CANYON FIELD
 : SESNON

File No.: 94293
 Date : 14-DEC-94

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) K _{air} md	POROSITY (HELIUM) %	SATURATION		TOTAL FLUIDS	OIL WATER RATIO	GRAIN DENSITY gm/cc	DESCRIPTION
				(PORE VOLUME) OIL %	WATER %				
28	8834.5	0.86	16.5	15.7	42.8	58.5	0.37	2.67	Sst lt brn vfgr v slty m stn dull gld flu
29	8835.6	0.72	16.7	13.6	47.3	60.9	0.29	2.68	Sst lt brn vfgr v slty m stn dull gld flu
30	8836.6	0.12	8.2	9.4	30.9	40.3	0.31	2.69	Sst lt brn-gry vfgr v slty lg slt lam v calc m stn dull
31	8837.5	0.04	9.6	2.4	63.8	66.1	0.04	2.69	Sltst gry-tn calc lt sp stn gld flu
32	8838.5	0.54	12.0	0.0	64.4	64.4	0.00	2.71	Sltst gry v calc no stn no flu
33	8839.5	0.04	9.1	0.0	73.5	73.5	0.00	2.73	Sltst gry shly v calc no stn no flu
34	8840.5	0.12	12.1	0.0	77.5	77.5	0.00	2.71	Sltst gry v calc no stn no flu



CORE LABORATORIES

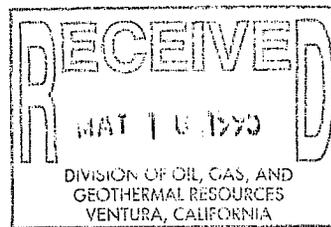
Company : SOUTHERN CALIFORNIA GAS COMPANY
 Well : STANDARD-SESNON SS-3
 Location : SEC.28-T4N/R16W
 Co.State : LOS ANGELES COUNTY, CA

Field : ALISO CANYON FIELD
 Formation : SESNON
 Coring Fluid : WATER BASED
 Elevation : 2680'GR

File No.: 94293
 Date : 14-DEC-94
 API No. : 04-037-00756
 Analysts: BAKERSFIELD

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION		TOTAL FLUIDS	OIL WATER RATIO	GRAIN DENSITY gm/cc	DESCRIPTION
				(PORE VOLUME) OIL %	WATER %				
1	8814.0	41	23.9	18.3	37.3	55.6	0.49	2.66	Sst lt brn vf-gr v silty lt stn dull or flu
2	8815.0	3.3	23.8	19.2	42.5	61.7	0.45	2.68	Sst lt brn vfgr v silty lt stn dull or flu
3	8817.0	21	26.6	14.0	54.7	68.6	0.26	2.66	Sst lt brn vfgr v silty lt stn dull or flu
4	8821.0	9.8	25.1	14.4	51.8	66.2	0.28	2.66	Sst lt brn vfgr v silty lt stn dull or flu
5	8824.0	19	27.5	15.9	61.1	77.0	0.26	2.67	Sst lt brn vfgr v silty lt stn dull or flu





CORE LABORATORIES

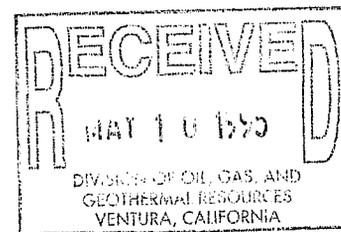
Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESSNON SS-3
ALISO CANYON FILED

File Number 57111-94293
Date 1/5/95

Hydraulic Unit I.D.

Sample	Depth (feet)	Flow Zone Indicator	Reservoir Quality Index	Hydraulic Unit
1	8747.6	0.2983	0.044	8
2	8748.8	1.3013	0.402	11
3	8749.7	0.6619	0.113	10
4	8750.5	0.5853	0.137	10
5	8751.7	0.1460	0.035	7
6	8777.3	0.8517	0.227	10
7	8778.6	0.7056	0.217	10
8	8779.2	0.8520	0.243	10
9	8780.3	0.5857	0.180	10
10	8781.2	0.4494	0.108	9
11	8782.3	0.1115	0.038	6
12	8783.0	0.1363	0.020	7
13	8791.5	0.1015	0.013	6
14	8792.6	0.1604	0.027	7
15	8811.5	2.0127	0.597	12
16	8812.6	1.6241	0.425	12
17	8813.4	1.1342	0.322	11
18	8821.5	0.3335	0.060	8
19	8822.5	1.2696	0.374	11
20	8823.4	0.3014	0.037	8
21	8824.5	0.2148	0.028	8
22	8825.4	0.3237	0.019	8
23	8826.3	0.2820	0.060	8
24	8827.5	0.2805	0.058	8
25	8831.5	0.0644	0.019	5
26	8832.5	3.9719	0.470	13
27	8833.3	0.3135	0.067	8
28	8834.5	0.3627	0.072	9
29	8835.6	0.3257	0.065	8
30	8836.6	0.4321	0.039	9
31	8837.5	0.1903	0.020	7
32	8838.5	0.4887	0.067	9
33	8839.5	0.1969	0.020	7
34	8840.5	0.2245	0.031	8





CORE LABORATORIES

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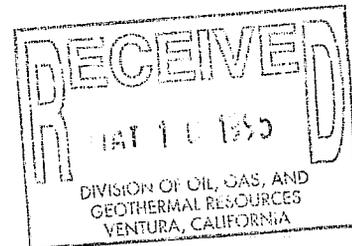
SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESSNON SS-3
ALISO CANYON FILED

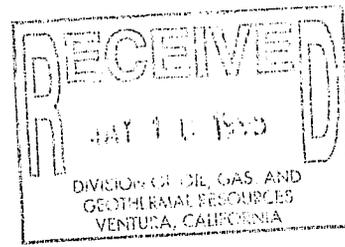
File Number 57111-94293
Date 1/5/95

Hydraulic Unit I.D.

SORTED BY HYDRAULIC UNIT

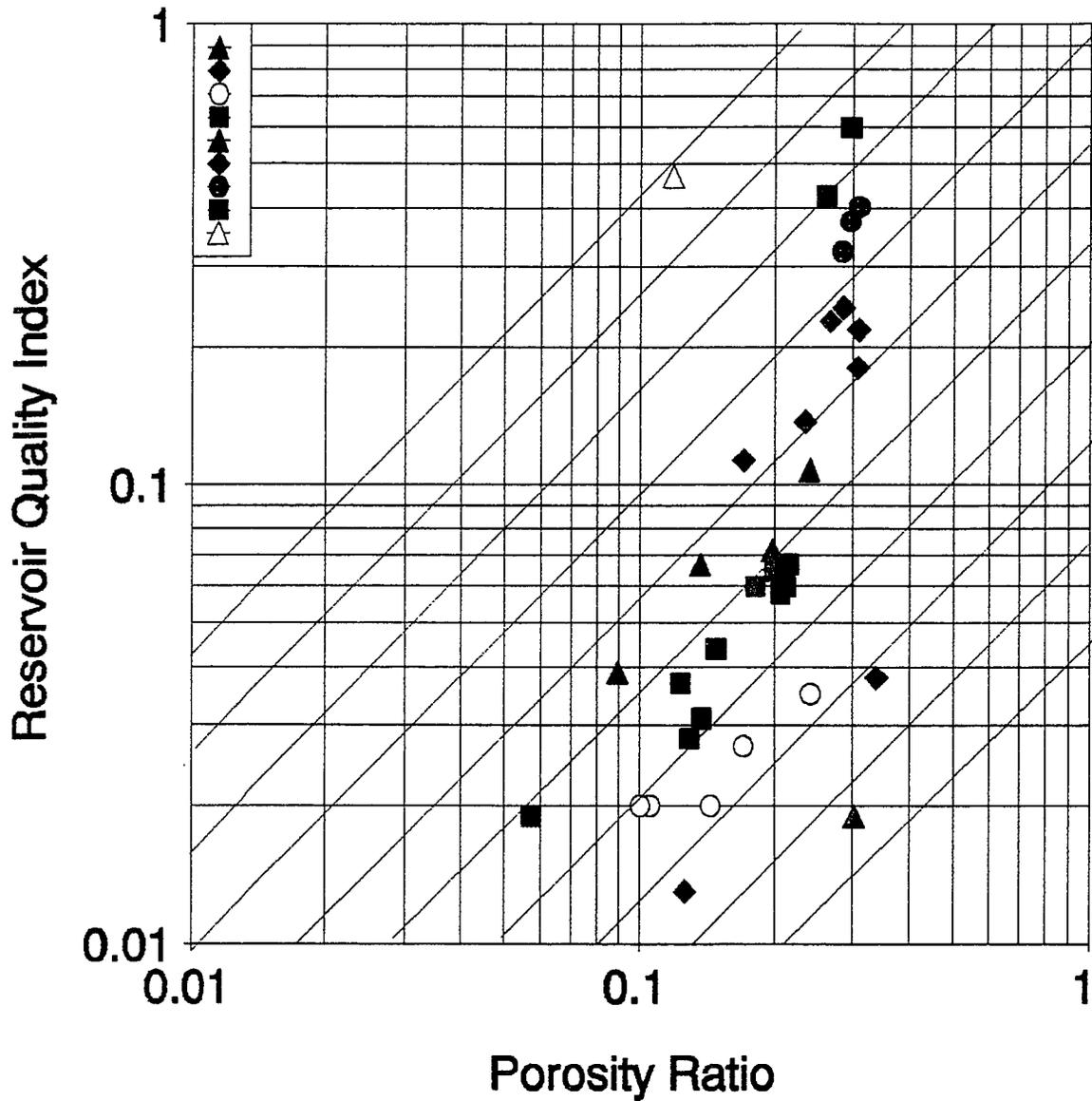
Sample	Depth (feet)	Flow Zone Indicator	Reservoir Quality Index	Hydraulic Unit
25	8831.5	0.0644	0.019	5
13	8791.5	0.1015	0.013	6
11	8782.3	0.1115	0.038	6
12	8783.0	0.1363	0.020	7
5	8751.7	0.1460	0.035	7
14	8792.6	0.1604	0.027	7
31	8837.5	0.1903	0.020	7
33	8839.5	0.1969	0.020	7
21	8824.5	0.2148	0.028	8
34	8840.5	0.2245	0.031	8
24	8827.5	0.2805	0.058	8
23	8826.3	0.2820	0.060	8
1	8747.6	0.2983	0.044	8
20	8823.4	0.3014	0.037	8
27	8833.3	0.3135	0.067	8
22	8825.4	0.3237	0.019	8
29	8835.6	0.3257	0.065	8
18	8821.5	0.3335	0.060	8
28	8834.5	0.3627	0.072	9
30	8836.6	0.4321	0.039	9
10	8781.2	0.4494	0.108	9
32	8838.5	0.4887	0.067	9
4	8750.5	0.5853	0.137	10
9	8780.3	0.5857	0.180	10
3	8749.7	0.6619	0.113	10
7	8778.6	0.7056	0.217	10
6	8777.3	0.8517	0.227	10
8	8779.2	0.8520	0.243	10
17	8813.4	1.1342	0.322	11
19	8822.5	1.2696	0.374	11
2	8748.8	1.3013	0.402	11
16	8812.6	1.6241	0.425	12
15	8811.5	2.0127	0.597	12
26	8832.5	3.9719	0.470	13

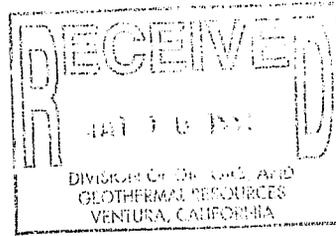




Hydraulic Unit I.D.

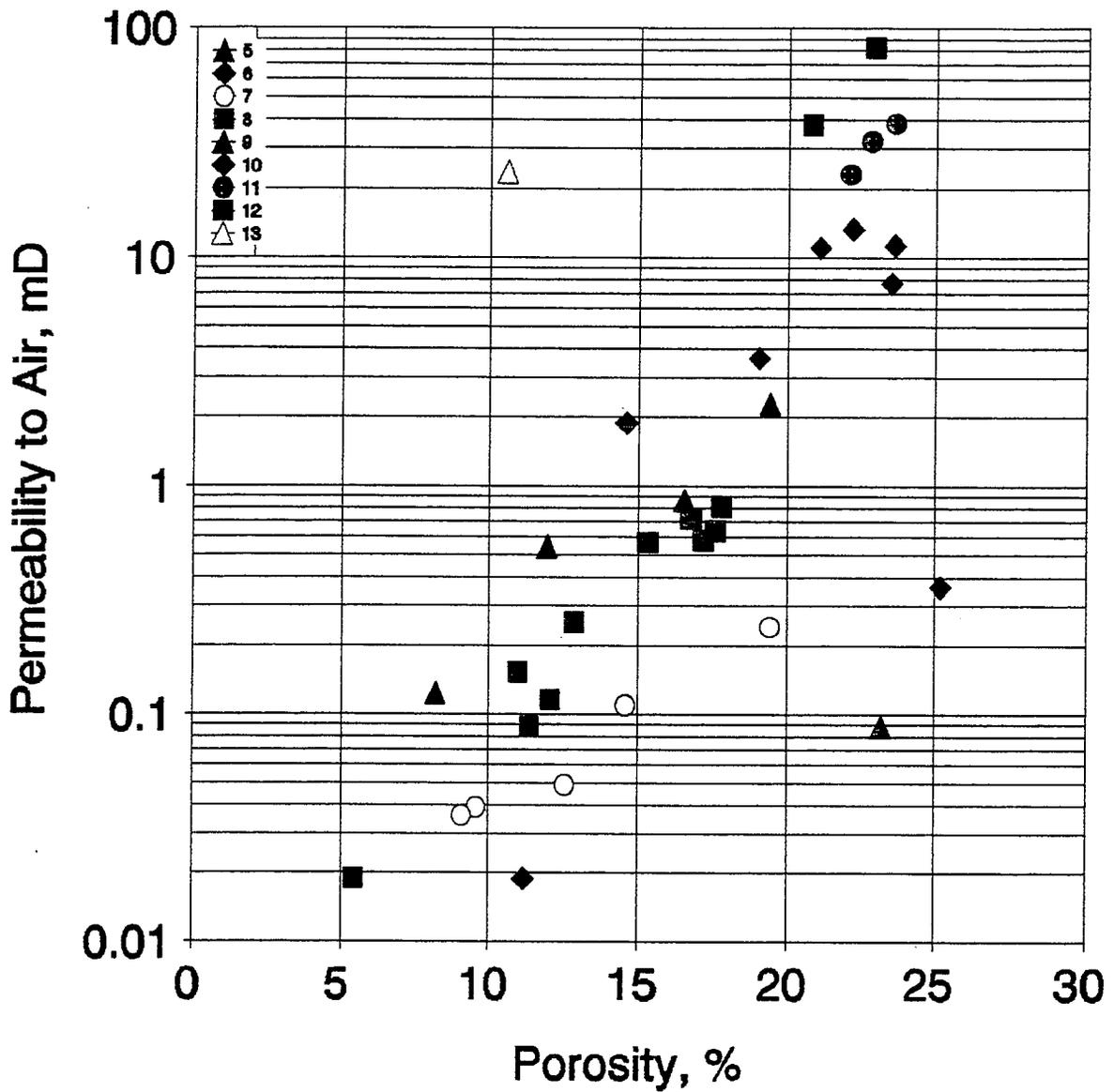
Standard-Sessnon SS-3





Permeability vs. Porosity

Standard-Session SS-3





PETROLEUM SERVICES

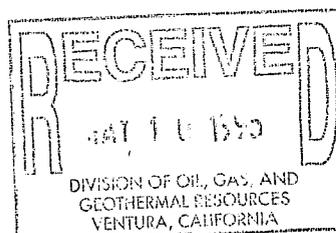
Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESSNON SS-3
ALISO CANYON FILED

File Number 57111-94293
Date 1/5/95

Core Inventory

Core	Cored Interval (feet)	Recovery	Box	Depth (feet)
1	8747-8777	5'	1	8747-8748.8
2	8777-8791	6.8'	2	8748.8-8752.0
			3	8777-8780.3
			4	8780.3-8783.3
3	8791-8811	1.5'	5	8791-8792.5
4	8811-8821	2.6'	6	8811-8813.6
5	8821-8831	7.0'	7	8821-8822
			8	8822-8825
			9	8825-8828
			10	8831-8834.1
			11	8834.1-8837.1
			12	8837.1-8840.1
			13	8840.1-8840.5
6	8831-8852	9.5'		





**CORE
LABORATORIES**

EpiLog®

COMPANY SOUTHERN CALIFORNIA GAS COMPANY
 WELL STANDARD-SESNON SS-3
 FIELD ALISO CANYON FIELD
 COUNTY LOS ANGELES COUNTY STATE CALIFORNIA
 COUNTRY U.S.A.
 LOCATION: LSD SEC 28 TWP 4N RGE 16W
 ELEVATION: KB DF GL 2680'
 DATE 27-DEC-1994 FILE NO. 57111-94293

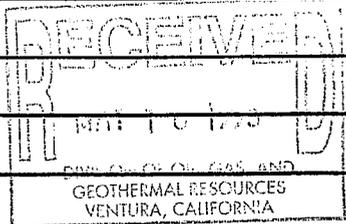
In making interpretations of logs our employees will give Customer the benefit of their best judgment, but since all interpretations are opinions based on inferences from electrical or other measurements. We cannot, and we do not guarantee the accuracy or the correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the Customer resulting from any interpretation made by any of our employees.

Computation	Formation: SESNON		Program: ROCKPROP
	Center: BAKERSFIELD	Analyst: JS RC	Date: 27-DEC-1994
Field Data	Core Fluid: WATER BASED	Core Equip: P.V.C.	Core Dia: 2.6"

REMARKS:

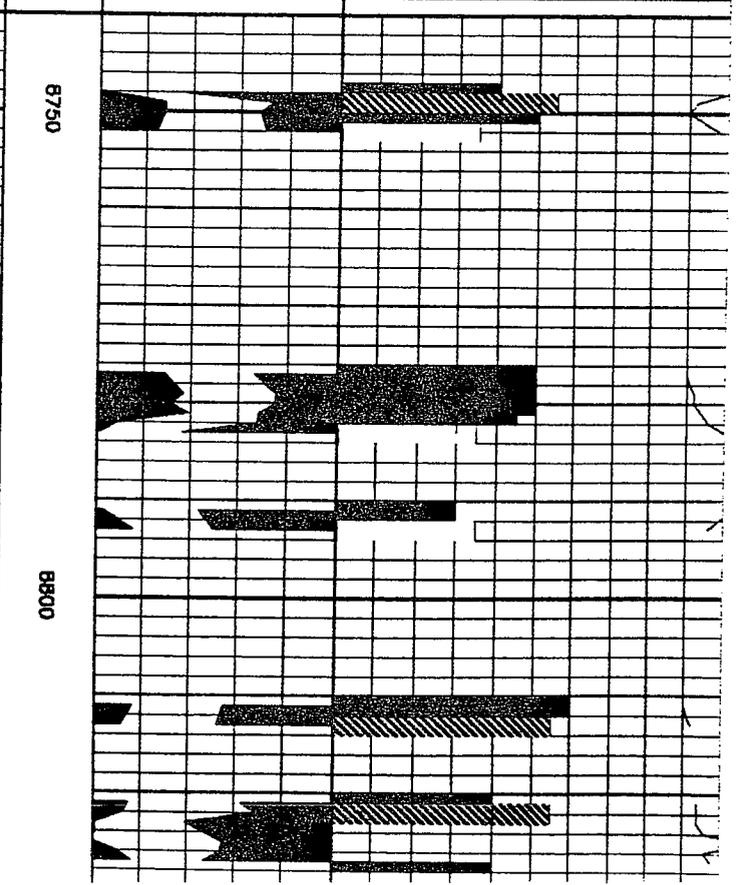
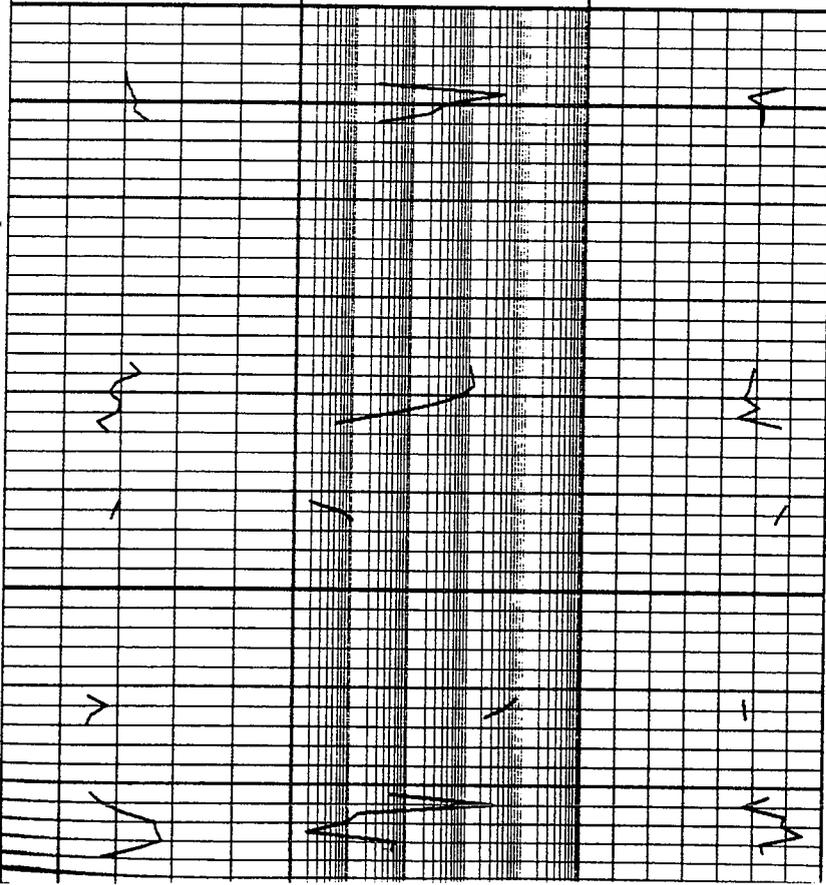
SCALE: 5" = 100'

INTERVAL: 8740' TO 8860'



TOTAL CORE GAMMA		PERMEABILITY		POROSITY		DEPTH	RESIDUAL CORE SATURATIONS		HYDRAULIC UNITS	
CORE GAMMA API	150	PERMEABILITY HORIZONTAL mD	1000	POROSITY HELIUM %	70		OIL %	100	GRAIN DENSITY gm/cc	2.20
0		.01			0	0				
							100	0		
										HYD UNIT 4
										HYD UNIT 5
										HYD UNIT 6
										HYD UNIT 7
										HYD UNIT 8
										HYD UNIT 9
										HYD UNIT 10
										HYD UNIT 11
										HYD UNIT 12
										HYD UNIT 13
										HYD UNIT 14

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CORE GAMMA API		PERMEABILITY HORIZONTAL mD		POROSITY HELIUM %		OIL %		GRAIN DENSITY gm/cc	
0	150	.01	1000	70	0	0	100	2.20	2.70
						WATER %			
						100		0	
						OIL		HYD UNIT 4	
						WATER		HYD UNIT 5	
								HYD UNIT 6	
								HYD UNIT 7	
								HYD UNIT 8	
								HYD UNIT 9	
								HYD UNIT 10	
								HYD UNIT 11	
								HYD UNIT 12	
								HYD UNIT 13	
								HYD UNIT 14	
TOTAL CORE GAMMA		PERMEABILITY		POROSITY		DEPTH		RESIDUAL CORE SATURATIONS	
								HYDRAULIC UNITS	

8850

COMPANY	SOUTHERN CALIFORNIA GAS COMPANY		
WELL	STANDARD-SESNON SS-3		
FIELD	ALISO CANYON FIELD		
COUNTY	LOS ANGELES	STATE	CALIFORNIA



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SOUTHERN CALIFORNIA



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SOUTHERN CALIFORNIA GAS COMPANY

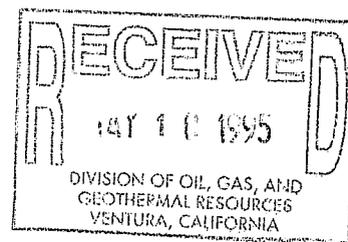
CORE ANALYSIS RESULTS

"STANDARD-SESNON" SS-3 WELL

**ALISO CANYON FIELD
LOS ANGELES COUNTY, CA**

CL FILE #094293

**PERFORMED BY:
CORE LABORATORIES
3430 UNICORN ROAD
BAKERSFIELD, CA 93308
(805) 392-8600**



**FINAL REPORT PRESENTED
DECEMBER 28, 1994**

INTRODUCTION

Core Laboratories was selected by Southern California Gas Company to perform a pressure decay profile permeameter study upon core material recovered from the Aliso Canyon Field, Los Angeles County, California. Aluminum barrel cores were submitted. Presented herein are the results of this analysis.

We appreciate this opportunity to be of service and hope these data prove beneficial in the development of this reservoir.

Description of Services

Pressure Decay Profile Permeameter (PDPK)

The PDPK determines the permeability of a sample by unsteady-state methods using a transient "blowdown" technique. A tank of known volume is first filled with nitrogen and then the gas is discharged through the core sample to atmosphere. The decaying tank pressure is monitored versus time which allows determination of gas flow rate and pressure drop across the sample at any given time. The automated recording of flow rate versus pressure differential provides the data necessary for calculation of a Klinkenberg-corrected permeability as well as the permeability to air. The results of analysis are reported in both tabular and graphic formats.



CORE LABORATORIES

Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESNON SS-3
ALISO CANYON FIELD

File Number 57111-94293
Date 12/4/94

Profile Permeameter

Sample	Depth (feet)	Perm	Perm	Core I.D.
		Air mD	Klinkenberg mD	
1	8748.191	1.610	1.150	C-1
2	8748.322	16.500	14.300	C-1
3	8748.401	58.300	53.100	C-1
4	8748.498	53.900	48.900	C-1
5	8748.703	7.070	5.760	C-1
6	8748.803	10.100	8.440	C-1
7	8748.901	6.270	5.050	C-1
8	8748.982	4.280	3.350	C-1
9	8749.059	1.910	1.400	C-1
10	8749.156	3.510	2.700	C-1
11	8749.204	1.020	0.701	C-1
12	8749.327	0.134	0.065	C-1
13	8749.406	2.360	1.770	C-1
14	8749.476	3.000	2.290	C-1
15	8749.538	0.063	0.025	C-1
16	8749.640	0.905	0.613	C-1
17	8749.737	1.150	0.796	C-1
18	8749.795	1.570	1.130	C-1
19	8750.113	0.123	0.059	C-1
20	8750.211	0.335	0.196	C-1
21	8750.284	0.090	0.040	C-1
22	8750.380	2.450	1.840	C-1
23	8750.481	6.230	5.020	C-1
24	8751.195	1.290	0.912	C-1
25	8751.300	0.792	0.529	C-1
26	8751.390	0.276	0.156	C-1
27	8752.090	0.022	0.006	C-2
28	8777.612	49.200	44.700	C-2
29	8777.918	6.300	5.090	C-2
30	8778.022	10.600	8.900	C-2
31	8778.080	9.490	7.910	C-2
32	8778.308	2.460	1.850	C-2
33	8778.408	0.957	0.649	C-2
34	8778.505	14.100	12.000	C-2
35	8778.541	0.480	0.299	C-2

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Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESNON SS-3
ALISO CANYON FIELD

File Number 57111-94293
Date 12/4/94

Profile Permeameter

Sample	Depth (feet)	Perm	Perm	Core I.D.
		Air mD	Klinkenberg mD	
36	8779.303	1.330	0.927	C-2
37	8780.071	1.830	1.340	C-2
38	8780.170	1.570	1.130	C-2
39	8780.272	25.700	22.700	C-2
40	8780.481	2.150	1.590	C-2
41	8780.562	160.000	151.000	C-2
42	8781.227	41.100	36.800	C-2
43	8781.814	12.900	11.000	C-2
44	8781.915	2.830	2.150	C-2
45	8782.015	1.560	1.120	C-2
46	8782.115	45.200	40.600	C-2
47	8782.215	1.910	1.400	C-2
48	8782.312	2.800	2.130	C-2
49	8782.390	2.180	1.620	C-2
50	8783.603	1.240	0.875	C-2
51	8783.704	1.100	0.760	C-2
52	8783.803	0.827	0.556	C-2
53	8783.808	0.766	0.509	C-3
54	8791.356	11.200	9.420	C-3
55	8791.457	1.190	0.832	C-3
56	8791.494	1.780	1.300	C-3
57	8791.597	1.360	0.968	C-3
58	8791.697	12.600	10.700	C-3
59	8791.795	1.180	0.829	C-3
60	8791.894	0.436	0.267	C-3
61	8791.930	0.304	0.175	C-3
62	8792.068	1.030	0.708	C-3
63	8792.171	1.490	1.070	C-3
64	8792.272	1.140	0.793	C-3
65	8792.272	0.347	0.205	C-3
66	8792.393	0.598	0.385	C-3
67	8792.492	1.150	0.803	C-3
68	8792.590	0.669	0.436	C-4
69	8811.050	7.300	5.950	C-4
70	8811.149	1.040	0.714	C-4

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CORE LABORATORIES

Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESNON SS-3
ALISO CANYON FIELD

File Number 57111-94293
Date 12/4/94

Profile Permeameter

Sample	Depth (feet)	Perm	Perm	Core I.D.
		Air mD	Klinkenberg mD	
71	8811.218	0.302	0.174	C-4
72	8811.296	1.980	1.460	C-4
73	8811.362	2.790	2.120	C-4
74	8811.455	7.890	6.470	C-4
75	8811.502	22.400	19.600	C-4
76	8811.583	13.100	11.200	C-4
77	8811.682	9.390	7.810	C-4
78	8811.782	35.000	31.200	C-4
79	8811.881	22.600	19.800	C-4
80	8811.908	42.200	38.000	C-4
81	8811.971	41.600	37.400	C-4
82	8812.045	25.000	22.000	C-4
83	8812.132	137.000	129.000	C-4
84	8812.273	69.800	64.000	C-4
85	8812.451	45.900	41.500	C-4
86	8812.551	63.500	58.000	C-4
87	8812.643	19.300	16.700	C-4
88	8812.770	44.900	40.500	C-4
89	8812.869	58.900	53.700	C-4
90	8812.966	61.900	56.500	C-4
91	8813.068	70.400	64.600	C-4
92	8813.428	59.300	54.100	C-4
93	8822.133	1.180	0.822	C-5
94	8822.265	7.260	5.930	C-5
95	8822.356	1.480	1.060	C-5
96	8822.412	1.190	0.836	C-5
97	8822.513	1.700	1.230	C-5
98	8822.523	1.970	1.450	C-5
99	8822.582	1.050	0.724	C-5
100	8822.590	1.060	0.730	C-5
101	8822.909	1.040	0.714	C-5
102	8823.009	49.400	44.600	C-5
103	8823.136	1.170	0.818	C-5
104	8823.237	1.020	0.698	C-5
105	8823.335	0.829	0.557	C-5

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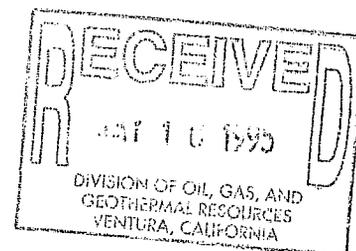
Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESNON SS-3
ALISO CANYON FIELD

File Number 57111-94293
Date 12/4/94

Profile Permeameter

Sample	Depth (feet)	Perm	Perm	Core I.D.
		Air mD	Klinkenberg mD	
106	8823.434	0.901	0.612	C-5
107	8823.517	1.060	0.734	C-5
108	8823.666	0.063	0.025	C-5
109	8825.218	0.131	0.063	C-5
110	8825.319	0.526	0.332	C-5
111	8825.566	1.280	0.905	C-5
112	8825.670	0.807	0.540	C-5
113	8825.766	7.710	6.310	C-5
114	8825.869	6.510	5.270	C-5
115	8826.249	0.460	0.281	C-5
116	8826.381	1.230	0.864	C-5
117	8826.478	0.954	0.650	C-5
118	8826.759	3.970	3.100	C-5
119	8827.554	3.500	2.690	C-6
120	8831.420	3.340	2.590	C-6
121	8831.504	15.200	13.000	C-6
122	8831.692	1.430	1.020	C-6
123	8832.065	7.610	6.220	C-6
124	8831.522	7.210	5.890	C-6
125	8831.621	2.930	2.240	C-6
126	8831.717	47.600	43.100	C-6
127	8831.818	29.300	25.900	C-6
128	8831.918	3.280	2.520	C-6
129	8832.120	7.640	6.250	C-6
130	8832.257	0.585	0.371	C-6
131	8832.556	1.140	0.794	C-6
132	8832.659	15.400	13.200	C-6
133	8832.720	16.400	14.100	C-6
134	8832.254	0.724	0.476	C-6
135	8832.357	0.598	0.385	C-6
136	8832.454	0.695	0.455	C-6
137	8832.547	1.270	0.893	C-6
138	8832.700	3.120	2.400	C-6
139	8832.799	4.060	3.170	C-6
140	8832.899	3.310	2.550	C-6



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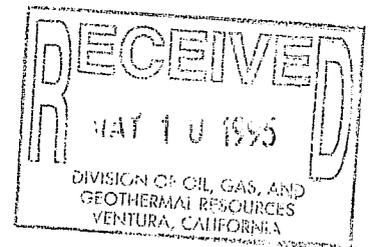
Company
Well
Field

SOUTHERN CALIFORNIA GAS COMPANY
STANDARD-SESNON SS-3
ALISO CANYON FIELD

File Number 57111-94293
Date 12/4/94

Profile Permeameter

Sample	Depth (feet)	Perm	Perm	Core I.D.
		Air mD	Klinkenberg mD	
141	8832.998	3.840	2.990	C-6
142	8833.100	2.950	2.260	C-6
143	8833.198	4.370	3.440	C-6
144	8833.298	3.430	2.650	C-6
145	8833.398	3.260	2.510	C-6
146	8833.497	1.850	1.350	C-6
147	8833.597	1.450	1.040	C-6
148	8833.696	1.800	1.320	C-6
149	8833.794	1.240	0.871	C-6
150	8833.894	1.170	0.814	C-6
151	8833.995	0.685	0.448	C-6
152	8834.020	0.626	0.403	C-6
153	8834.145	0.474	0.294	C-6
154	8834.245	1.250	0.879	C-6
155	8834.343	2.980	2.280	C-6
156	8834.444	2.760	2.100	C-6
157	8834.545	1.950	1.440	C-6
158	8834.645	1.140	0.788	C-6
159	8834.745	2.420	1.820	C-6
160	8834.843	1.280	0.909	C-6
161	8834.943	1.640	1.180	C-6
162	8835.041	2.560	1.940	C-6
163	8835.108	1.310	0.929	C-6
164	8835.321	1.840	1.350	C-6
165	8835.567	3.520	2.740	C-6
166	8835.668	7.770	6.380	C-6
167	8835.767	8.200	6.760	C-6
168	8835.866	6.310	5.090	C-6
169	8835.915	7.300	5.960	C-6
170	8837.322	0.331	0.193	C-6
171	8838.302	0.542	0.343	C-6
172	8838.402	0.236	0.129	C-6
173	8838.501	0.218	0.118	C-6
174	8838.600	0.470	0.291	C-6
175	8838.701	0.287	0.163	C-6



The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories.



**CORE
LABORATORIES**

epilog®

COMPANY SOUTHERN CALIFORNIA GAS COMPANY
 WELL STANDARD-SESNON SS-3
 FIELD ALISO CANYON FIELD
 COUNTY LOS ANGELES COUNTY STATE CALIFORNIA
 COUNTRY U.S.A.
 LOCATION: LSD SEC 28 TWP 4N RGE 16W
 ELEVATION: KB DF GL 2680'
 DATE 5-DEC-1994 FILE NO. 57111-94293

In making interpretations of logs our employees will give Customer the benefit of their best judgment, but since all interpretations are opinions based on inferences from electrical or other measurements. We cannot, and we do not guarantee the accuracy or the correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the Customer resulting from any interpretation made by any of our employees.

RECEIVED

Computation	Formation: SESNON	Program: ROCKPROP	
	Center: BAKERSFIELD	Analyst: JS RC	Date: 5-DEC-1994
Field Data	Core Fluid: WATER BASED	Core Equip: P.V.C.	Core Dia: 2.6" OIL, GAS, AND

VENTURA, CALIFORNIA

REMARKS:

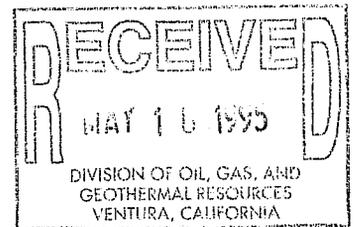
SCALE: 5" = 100'

INTERVAL: 8740' TO 8860'

COMPANY SOUTHERN CALIFORNIA GAS COMPANY
WELL STANDARD-SESNON SS-3
FIELD ALISO CANYON FIELD
COUNTY LOS ANGELES STATE CALIFORNIA



**CORE
LABORATORIES**



Report on Operations

M. A. Woiemberghe, Agent
Southern California Gas Co.
810 S. Flower St.
Los Angeles, CA 90017

Ventura, California
December 9, 1994

Your operations at well "Standard Sesnon" 3, API No. 037-00756,
Sec. 28, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County,
were witnessed on 12-08-94. Steve Mulqueen, representative of
the supervisor, was present from 1500 to 1600. There were also present
Jim Dayton, Drilling Engineer

Present condition of well: 13 3/8" cem 527'; 9 5/8" cem 6065'; 7" cem 8725', milled window
8691'-8703', drilled thru 8703'. TD (present hole) 8962'. Plugged w/cem 8958'-8587'.

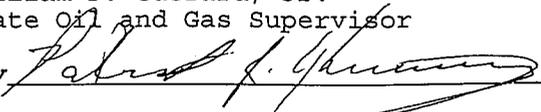
The operations were performed for the purpose of witness the location and hardness of a
cement plug placed below 8587'.

DECISION:

The plugging operations as witnessed and reported are approved.

svl

William F. Guerard, Jr.
State Oil and Gas Supervisor

By 

Patrick J. Kinnear
Deputy Supervisor

Report on Operations

M. A. Woiemberghe, Agent
Southern California Gas Co.
810 S. Flower St.
Los Angeles, CA 90017

Ventura, California
December 5, 1994

Your operations at well "Standard Sesnon" 3, API No. 037-00756,
Sec. 28, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County,
were witnessed on 11-27-94. Pete Wyqle, representative of
the supervisor, was present from 2100 to 2200. There were also present
S. McLean, SVC Contrator

Present condition of well: 13 3/8" cem 527'; 9 5/8" cem 6065'; 7" cem 8725' WSO; 5" ld
8720'-9034', perf 8729'-9034', cut & rec fr 8720'. TD 9038'. Plugged w/cem 8996'-8635'.

The operations were performed for the purpose of redrilling.

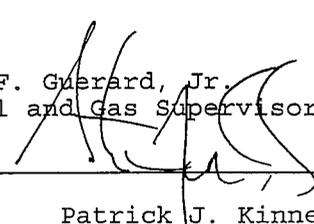
DECISION:

The location and hardness of the cement plug @ 8635' are approved.

svl

William F. Guerard, Jr.
State Oil and Gas Supervisor

By _____


Patrick J. Kinnear
Deputy Supervisor

Report on Operations

M. A. Woiemberghe, Agent
Southern California Gas Co.
810 S. Flower St.
Los Angeles, CA 90017

Ventura, California
November 22, 1994

Your operations at well "Standard Sesnon" 3, API No. 037-00756,
Sec. 28, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County,
were witnessed on 11-19-94. Fariba Neese, representative of
the supervisor, was present from 0000 to 0600. There were also present
Bruce Ellis, Operator's Rep.

Present condition of well: 13 3/8" cem 527'; 9 5/8" cem 6065'; 7" cem 8725', WSO 8725'; 5"
ld 8634'-9034', perfs 8729'-9034'. TD 9038'.

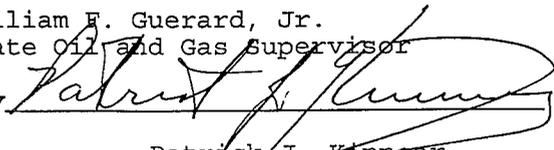
The operations were performed for the purpose of testing the blowout prevention equipment and installation.

DECISION:

The blowout prevention equipment and its installation on the 7" casing are approved.

svl

William F. Guerard, Jr.
State Oil and Gas Supervisor

By 

Patrick J. Kinnear
Deputy Supervisor

PERMIT TO CONDUCT WELL OPERATIONS

010
(field code)
00
(area code)
30
(new pool code)
30
(old pool code)

M. A. Woiemberghe, Agent
Southern California Gas Company
810 S. Flower St.
Los Angeles, CA. 90017

Ventura, California
November 1, 1994

Your proposal to plug back and redrill well "Standard Sesnon" 3, A.P.I. No. 037-00756-02, Section 28, T. 3N, R. 16W, S.B. B.&M., Aliso Canyon field, ----- area, Sesnon-Frew pool, Los Angeles County, dated 10/28/94, received 10/31/94, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOGGR Class IIIB 5M requirements shall be installed and maintained in operating condition at all times during during redrilling operations.
2. Drilling fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. A diligent effort shall be made to clean out the well to at least 9034'.
4. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet.
5. This office shall be consulted before sidetracking the well or running any additional casing.
6. If extensive, unplanned drill pipe operations occur (such as fishing, milling, etc.) and there is a possibility of casing damage, the casing must be pressure-tested prior to resuming normal operations. This Division must be notified to witness the test.
8. Requirements specified in our approval of the gas storage project dated July 26, 1989 shall apply.
9. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
10. THIS DIVISION SHALL BE NOTIFIED:
 - a. To witness a pressure test of the blowout prevention equipment prior to commencing redrilling operations.
 - b. To witness the placing of the cement plug from 9034' to 8665±' and from 8682' to 8665'±.
 - c. To witness a mechanical integrity test within three months after injection has commence.

Blanket Bond
SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

William F. Guerard, Jr.
State Oil and Gas Supervisor

By Patrick J. Kinnear

Patrick J. Kinnear
Deputy Supervisor

A copy of this permit and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

010
12/13/94
Sesnon
FACW
rd

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

**NOTICE OF INTENTION TO
REWORK WELL**

FOR DIVISION USE ONLY			
BOND	FORMS		EDP WELL
	OGD114	OGD121	FILE
BB	✓	✓	

This notice and an indemnity or cash bond must be filed, and approval given, before rework begins. (See the reverse side for bonding information.) If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well Standard Sesnon #3 (Well designation), API No. 037-00756 -DR

Sec. 28, T. 3N, R. 16W, SB B.&M., Aliso Canyon Field,
Los Angeles County.

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:

2. The total depth is: 9038 feet. The effective depth is: 9034 feet.

3. Present completion zone (s): Sesnon (Name). Anticipated completion zone (s): Same (Name).

4. Present zone pressure: 3200 psi. Anticipated/existing new zone pressure: _____ psi.

5. Last produced: Gas Storage Project (Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)
(or)

Last injected: _____ (Date) (Water, B/D) (Gas, Mcf/D) (Surface pressure, psig)

6. Is this a critical well according to the definition on the reverse side of this form? Yes No

The proposed work is as follows: (A complete program is preferred and may be attached.)

See Attached

RECEIVED

OCT 31 1994
DIVISION OF OIL, GAS, AND
GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

Note: If the well is to be redrilled, show the proposed bottom-hole coordinates and estimated true vertical depth. The Division must be notified if changes to this plan become necessary.

Name of Operator <u>Southern California Gas Co.</u>	Telephone Number <u>(213) 244-2665</u>
Address <u>P. O. Box 3249</u>	City <u>Los Angeles</u> Zip Code <u>90051-1249</u>
Name of Person Filing Notice <u>E. S. Sinclair</u>	Signature <u>[Signature]</u> Date <u>10/28/94</u>

File In Duplicate

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

NOTICE OF INTENTION TO REWORK WELL
Stand Sesnon #3

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:

0' -	527'		55#	
0' -	6065'	36#, 40#, &	43.5#	
0' -	8725'	23#, 26#, &	29#	7" Baker packer at 8655'.
8684' -	9034'	21#	J-55	Slotted 8729'-9034'.

The proposed work is as follows:

1. Rig up, install and test BOPE.
2. Pull 2-7/8" tubing.
3. Mill and remove 7" packer.
4. Mill down top of 5" liner to 8634'±.
5. Plug back with cement from 9034' to 8665'±.
6. Mill 50' section in 7" casing with top at 8682'±.
7. Core approximately 120' of formation.
8. Plugback cored hole with cement to 8682'.
9. Kick off and drill radius for horizontal section.
10. Drill approximately 1000' of 5-1/2" horizontal section.
11. Install 3-1/2" liner in curve and horizontal section.
12. Install 7" packer and production tubing.
13. Remove BOPE, install tubing head and return well to service.

RECEIVED

OCT 31 1994
DIVISION OF OIL, GAS, AND
GEOHERMAL RESOURCES
VENTURA, CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Ventura, California

November 6, 1991

R. D. Phillips, Agent
SOUTHERN CALIFORNIA GAS COMPANY
P.O. Drawer 3249 Mail Location 22GO
Los Angeles, CA 90051-1249

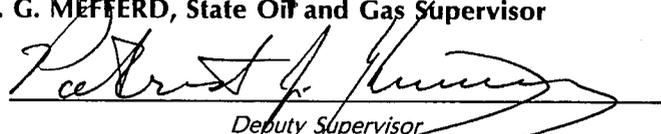
Your request, dated July 24, 1991, proposing to change the designation of well(s) in Sec. 28, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon field, Los Angeles County, District No. 2, has been received.

The proposed change in designation, in accordance with Section 3203, Public Resources Code, is authorized as follows:

<u>FROM</u>	<u>TO</u>
"SFZU" P-42A (037-21876)	"Porter" 42A (037-21876)
"SFZU" P-42B (037-21877)	"Porter" 42B (037-21877)
"SFZU" P-42C (037-21878)	"Porter" 42C (037-21878)
"SFZU" P-69A (037-22051)	"Porter" 69A (037-22051)
"SFZU" PS-42 (037-00753)	"Porter Sesnon" 42 (037-00753)
"SFZU" SS-1 (037-00754)	"Standard Sesnon" 1 (037-00754)
"SFZU" SS-2 (037-00755)	"Standard Sesnon" 2 (037-00755)
✓ "SFZU" SS-3 (037-00756)	"Standard Sesnon" 3 (037-00756)
"SFZU" SS-5 (037-00758)	"Standard Sesnon" 5 (037-00758)
"SFZU" SS-6 (037-00759)	"Standard Sesnon" 6 (037-00759)
"SFZU" SS-7 (037-00760)	"Standard Sesnon" 7 (037-00760)
"SFZU" SS-8 (037-00761)	"Standard Sesnon" 8 (037-00761)
"SFZU" SS-9 (037-00762)	"Standard Sesnon" 9 (037-00762)

M. G. MEFFERD, State Oil and Gas Supervisor

By



Deputy Supervisor

PATRICK J. KINNEAR

SUBMIT IN DUPLICATE
RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED

JUL 14 1977

History of Oil or Gas Well

SANTA PAULA, CALIFORNIA

Operator SOUTHERN CALIFORNIA GAS COMPANY Field or County Aliso Canyon
Well name and No. STANDARD SESNON #3 Sec. 28, T. 3N, R. 16W, S.B.B. & M.
A.P.I. well No. 037-00756 Name P. S. Magruder, Jr. Title Agent
Date July 11, 1977. (Person submitting report) (President, Secretary or Agent)

Signature P. S. Magruder, Jr.

P. O. Box 3249, Terminal Annex, Los Angeles, California 90051 (213) 689-3561
(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	
6-11-77	Pumped in 500 barrels of 63#/cu.ft. of polymer drilling fluid and killed well.
6-12-77	Idle.
6-13-77	Moved to Standard Sesnon #3. All equipment in place.
6-14-77	Rigged up. Pumped 30 barrels of drilling fluid in tubing and held at 1200 psi. Archer-Reed tried to pull gas valve at 8580'. Ran tubing perforator, perforated hole in tubing at 8554'. Used 325 barrels to fill casing and filled well with drilling fluid.
6-15-77	Installed plug in tubing hanger. Removed Christmas tree. Installed Class III 10" 5000 psi BOPE. Tested blind and pipe rams for 20 minutes at 4000 psi with water and nitrogen. Tested Hydril for 20 minutes at 3000 psi with water and nitrogen.
6-16-77	Attempted to release packer with pulls up to 90,000# but could not free packer. Ran McCullough chemical cutter to 8592' where it stuck in the gas lift mandrel. Worked cutter free, cut tubing at 8572'. Pulled tubing out of hole. Started in hole with fishing tools.
6-17-77	Jarred packer free and pulled out of hole. Recovered all tubing and packer. Bottom 60' of tubing showed helical buckling indicating packer failure. Ran in hole with 6" bit and scraper to 8686'.
6-18-77	Finished pulling 6" bit and 7" scraper. Ran in hole with 3 7/8" bit and casing scraper. Cleaned out fill from 9019' to 9034' (bottom of 5" liner).
6-19-77	Rig and crew idle.
6-20-77	Finished running in hole with Johnston 7" 23# bridge plug and set same at 8674'. Tested plug to 2000 psi for 15 minutes. Changed over to fresh water treated with surfactant for pressure testing casing. Pulled out and made up Johnston squeeze tool. Ran in to 2600' and pressure tested from 2600' to 8674' under 2500 psi for one hour - O.K. Rigged up to test from 2600' to surface.

6-21-77 Pressure tested 7" casing with B. J. Hughes, as follows:

2600'	to	Surface	with	2700	psi	for	60	minutes	-	O.K.
2300'	"	"	"	2900	psi	"	60	"	-	O.K.
1700'	"	"	"	3100	psi	"	60	"	-	O.K.
1000'	"	"	"	3400	psi	"	60	"	-	O.K.
750'	"	"	"	3600	psi	"	60	"	-	O.K.
250'	"	"	"	4000	psi	"	60	"	-	O.K.

Pulled out and made up Johnston Retriever. Ran in to top of bridge plug at 8674' and changed over to 63# drilling fluid.

6-22-77 Released Johnston bridge plug. Pulled out of hole. Rigged up Go-International, attempted to set Baker Retrieval-"D" packer but packer stopped at 5100'. Pulled packer. Made up OMT taper mill. Ran in and scraped 7" casing. Circulated clean at 8650'.

6-23-77 Rigged up and ran Baker production packer. Set packer at 8650'. Assembled Camco safety system. Hydrotesting in hole.

6-24-77 Continued hydrotesting in hole. Testing to 5000 psi for 1 minute. Spaced out and landed tubing with 10,000# on packer. Tested latch with 25,000# pull - O.K. Installed back pressure valve.

6-25-77 Removed BOPE. Tested Christmas tree and seals to 5000 psi - O.K. Changed over from 63# drilling fluid to lease water. Set tubing plug in "No-Go" nipple with Archer-Reed Wireline Services. Tested seals and packer to 2000 psi - O.K. Pulled plug from nipple.

6-26-77 Rig and crew idle.

DIVISION OF OIL AND GAS
RECEIVED

JUL 14 1977

SANTA PAULA, CALIFORNIA

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

pk

Report on Operations

No. T 277-140

Mr. P. S. Magruder, Jr., Agent
So. California Gas Co.
P.O. Box 54790 Terminal Annex
Los Angeles, Calif. 90054

Santa Paula, Calif.
July 11, 1977

DEAR SIR:

Operations at well No. "SEZU" SS-3, API No. 037-00756, Sec. 28, T. 3N, R. 16W,
S.B. B & M. Aliso Canyon Field, in Los Angeles County, were witnessed
on 6/15/77. Mr. P.R. Wygle, representative of the supervisor was
present from 1600 to 1800. There were also present A. Smith, foreman

Present condition of well No additions to the casing record since proposal dated 6/8/77.

The operations were performed for the purpose of testing the blowout prevention equipment
and installation.

DECISION:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

b

M. G. MEFFERD
~~JOHN F. MATTHEWS, JR.~~
Acting, State Oil and Gas Supervisor

By John L. [Signature] Deputy

REPORT ON PROPOSED OPERATIONS

Santa Paula, California

June 15, 1977

Mr. P. S. Magruder, Jr., Agent
Southern California Gas Co.
P. O. Box 54790 Terminal Annex
Los Angeles, Calif. 90054

Your proposal to rework gas storage well "SFZU" SS-3
(Name and number)
, A.P.I. No. 037-00756, Section 28, T. 3N, R. 16W,
S.B. B. & M., Aliso Canyon field, Los Angeles County,
dated 6-8-77, received 6-14-77, has been examined in conjunction
with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. The drilling fluid used shall be of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts; and a reserve supply of this material shall be kept on hand to meet any emergency.
2. Blowout prevention equipment, at least of the Division of Oil and Gas Class III, 3M rating, shall be installed and maintained in operating condition at all times.
3. THIS DIVISION SHALL BE NOTIFIED TO WITNESS A PRESSURE TEST OF THE BLOWOUT PREVENTION EQUIPMENT BEFORE COMMENCING DOWNHOLE OPERATIONS.

Blanket Bond
MD;r

M. G. MEFFERD (acting)

State Oil and Gas Supervisor

By

John L. Hardoin
Deputy Supervisor

John L. Hardoin

DIVISION OF OIL AND GAS
Notice of Intention to Rework Well

JUN 14 1977

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.

SANTA PAULA, CALIFORNIA

FOR DIVISION USE ONLY		
BOND	OGD114	OGD121
	✓	✓

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 #3, 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:

- Total depth. 9038'
- Complete casing record, including plugs and perforations:

13 3/8" cemented 527'
9 5/8" cemented 6065'
7" cemented 8725', WSO on shoe
350' 5" landed 9034', slotted 8729'-9034'
Top 8634' - 21# - J-55 - Grade "D"

- Present producing zone name SESNON Zone in which well is to be recompleted -
- Present zone pressure 3000 psi New zone pressure -
- Last produced _____ (Date) _____ (Oil, B/D) _____ (Water, B/D) _____ (Gas, Mcf/D)
or
- Last injected _____ (Date) _____ (Water, B/D) _____ (Gas, Mcf) _____ (Surface pressure, psig.)

The proposed work is as follows:

- Move in and rig up. Kill well. Install B.O.P.E. and test.
- Pull tubing and packer. Clean out to 9034'.
- Pressure test casing. Perform any remedial work indicated by pressure testing.
- Set packer and run tubing with down-hole safety system.
- Return well to gas storage.

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.
(Name) (Date) 6-8-77
Type of Organization _____
(Corporation, Partnership, Individual, etc.)

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 CanyonWell No. SS-3, Sec. 28, T. LN, R. 16W, S.B. B. & M.Date August 20, 19 73

Signed

P. S. Magruder, Jr.
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	Description
1973	The following is for the well file only. It does not have to be submitted to the Division of Oil & Gas.
6-20	Pumped 49 bbls. hot oil down tubing. Rigged up Archer-Reed. Pulled Otis "H" valve and "F" collar lock from 1096'. Pulled Camco R-20 gas lift valve from "MM" mandrel at 8601'.
6-21	Moved in California Production Service and rigged up. Killed well with 340 barrels workover fluid and circulated clean. Removed production head and installed Class III B.O.P.E. Tested same with 1500 psi for 10 minutes--Ok. Pulled tubing and packer.
6-22	Measured in with 5-7/8" bit and 7" casing scraper. Tagged top of liner at 8684'. Ran in with 3-7/8" bit, 5" casing scraper and wire brush.
6-23	Wire brushed liner slots and tagged fill at 8967'. Circulated and cleaned out fill from 8967' to bottom at 9034'. Circulated on bottom for 3 hours.
6-24	Idle.
6-25	Rigged up Schlumberger. Ran TDT log 7500'-9030' and Cement Bond/Gamma Ray logs 6700'-8678'. Made up and ran 7" Baker Model "C" bridge plug.
6-26	Set bridge plug at 8660'. Pulled up, closed pipe rams and tested plug with 1000 psi for 15 minutes--Ok. Removed B.O.P.E. and tubing head. Rigged up casing jacks and 7" spear. Could not unland 7" casing with 252,000#.
6-27	Cut off 7" casing spool and removed slips. Welded on 15' section of 9-5/8" casing. Unlanded 9-5/8" casing and cut off casing head. Deepened cellar.

No Notice Required. ✓ OK

SS-3 History (Cont'd)

Page 2

- 1973
- 6-28 Welded on new API 5000 psi casing head and X-rayed weld--OK. Relanded 9-5/8" casing with 212,000#. Cut off 9-5/8" casing and installed new 7" casing spool. Tested between primary and casing spool seals with 2200 psi for 15 minutes--Ok.
- 6-29 Relanded 7" casing with 212,000#. Installed new seal flange and tubing head and tested seals with 3250 psi for 20 minutes--Ok. Reinstalled B.O.P.E. Made up and ran 7" Baker fullbore packer.
- 6-30 Set packer at 2392' and tested 7" casing from 2392' to 8660' with 2100 psi for 15 minutes--Ok. Tested casing from surface to 2392' with 2600 psi for 15 minutes--Ok. Pulled up and reset fullbore packer at 1310'. Tested from surface to 1310' with 3100 psi for 15 minutes--Ok. 7" casing--Ok. Ran in with retrieving tool and released bridge plug at 8660'. Changed over to lease salt water and pulled bridge plug.
- 7-1 Idle.
- 7-2 Made up production string and hydro tested in hole. Landed tubing. Dropped ball and pressured tubing to 1800 psi to set Baker hydrostatic packer at 8662'. Pumped out ball with 2100 psi and attempted to circulate around packer. Pumped away with 700 psi with no circulation. Packer set--Ok. Removed B.O.P.E. Installed and tested production head with 3100 psi for 15 minutes--Ok. No Extended neck donut seals installed.
- 7-3 Tore out C.P.S. and moved to Porter 4. Well ready for unloading.
- 7-5 Unloaded 147 barrels salt water with nitrogen and blew down tubing and casing. Well ready for gas lift.

TUBING DETAIL
SS-3

<u>No. Jts.</u>	<u>Item</u>	<u>Length</u>	<u>Depth</u>
	Below K. B.	7.00	7.00
	Donut and fatigue nipple	1.00	8.00
164	2-7/8", EU, 8rd. J-55 tubing	5067.72	5075.72
	2-7/8", EU, 8rd, N-80 pup joint	4.00	5079.72
	2-7/8" Camco KBMG mandrel w/BK valve, 1/4" port, 1050 psi	6.20	5085.92
	2-7/8", EU 8rd. N-80 pup joint	1.16	5087.08
32	2-7/8", EU, 8rd., J-55 tubing	992.67	6079.75
	2-7/8", EU, 8rd., N-80 pup joint	4.07	6083.82
	2-7/8" Camco KBMG mandrel w/BK valve, 1/4" port, 1025 psi	6.20	6090.02
	2-7/8", EU, 8rd., N-80 pup joint	1.14	6091.16
29	2-7/8", EU, 8rd., J-55 tubing	898.05	6989.21
	2-7/8", EU, 8rd., N-80 pup joint	4.07	6993.28
	2-7/8" Camco KBMG mandrel w/BK valve, 1/4" port, 1000 psi	6.20	6999.48
	2-7/8", EU, 8rd., N-80 pup joint	1.18	7000.66
29	2-7/8", EU, 8rd., J-55 tubing	898.00	7898.66
	2-7/8", EU, 8rd., N-80 pup joint	4.06	7902.72
	2-7/8" Camco KBMG mandrel w/BK valve, 1/4" port, 975 psi	6.20	7908.92
	2-7/8", EU, 8rd., N-80 pup joint	1.18	7910.10
22	2-7/8", EU, 8rd., J-55 tubing	678.61	8588.71
	2-7/8", EU, 8rd., N-80 pup joint	4.11	8592.82
	2-7/8" Camco KBMG mandrel w/BK valve, 1/4" port, 950 psi	6.20	8599.02
	2-7/8", EU, 8rd., N-80 pup joint	1.24	8600.26
	2-7/8", EU, 8rd., N-80 pup joint	10.00	8610.26
	2-7/8" x 2.31" I.D. Baker "L" sliding sleeve (closed)	2.78	8613.04
1	2-7/8", EU, 8rd., J-55 tubing	31.45	8644.49
	2-7/8" x 2.31" I.D. Baker "F" landing nipple	.97	8645.46
	2-7/8", EU, 8rd., N-80 pup joint	10.00	8655.46
	2-7/8" x 7" 29# Baker "FH" hydrostatic packer	6.68	8662.14
	2-7/8" Baker "D" Hydro-Trip pressure sub	1.37	8663.51

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

830 North La Brea Avenue
Inglewood, California

September 23, 1968

Mr. Mr. C. G. Nelson, Agent
Getty Oil Co., Operator
P. O. Box 811
Agent for Ventura, California 93001

DEAR SIR:

Your request dated letter dated August 26, 1968, relative to change in designation of well(s) in Sec. 28, 29, T. 3 N., R. 16 W., S. E. B. & M., Aliso Canyon field, Los Angeles County, District No. 1, has been received;

and in accordance with Section 3203, Public Resources Code, reading in part as follows:

"* * * The number or designation by which any well heretofore drilled has been known, and the number or designation specified for any well in a notice filed as required by Section 3203, shall not be changed without first obtaining a written consent of the Supervisor."

the proposed change in designation is hereby authorized as follows:

See attached list.

ag
cc: F. E. Kasline
Production Dept.
Conservation Committee

F. E. KASLINE
~~E. R. MURRAY AARON~~
State Oil and Gas Supervisor

By *Wm. C. Bailey*
Deputy Supervisor



TIDE WATER ASSOCIATED OIL COMPANY

DIVISION OF OIL AND GAS
RECEIVED

OCT 4 1954

LOS ANGELES, CALIFORNIA

P. O. Box Y
Los Nietos, California

October 1, 1954

State Division of Oil and Gas
1015 W. Olympic Blvd.
Los Angeles 15, California
Attn: Mr. R. W. Walling
Deputy Oil & Gas Supervisor

Overton, Lyman, Prince & Vermille
727 West 7th Street
Los Angeles 17, California
Attn: Mr. Donald H. Ford

Mr. Edmund G. Brown, Attorney General
600 State Building
Los Angeles 12, California
Attn: Mr. John S. Hassler
Deputy Attorney General

B. F. Porter Estate
2 Pine Street
San Francisco 11, California
Attn: Mr. Porter Semon

Standard Oil Company of Calif.
P. O. Box 397
La Habra, California
Attn: Mr. W. C. Johnson

Porter Semon et al
2 Pine Street
San Francisco 11, California
Attn: Mr. Porter Semon

Carlton Beal & Associates
C/o H. L. Shepard & Sons, Operator
Route 3, Box 77
Saugus, California

Mr. Everett S. Layman
Attorney at Law
220 Bush Street
San Francisco 4, California

Gentlemen:

This is to advise you that it is the intention of Tide Water Associated Oil Company to test the productivity of its Standard-Semon Lease Wells Nos. 1 and 3, in the Aliso Canyon Field, in accordance with the procedures outlined in Order, dated July 16, 1953, of the District Oil & Gas Commissioners, District Number 1, starting on or about Wednesday, October 6, 1954 on Well No. 3 and Friday, October 8, 1954 on Well No. 1. These wells are now shut in.

You are invited to witness these tests if you so desire.

Yours very truly,

TIDE WATER ASSOCIATED OIL COMPANY

W. D. Gould
General Superintendent

WDA:ltw

Please file on well record #1 in in gas cap & co will locate point of major entry to see if any remedial work can be done. NOT necessary for D.O.G. to witness

Date: July 6 1954

TO R W WALLING
Los Angeles

FROM Dept of Natural Resources--Division of Oil and Gas
201 California Street (San Francisco 11)

I have received the following letter from Standard Oil Company of California. This is being sent you as a matter of record only as it does not appear that any action need be taken.

"Upon review of our April production records for our wells in the Sesnon Zone, Aliso Canyon Field, we have noted that two of the wells, namely, Standard-Sesnon Well 1-3 and 1-9, produced in excess of the gas-oil ratio set by Preliminary Injunction issued by the Superior Court of Los Angeles County, dated August 20, 1954.

"An investigation disclosed that Well 1-3 had excessive gas-oil ratio because the casing was accidentally left open after the rods parted while waiting for a pulling crew. This occurred on June 17th. Production of this well on June 19th was 32 barrels of oil and 112 Mcf. of gas for a gas-oil ratio of 3500.

"Well 1-9 suddenly started producing at a very high ratio one evening. The well was shut down as soon as the situation was discovered. It is proposed to leave this well shut in for about three months and then again test it."

/s/ E. H. Musser

State Oil and Gas Supervisor

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

REPORT OF CORRECTION OR CANCELLATION

Los Angeles 15 California

September 28 1953

Mr F C Foster
Box Y
Los Nietos California

Agent for Tide Water Associated Oil Co

Dear Sir

In accordance with ~~information in this office~~ dated ~~xxxx~~
(letter, form, etc.)
the following change pertaining to your well No. "Standard-Sesson 1" 3
Sec. 28, T4 N, R16 W, S R B. & M., Aliso Canyon field,
District No. 1, is being made in our records:

The corrected location is Sec. 28, T. 3 N., Ranges 16 W., instead of T. 4 N.

The corrected elevation is _____

Report No. _____, dated _____, has been
corrected as follows:

Corrections Made on Follows:	By Whom
Form 114	<i>[Signature]</i>
" 115	<i>[Signature]</i>
" 121	<i>[Signature]</i>
" 122	<i>[Signature]</i>
Cards	
Production Reports	
Well Records (Folders)	<i>[Signature]</i>
(Reports	<i>[Signature]</i>
Field Maps	<i>[Signature]</i>
Map Book	<i>[Signature]</i>

Your notice to _____
(Drill, abandon, etc.)
and our report No. P _____, issued in answer thereto, are hereby cancelled

inasmuch as the work will not be done.

Other: Our records have been corrected accordingly.

FEK:OH

cc Messers R D Bush (2)
T L Wark
Jos Jensen
J R Boyer (2)

Yours truly

R. D. BUSH
State Oil and Gas Supervisor

By *[Signature]*
Deputy Supervisor

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Standard Section 41-3 Sec. 20, T. 3 N, R. 16 W, S. B. B. & M.

Location 1039.74' South and 5254.60' West from Station Elevation of derrick floor above sea level 2731.24' feet.
400' West from the Southeast corner of the Standard Section 41 lease.

In compliance with the provisions of Chapter 93, Statutes of 1939, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date July 1, 1944 Signed T. H. [Signature]

G. O. [Signature] (Engineer or Geologist) R. E. [Signature] (Superintendent) Title Agent (President, Secretary or Agent)

Commenced drilling November 29 Completed drilling May 10, 1944 Drilling tools Cable Rotary

Total depth 9036' Plugged depth _____

Junk	GEOLOGICAL MARKERS				DEPTH	
	MAP	MAP BOOK	CARDS	BOND	114	121

Commenced producing June 30, 1944 Flowing gas lift pumping (cross out unnecessary words)

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	144 (12 hrs.)	20.0	3.2	75 (12 hrs.)	0	0
Production after 30 days	109	20.0	4.0	No gas figures available.	0	250

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Casing landed in	Number of Sacks of Cement	Depth of Cementing if through perforations
13-5/8"	527'	Surface	44.5	New		J-55	17"	400 (est)	
9-5/8"	6065'	Surface	42.5	New		J-55 J-80	12 1/2"	600	
7"	6725'	Surface	25 1/2	New		J-55 J-80	10-5/8"	250	
5"	9034'	9634'	21 1/2	New & Secondhand	J J	J-55 & J	7-5/8"		

PERFORATIONS

Size of Casing	From	To	Size of Perforations	Number of Rows	Distance Between Centers	Method of Perforations
5"	8729 ft.	9034 ft.	80 mesh x 2"	10	6	Koba
	ft.	ft.				
	ft.	ft.				
	ft.	ft.				
	ft.	ft.				

Electrical Log Depths 527' - 9036' (Attach Copy of Log)

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 09

OPERATOR Standard-Oil Co. of California FIELD Yucca Canyon

Well No. Standard-Oil Canyon #1-3, Sec. 20, T. 34N, R. 16E, S. 22, B. & M.

Signed _____

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

RELATIONS: 1859.74° South and 6364.80° East from station 84, or approximately 1880° North and 200° East from the southeast corner of the Standard-Oil Canyon #1 lease.

RELATIONS: 2751.24°

DATE	MAP BOOK	CARDS	BOND	FORMS	
				114	121
1944					
10/6-10/7					2
10/10-10/17					
10/18-10/27					
10/30-11/5					
11/6-11/9					
11/10-11/11					
11/12-11/13					
11/19					
11/20					
11/21					
11/21-11/23					

RELATIONS: 2751.24°

RELATIONS:

11/20 37° Spudded 13" hole at 11:00 A.M. Drilled 13" hole from 0° to 27°.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 113

OPERATOR Standard Oil Company FIELD 11.0 Canyon

Well No. Standard-10300 1-3, Sec. 10, T. 4N, R. 10E, S. 10 B. & M.

Signed _____

Date July 1, 1944 Title Gen'l.

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

North

1944

7/25

8849⁰ (continued)

becoming increasingly oily downward and 750' (10.4 vols.) oil part of which blew from drill pipe as same was pulled. Samples of fluid tested as follows:

Depth	Gravity	Out		
		Lud	Water	Total
750	11.2	44.0	-	44.0
550	11.0	43.0	2.0	50.0
150	16.0	22.0	6.0	38.0
ester	13.0	49.0	3.0	52.0

Pressure recorder indicated valve open throughout test with slow pressure ranging from 800 to 1000.

7/26

8859⁰

Cored 7-5/8" hole from 8849' to 8859'. Landed coal reel. Cleaned out to 8859' and resumed coring.

8/27-9/30

8864⁰

Cored 7-5/8" hole from 8859' to 8864'.

8/30

Lost 4 cutters off core head at 8864'. Ran 7-5/8" globe junk basket and recovered one cutter from core head from 8864' to 8866'.

8/31

Ran 7-5/8" globe junk basket 8866' to 8867' and 8868' to 8812'. Recovered no cutters from core head. Ran 7-5/8" bit; cased 7-5/8" hole to 7-5/8" from 8864' to 8812'.

8/1

8857⁰

Drilled 7-5/8" hole from 8812' to 8817'. Cored 7-5/8" hole from 8817' to 8857'.

8/2

8853⁰

Drilled 7-5/8" hole from 8857' to 8853'. Ran Solinberger electric log; cased mud.

8/5-8/4

Spaced 7-5/8" hole to 10-5/8" from 8853' to 8730'. Cased 10-5/8" hole from 8814' to 8730'. Cleaned out 7-5/8" hole from 8730' to 8853'.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet **15**

OPERATOR Standard-Ocean Oil Co. Inc. FIELD Elise Canyon

Well No. Standard-Ocean 1-5, Sec. 38, T. 4 N, R. 16 E, S. 30, B. & M.

Signed _____

Date July 1, 1954 Title Agent
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Description
4/5	3036'	Run Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 3730'; bottom of tail pipe 3839'; tail pipe perforated 3751'-3829'. Opened 5/8" beam at 10:15 P.M. Had light steady flow of air for two minutes when shoulder failed and packer slipped down hole about 12'. Recovered 675' (9.5 bbls.) drilling fluid. Pressure recorder showed valve open two minutes with pressure dropping to 750'.
4/5		Opened 7-5/8" hole to 10-5/8" from 3730' to 3755'. Cleaned out 7-5/8" hole from 3755' to 3036'.
4/5		Run Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 3755'; bottom of tail pipe 3844'; tail pipe perforated 3746'-3844'. Opened 5/8" beam at 12:55 P.M. Had <u>light</u> flow of air for 1/2 minute when fluid dropped in annulus. Pulled packer after 1 minute. Hole continued taking fluid. Recovered 408' (57.0 bbls.) drilling fluid. Pressure recorder indicated valve open for about five minutes with pressure dropping from 3000' hydrostatic to 3750' rising to 4000' dropping to 3750' and rising again to 3930'.
4/8		Opened 7-5/8" hole to 10-5/8" from 3755' to 3745'. Cleaned out 7-5/8" hole from 3745' to 3036'. Conditioned mud.
4/9		Run Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 3745'; bottom of tail pipe 3834'; tail pipe perforated 3746'-3834'. Opened 5/8" beam at 7:29 P.M. Had fair steady flow of air for 31 minutes and gas thereafter. Maximum gas rate (Fittet tube measurement) 120 M ³ /D declining to 100 M ³ /D. Closed valve at 8:08 P.M. after being open 36 minutes. Recovered 3630' (39.6 bbls.) fluid as follows: top 90' (13.7 bbls.) oily and greasing downward to muddy oil most of which blew out of drill pipe as valve was pulled; bottom 1130' (16.9 bbls.) muddy water having

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR _____ FIELD _____

Well No. _____, Sec. _____, T. 4, R. _____, B. & M. _____

Signed _____

Date July 11, 1944 Title _____ (President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

1944

4/9

Depth

9053' (continued)

Maximum salinity of 83 G/G. Fluid samples as follows:

Height above	Color	Temp	Salinity
1480'	56, mud; no water		
940'	oil water		83 G/G
880'	oil water		83 G/G
8' water	oil water		75 G/G

Pressure recorder failed to operate. Cleaned out 7-5/8" hole to 7400'.

4/10

Run 4 1/2" drill pipe at 8700' and washed in 20 sacks Solton. Discharge temperature correct. Circulated with 500 sacks test mud. Time 10:00 - 11:00. Mixing time 3 minutes. Discharge time 14 minutes. International Co. cements Inc. pulled up to 8300' and circulated.

4/11

sg. 8725'

Reamed top of cement at 8665'. Cleaned out to 8725'. Conditioned mud.

4/13

Circulated in with 13" hole casing and opened 10-5/8" hole to 13" from 8344' to 8040'.

4/14-4/15

reamed 13" hole to 8300'. Opened 10-5/8" hole to 13" from 8040' to 8065'.

4/16

sg. 8065'
sg. 8725'

reamed 13" hole to 8090'.

4/17

reamed 13" hole from 8090' to 8065'.

4/18-4/20

reamed 13" hole from 807' to 8065'. Conditioned mud.

4/21

cemented 9-5/8" Thompson 2 1/2" casing at 8065' with 500 sacks. Also pulled cement in bulk. Pressure jumped from 100 to 1010 when plug landed. Also 400 lbs. mixing time 23 minutes. Discharge time 24 minutes. Discharge time 31 minutes. Discharge time 31 minutes.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 15

OPERATOR W.A. H. ... FIELD Eliso Canyon

Well No. Standard-1-6, Sec. 30, T. 4, R. 16, S. 33, B. & M.

Signed _____

Date July 1, 1934 Title Gen'l.

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, redrilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, redrilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

North

1934

4/21

9630⁰ (continued)
8735⁰

3607 cu.ft. actual displacement mud 3614 cu.ft. International Cementers, Inc. Detail of casing as follows:
0' - 3813.0' is 30' Grade J-55
3813.0' - 3870.9' is 40' Grade J-55
3870.9' - 4306.9' is 40' Grade I-30
4306.9' - 6063.0' is 43.5' Grade II-30

4/22

located top of cement at 6015'. Made casing test 6015' with 1200' for one-half hour. Cleaned out to 6005'. Checked shoe of 9-5/8" casing at 6030'.

4/23

Cleaned out to 5735'. Conditioned mud.

4/24

Wall scraped 10-5/8" hole from 6030' to 5735'. Changed lines, conditioned mud.

4/25

Cemented 7" Nonwater permeable casing at 5735' with an estimated 350 sacks Colton High Temperature cement in bulk. Pressure jumped from 600 to 700 when plugs burned. Time 6:15 P.M. Casing time 13 minutes. Displacing time 1 hour 10 minutes. Calculated displacement mud 1000 cu.ft. Actual displacement mud 1045 cu.ft. Estimated cement by measuring water. International Cementers, Inc. Detail of casing as follows:

0' - 3423.0' is 25', J-35
3423.0' - 5186.9' is 25', II-30
5186.9' - 6700.5' is 30', I-30
6700.5' - 8735.0' is 20', I-30

4/26-4/28

standing cemented. Laid down 4 1/2" drill pipe and made up 3 1/2" drill pipe. Landed 7" casing and installed collar connections.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 16

OPERATOR Wells Service Company, Inc. 1111 1/2 St. Los Angeles 15, Calif. FIELD Aliso Canyon

Well No. Standard-Wagon #1-3, Sec. 03, T. 4N, R. 16E, S. 04 B. & M.

Signed _____

Date July 1, 1944 Title Geologist
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Description
1/24	38. 8716'	located top of cement at 8678'. Cleaned out to 8716'. Made casing test 9.2% with 1100. for one-half hour. Cleaned out to 8750'.
4/20	38. 8750'	San Johnston tester. Unable to get packer. Left packer rubber in hole. Cleaned out to 8750'.
5/1		San Johnston tester on 3 1/2" drill pipe. Unable to get packer. Ruled tester and found pipe foiled by packer rubber left in hole 2nd previous attempt to make test. Re-ran tester. Got packer at 8678'. Bottom of tail pipe 8686'. Tail pipe perforated 8678'-8705'. Spent 2 1/2 hours at 4500 psi. and did not increase; blow of air for 45 minutes; occasional puff of air or gas for balance of test. Gas to surface in one hour 30 minutes. Closed valve at 5840 psi. after being open 1 hour 20 minutes. Recovered 7000 (48.7 bbls.) fluid as follows: Top 450' (2.9 bbls.) heavy oily gas-cut drilling mud grading to 6850' (43.8 bbls.) very thin, oily, gassy drilling mud. Unable to secure uncontaminated filtrate for salinity determinations, however, all of fluid tasted fresh. Ran two pressure recordings: one indicated flow pressure of 900 increasing to 2800; the second indicated a flow pressure of 1000 increasing to 1000. Division of Oil and Gas ruled 4-1-44.
5/2	38. 8703'	Set Baker cement retainer at 8703'. Buried in 30 sacks Victor High Temperature cement. All very with maximum pressure of 5100 and final pressure 1900. Time 10:57 P.M. Lining time 9 minutes. Displacing time 1 hour 2 minutes. Displacing fluid 334 cu. ft. International Cementers, Inc.
5/3		Grinding completed.
5/4	38. 8730'	Drilled out cement retainer and cement from 8703' to 8730'. Top of cement 8730'.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

WELL NO. 117

OPERATOR WIDE WORLD OIL AND GAS COMPANY FIELD Aliso Canyon

Well No. 117, Sec. 29, T. 4 N, R. 16 W, S. 12 E. B. & M.

Signed _____

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

1944

Depth

36730'

5/5 Ran Johnston tester on 3 1/2" drill pipe. Set packer at 3671'; bottom of tail pipe 3691'. Opened 3/8" bean at 3645'. Packer failed to hold. Pulled tester. Stripped 7" casing from 3644' to 3725' with Baker casing scraper.

5/6

Ran Johnston formation tester on 3 1/2" drill pipe. Set packer at 3700'; bottom of tail pipe 3724'; tail pipe perforated 3707'-3714'. Opened 3/8" bean at 3644'. Had mild decreasing blow of air for 10 minutes; occasional puff of air for seven minutes; and no blow for balance of test. Closed valve at 3644' after being open 1 hour and 15 minutes. Decreased 310' (1.0 lbs.) oily gas out drilling fluid. Pressure recorder indicated valve open throughout test with 0' flow pressure. A.C.C. approved by D.C.C. Cleaned out to 3658'. Bottom of cement 3725'.

5/7

3658'

Well scraped 7-8/8" hole from 3730' to 3658'.

5/8

Run 370' of 5", 21#, new and second-hand, Grade J-55 and D casing including 305' perforated. Perforations are 20# mesh x 10 rows x 2" slots x 6' centers x 6" under-cut. Top of liner runs liner hanger 3684'. Perforated 3719'-3684'.

5/9

Run 2-3/8", 4.7#, Grade H-40 and 2-7/8", 6.5#, Grade J-55, Range 3 Youngstown round threaded upset tubing at 3685'. Bottom 376.4' in 2-3/8'.

5/10

Installed loss tree. Circulated out mud with water. Swabbed to approximately 1500' when fluid began entering hole. Continued swabbing with fluid level 1600' - 1500'. Fluid -- mud, water and oil.

5/11

Casing pressure at 3600' A.M. 175#. Swabbed mud, water and oil. Fluid level 1600' - 2000'. Salinity of water sample taken at 1500' is 31 G/G.

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

1944

OPERATOR Standard Oil Co. of California FIELD Alameda

Well No. Standard 1-10, Sec. 22, T. 4⁴ N, R. 16 E, S. 22 B. & M.

Signed _____

Date July 1, 1944 Title President

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

Date	Depth	Description
7/1/44	1000'	Running pressure at 6800 psi. Produced oil, mud and some water. Fluid level surface to 1140'. In previous test 5/18 well flowed two 50 minute tests to surface. Mud at 6800 psi (7/1) 0.9% water; 4.1% mud; 21.1 dry gravity; casing pressure 110'. Mud at 6100 psi (7/1) 46.0 mud; 4.9% water; 24.6 dry gravity.
7/1/44		Produced oil with some mud and water. Discarded remaining at 1140' level. Mud well in no longer flowing and surface equipment.
7/1/44		Running pressure at 6800 psi. Produced oil, mud and water.
7/1/44		Running pressure at 6800 psi to 1000'. Produced flowing oil and water.
7/1/44		Running pressure at 6800 psi to 1000'. Produced flowing oil and water. Mud casing pressure from 1000' to 1170' at 6800 psi.
7/1/44		Produced oil, mud and water. Casing pressure at 6800 psi to 1170'.
7/1/44		Produced oil, mud and water. Casing pressure at 6800 psi to 1170'.
7/1/44		Running pressure at 6800 psi to 1000'. Opened well to mud level at 1000' level. In 4 hours well flowed 20 minutes gross fluid; 50 barrels produced into mud oil; 22.0 dry gravity; 4.0% water including 21.1% water and 1.0% mud; 2/24' term; 100-110' casing pressure; 24.6-27.1 dry gravity. Produced oil in at 6800 psi.
7/1/44		In 4 hours well flowed to mud level 104' bottom case fluid; 24.6 barrels produced into mud oil; 22.0 dry gravity; 4.0% water; 2/24' term; 100' to 1170' casing pressure; 24.6 to 27.1 dry gravity.

SUBMIT IN DUPLICATE
 STATE OF CALIFORNIA
 DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet #19

OPERATOR THE MOUNTAIN STATE OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Jenson #1-S, Sec. 29; T. 4 (3)N, R. 16 E, S. 03, B. & M.

Signed _____

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	
5/21	2088'	In 1 hour well flowed to mud tanks 28 barrels gross fluid; 22 barrels approximate net oil; 22.8 dry gravity; 1.0% cut; 48/64" bean; 340' to 0' tubing pressure; 1500' to 1500' casing pressure.
5/22		In 5 hours well flowed 124 barrels gross fluid; 117 barrels approximate net oil; 22.8 dry gravity; 6.0% cut; 48/64" bean; 370'-0' tubing pressure; 1400'-1100' casing pressure.
5/23		At 6:00 A.M. tubing pressure 340'; casing pressure 1150'. Swabbed and flowed by heads. In 4 hours produced 67 barrels gross fluid; 55 barrels approximate net oil; 21.0 dry gravity; 2.0% cut.
5/24		Swabbed and flowed by heads. In 6 hours well produced 90 barrels gross fluid; 78 barrels approximate net oil; 21.0 dry gravity; 12.0% cut.
5/25		Shut-in. Tubing pressure 0'; casing pressure 1250'. Installed shipping pump to pump oil from well mud tanks to lease oil tanks.
5/26		In 5 hours swabbed 50 barrels oil and heavy emulsion. Casing pressure declined from 1000' to 250' during swabbing operations.
5/27		In 8 hours swabbed and flowed by heads 73 barrels gross fluid. Of the total production 50 barrels was heavy emulsion and was turned into the sump. The remaining production was 23 barrels gross fluid; 25 barrels approximate net oil; 21.0 dry gravity; 12.0 cut; 650' casing pressure.

SUBMIT IN DUPLICATE
 STATE OF CALIFORNIA
 DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 130

OPERATOR ELIAS SAUER ASSOCIATED OIL COMPANY FIELD Aliso Canyon
 Well No. Standard-Season #1-3, Sec. 26, T. 4 (S) N, R. 16 W, S. 4 S, B. & M.
 Signed _____
 Date July 1, 1944 Title Agent
 (President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	
1944		
5/28	2050'	In 24 hours swabbed and flowed by heads 144 barrels gross fluid; 128 barrels approximate net oil; 21.0 dry gravity; 11.0 total cut including 10.0 water and 1.0 mud; 600#-2000' casing pressure.
7/29		In 24 hours swabbed 130 barrels gross fluid; 104 barrels approximate net oil; 21.0 dry gravity; 15.5 cut; 450# casing pressure; fluid level 1300' to 5000'.
7/30		In 24 hours swabbed 133 barrels gross fluid; 110 barrels approximate net oil; 21.0 dry gravity; 15.0 cut; 500# to 0# casing pressure. Fluid level 1300' to 4500'.
7/31		In 24 hours swabbed 150 barrels gross fluid; 128 barrels approximate net oil; 21.0 dry gravity; 6.2 cut; 400# casing pressure; 116 M/D gas. Fluid level 2500' to 4500'.
8/1		In 24 hours swabbed 110 barrels gross fluid; 108 barrels approximate net oil; 21.0 dry gravity; 6.0 cut; 400# casing pressure; 118 M/D gas. Fluid level 2500' to 4000'.
8/2		In 6 hours swabbed 91 barrels gross fluid; 86 barrels approximate net oil; 21.0 dry gravity; 6.0 cut; 400# casing pressure; 108 M/D gas.
8/3		Shut-in. 750# casing pressure.
8/4		Shut-in. 850# casing pressure.
8/5		Shut-in. 1050# casing pressure.
8/6		Shut-in. 1100# casing pressure.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Sheet 21

OPERATOR STANDARD OIL COMPANY OF CALIFORNIA FIELD 11th Canyon

Well No. Standard Canyon 1-5, Sec. 29, T. (3) 27, R. 16, S. 3, B. & M.

Signed _____

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

<u>1944</u>	<u>Depth</u>	
6/7	9033'	Shut in.
6/8		Shut-in. Casing pressure 1060'.
6/9		In 10 hours well flowed 192 barrels gross fluid; 151 barrels approximate net oil; 21.1 dry gravity; 0.5 cut; 1 1/2" bean; 200' tubing pressure; 950' casing pressure; 112 MCF gas.
6/10		Shut-in. Tubing pressure 750'. Casing pressure 950'.
6/11		Shut-in. Tubing pressure 825'. Casing pressure 950'.
6/12		Shut-in. Casing pressure 1030'.
6/13		Shut-in.
6/14		Shut-in. Tubing pressure 600'. Casing pressure 1050'.
6/15		Shut-in. Tubing pressure 400'. Casing pressure 1050'.
6/16		Shut-in. Tubing pressure 660'. Casing pressure 1050'.
6/17		Shut-in. Tubing pressure 650'. Casing pressure 1050'.
6/18		Shut-in. Tubing pressure 600'. Casing pressure 1050'.
6/19		In 6 hours well flowed 155 barrels gross fluid; 153 barrels approximate net oil; 20.5 dry gravity; 1.4 cut; 1 1/2" bean; 700' tubing pressure; 1000' casing pressure; 115 MCF gas.
6/20		In 5 hours well flowed 100 barrels gross fluid; 98 barrels approximate net oil; 20.5 dry gravity; 2.0 cut; 1 1/2" bean; 200' tubing pressure; 750' casing pressure; 74 MCF gas.

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well Sheet 32

OPERATOR THE UNITED STATES OF AMERICA FIELD Alamo Canyon

Well No. Standard 1-23, Sec. 23, T. 4N, R. 3E, S. 11N B. & M.

Signed _____

Date July 1, 1944 Title Genl

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

1944 Month

- 7/21 9033' In 2 hours well flowed 24 barrels gross fluid; 23 barrels approximate net oil; 19.7 dry gravity; 1.8% cut; 16/64" bean; 0. tubing pressure; 900. casing pressure; 15 MCF gas.
- 7/22 In 6 hours well flowed 100 barrels gross fluid; 99 barrels approximate net oil; 19.7 dry gravity; 0.7% cut; 16/64" bean; 140. tubing pressure; 900. casing pressure; 74 MCF gas.
- 7/23 In 8 hours well flowed 86 barrels gross fluid; 85 barrels approximate net oil; 20.4 dry gravity; 2.0% cut; 16/64" bean; 150. tubing pressure; 1000. casing pressure; 27 MCF gas.
- 7/24 In 12 hours well flowed 125 barrels gross fluid; 125 barrels approximate net oil; 20.4 dry gravity; 2.0% cut; 22/64" bean; 200. tubing pressure; 900. casing pressure; 95 MCF gas.
- 7/25-7/26 Shut-in.
- 7/27 Rigged up hoist. Started pulling tubing.
- 7/28 Pulled tubing, installed pump shoe at 7509' and began rerunning tubing.
- 7/29 Reran tubing and hung cone at 8927'. Pump shoe at 7509'. Bottom 275' of tubing is 2-5/8", remainder is 2-7/8".
- 7/30 Ran rods and pump and put well on. In 12 hours well pumped 149 barrels gross fluid; 144 barrels approximate net oil; 20.0 dry gravity; 2.2% cut; 10/64" bean; 0. tubing pressure; 0. casing pressure; 78 MCF gas.
- 7/31 Well pumped 120 barrels gross fluid; 122 barrels approximate net oil; 20.0 dry gravity; 2.4% cut; 0. tubing pressure; 0. casing pressure; 94 MCF gas.

SUBMIT IN DUPLICATE
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DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR _____ FIELD _____

Well No. _____, Sec. _____, T. ⁴() _____, R. _____, B. & M.

Signed _____

Date _____ Title _____

(President, Secretary or Agent)

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Date

Table area with multiple columns and rows, containing faint text and data entries, likely representing well operations and test results.

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet #1

Operator THE MEXICAN AMERICAN OIL COMPANY Field Aliso Canyon
Well No. Standard-Sesnon #1-3 Sec. 28, T. 3N, R. 16E, S. 2. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
0	06		Drilled		Shale.
06	109		"		Sand and shale.
109	215		"		Shale.
215	310		"		Sand and shale.
310	392		"		Shale.
392	413		"		Sand and shale.
413	550		"		Shale.
550	622		"		Sand and shale.
622	654		"		Sand.
654	647		"		Shale.
647	674		"		Sand and shale.
674	696		"		Shale.
696	966		"		Sand and shale.
966	978		"		Shale.
978	1050		"		Sand and shale.
1050	1093		"		Sand.
1093	1180		"		Sand and shale.
1180	1230		"		Sand.
1230	2042		"		Sand and shale.
2042	2077		"		Sand.
2077	2965		"		Sand and shale.
2965	2984		"		Sand.
2984	2992		"		Sandstone.
2992	3010		"		Sand and shale.
3010	3034		"		Hard sandy shale.
3034	3170		"		Sand and shale.
3170	3197		"		Shale; hard streaks.
3197	3653		"		Sand and shale.
3653	3648		"		Shale.
3648	4097		"		Sand and shale.
4097	4149		"		Sandy shale.
4149	4049		"		Sand and shale.
4049	4676		"		Shale.
4676	4685		"		Sand and shale.
4685	4724		"		Shale.
4724	4738		"		Sand and shale.
4738	4772		"		Shale.
4772	4789		"		Hard sandy shale.

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet 22

Operator WILSON OIL ASSOCIATED OIL COMPANY Field Eliso Canyon

Well No. Standard-Tosnon #1-3 Sec. 33, T. (5)N, R. 16E, S.M. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
4929	4851		Drilled		Shale.
4941	4945		"		Sand and shale.
4948	4976		"		Shale.
4973	4917		"		Hard sandy shale.
4987	4915		"		Shale.
4915	4916		"		Sandy shale.
4915	4930		"		Shale.
4930	4930		"		Sand and shale.
4930	4939		"		Shale.
4939	5140		"		Sand and shale.
5140	5151		"		Hard sandy shale.
5151	5177		"		Shale.
5177	5101		"		White chalk or bentonite.
5101	5335		"		Shale.
5335	5269		"		Sand and shale.
5269	5275		"		Hard sandy shale.
5275	5337		"		Sand and shale.
5337	5332		"		Shale and sandy shale.
5332	5726		"		Sand and shale.
5726	5316		"		Sandy shale.
5316	5374		"		Sand and shale.
5374	5904		"		Shale and shell.
5904	5930		"		Sand and shale.
5930	6002		"		Hard sandy shale.
6002	6031		"		Hard and shale.
6031	6040		"		Hard shale.
6040	6116		"		Sand and shale.
6116	6136		"		Shale and siltstone.
6136	6211		"		Sand and shale.
6211	6251		"		Shale.
6251	6135		"		Sand and shale.
6135	6320		"		Shale.
6320	6332		"		Sand and shale.
6332	6422		"		Shale and sandy shale.
6422	6473		"		Sand and shale.
6473	6496		"		Hard sandy shale.
6496	6525		"		Sand and shale.
6525	6532		"		Hard shale.
6532	6559		"		Shale.
6559	6619		"		Sand and shale.
6619	6671		"		Shale and sandy shale.
6671	6850		"		Sand and shale.

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DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

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History of Oil or Gas Well

Sheet #13

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Gosnon #1-3, Sec. 28, T. (5)N, R. 16 W, S. 4, B. & M.

Signed R. J. [Signature]

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations; number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Description																									
3/25	8849° (continued)	becoming increasingly oily downward and 730° (10.4 bbis.) oil part of which blow from drill pipe as same was pulled. Samples of fluid tested as follows: <table border="1"> <thead> <tr> <th>Feet Above Tester</th> <th>Wet Gravity</th> <th>Mud</th> <th>Cut Water</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>750</td> <td>11.2</td> <td>44.0</td> <td>-</td> <td>44.0</td> </tr> <tr> <td>550</td> <td>11.0</td> <td>46.0</td> <td>2.0</td> <td>50.0</td> </tr> <tr> <td>190</td> <td>16.0</td> <td>22.0</td> <td>6.0</td> <td>28.0</td> </tr> <tr> <td>Tester</td> <td>12.0</td> <td>49.0</td> <td>3.0</td> <td>52.0</td> </tr> </tbody> </table> Pressure recorder indicated valve open throughout test with flow pressure ranging from 950 to 1050.	Feet Above Tester	Wet Gravity	Mud	Cut Water	Total	750	11.2	44.0	-	44.0	550	11.0	46.0	2.0	50.0	190	16.0	22.0	6.0	28.0	Tester	12.0	49.0	3.0	52.0
Feet Above Tester	Wet Gravity	Mud	Cut Water	Total																							
750	11.2	44.0	-	44.0																							
550	11.0	46.0	2.0	50.0																							
190	16.0	22.0	6.0	28.0																							
Tester	12.0	49.0	3.0	52.0																							
3/26	8859°	Cored 7-5/8" hole from 8849° to 8859°. Repaired sand reel. Cleaned out to 8859° and resumed coring.																									
3/27-3/29	9004°	Cored 7-5/8" hole from 8859° to 9004°.																									
3/30		Lost 4 cutters off core head at 9004°. Ran 7-5/8" globe junk basket and recovered one cutter from core head from 9004° to 9006°.																									
3/31		Ran 7-3/8" Globe junk basket 9006° to 9009° and 9009° to 9012°. Recovered remaining 3 cutters from core head. Ran 7-5/8" bit; Resamed 7-3/8" hole to 7-5/8" from 9004° to 9012°.																									
4/1	9037°	Drilled 7-5/8" hole from 9012° to 9017°. Cored 7-5/8" hole from 9017° to 9037°.																									
4/2	9038°	Drilled 7-5/8" hole from 9037° to 9038°. Ran Schlumberger electric log. Mixed mud.																									
4/3-4/4		Opened 7-5/8" hole to 10-5/8" from 8695° to 8720°. Resamed 10-5/8" hole from 8384° to 8720°. Cleaned out 7-5/8" hole from 8720° to 9038°.																									

DIVISION OF OIL AND GAS

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History of Oil or Gas Well

Sheet 13

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Sisson #1-5, Sec. 28, T. 4 N, R. 16 W, S. B. B. & M.

Signed R. A. [Signature]

Date July 1, 1944 Title _____ Agent _____
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Description
4/5	9038'	Ran Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 8720'; bottom of tail pipe 8829'; tail pipe perforated 8731'-8829'. Opened 3/8" bean at 10:15 P.M. Had light steady blow of air for two minutes when shoulder failed and packer slipped down hole about 12'. Recovered 875' (9.5 bbls.) drilling fluid. Pressure recorder showed valve open two minutes with pressure dropping to 750#.
4/5		Opened 7-5/8" hole to 10-5/8" from 8720' to 8735'. Cleaned out 7-5/8" hole from 8735' to 9038'.
4/7		Ran Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 8735'; bottom of tail pipe 8844'; tail pipe perforated 8746'-8844'. Opened 3/8" bean at 12:55 P.M. Had mild blow of air for 1/2 minute when fluid dropped in annulus. Pulled packer after 1 minute. Hole continued taking fluid. Recovered 4050' (37.0 bbls.) drilling fluid. Pressure recorder indicated valve open for about five minutes with pressure dropping from 5000# hydrostatic to 2750# rising to 4000# dropping to 2750# and rising again to 5000#.
4/8		Opened 7-5/8" hole to 10-5/8" from 8735' to 8745'. Cleaned out 7-5/8" hole from 8745' to 9038'. Conditioned mud.
4/9		Ran Johnston Formation Tester on 4 1/2" drill pipe. Set packer on shoulder at 8745'; bottom of tail pipe 8854'; tail pipe perforated 8756'-8854'. Opened 3/8" bean at 7:29 A.M. Had fair steady blow of air for 21 minutes and gas thereafter. Maximum gas rate (Pitot tube measurement) 150 M/D declining to 100 M/D. Closed valve at 8:05 A.M. after being open 36 minutes. Recovered 3020' (28.5 bbls.) fluid as follows: top 900' (12.7 bbls.) oily mud grading downward to muddy oil most of which blew out of drill pipe as same was pulled; bottom 1120' (15.8 bbls.) muddy water having

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DIVISION OF OIL AND GAS

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History of Oil or Gas Well

LOS ANGELES, CALIFORNIA
Sheet #14

OPERATOR WIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Session #1-3, Sec. 28, T. 4 N, R. 16 W, S. 03, B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent (President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Description																				
4/9	9038' (continued)	maximum salinity of 82 G/G. Fluid samples as follows: <table border="1"> <thead> <tr> <th>Height Above</th> <th>Tester</th> <th>Cut</th> <th>Salinity</th> </tr> </thead> <tbody> <tr> <td></td> <td>1480'</td> <td>56% mud; no water</td> <td></td> </tr> <tr> <td></td> <td>940'</td> <td>All water</td> <td>82 G/G</td> </tr> <tr> <td></td> <td>580'</td> <td>All water</td> <td>82 G/G</td> </tr> <tr> <td></td> <td>At tester</td> <td>All water</td> <td>75 G/G</td> </tr> </tbody> </table> Pressure recorder failed to operate. Cleaned out 7-5/8" hole to 9038'.	Height Above	Tester	Cut	Salinity		1480'	56% mud; no water			940'	All water	82 G/G		580'	All water	82 G/G		At tester	All water	75 G/G
Height Above	Tester	Cut	Salinity																			
	1480'	56% mud; no water																				
	940'	All water	82 G/G																			
	580'	All water	82 G/G																			
	At tester	All water	75 G/G																			
4/10		Rung 4 1/2" drill pipe at 8790' and pumped in 50 sacks Colton High Temperature cement. Displaced with 690 cubic feet mud. Time 10:58 A.M. Mixing time 3 minutes. Displacing time 14 minutes. International Cementers Inc. Pulled up to 8520' and circulated.																				
4/11	Pg. 8725'	Located top of cement at 8665'. Cleaned out to 8725'. Conditioned mud.																				
4/12		Circulated in with 12 1/2" hole opener and opened 10-5/8" hole to 12 1/2" from 5984' to 6040'.																				
4/13-4/15		Reamed 12 1/2" hole to 4890'. Opened 10-5/8" hole to 12 1/2" from 6040' to 6065'.																				
4/16	8038' Pg. 8725'	Re-reamed 12 1/2" hole to 4890'.																				
4/17		Reamed 12 1/2" hole from 4890' to 6065'.																				
4/18-4/20		Re-reamed 12 1/2" hole from 527' to 6065'. Conditioned mud.																				
4/21		Cemented 9-5/8", Youngstown T & C casing at 6065' with 500 sacks Slow Colton cement in bulk. Pressure jumped from 900# to 1000# when plugs bumped. Time 4:56 P.M. Mixing time 23 minutes. Displacing time 1 hour 32 minutes. Calculated displacement mud																				

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SHEET #15
LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Session #1-5, Sec. 28, T. 4 (3)N, R. 16 W, S. B. B. & M.

Signed R. J. [Signature]
Date July 1, 1944 Title Agent
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	
1944		
4/21	9055' (continued) Pg. 8725'	2607 cu.ft. Actual displacement mud 2614 cu.ft. International Cementers, Inc. Detail of casing as follows: 0' - 2813.0' is 36# Grade J-55 2813.0' - 3660.9' is 40# Grade J-55 3660.9' - 4806.9' is 40# Grade N-90 4806.9' - 6065.0' is 43.5# Grade N-80
4/22		Located top of cement at 6015'. Made casing test O.K. with 1200# for one-half hour. Cleaned out to 6065'. Checked shoe of 9-5/8" casing at 6065'.
4/23		Cleaned out to 8725'. Conditioned mud.
4/24		Wall scraped 10-5/8" hole from 8320' to 8725'. Changed lines. Conditioned mud.
4/25		Cemented 7", Youngstown Speedtite casing at 8725' with an estimated 250 sacks Colton High Temperature cement in bulk. Pressure jumped from 600# to 700# when plugs bumped. Time 6:15 P.M. Mixing time 15 minutes. Displacing time 1 hour 10 minutes. Calculated displacement mud 1990 cu.ft. Actual displacement mud 1945 cu.ft. Estimated cement by measuring water. International Cementers, Inc. Detail of casing as follows: 0' - 3422.0' is 25#, J-55 3422.0' - 5136.9' is 25#, N-80 5136.9' - 6768.3' is 26#, N-90 6768.3' - 8725.0' is 29#, N-80
4/26-4/28		Standing cemented. Laid down 4 1/2" drill pipe and made up 5 1/2" drill pipe. Landed 7" casing and installed cellar connections.

DIVISION OF OIL AND GAS

History of Oil or Gas Well

sheet #16

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon
Well No. Standard-Sesnon #1-3, Sec. 28, T (3)N, R. 16 W, S.E. B. & M.
Signed R. A. Caryl
Date July 1, 1944 Title Agent
(President, Secretary or Agent)

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Date	Depth	
1/29	Pg. 8716'	Located top of cement at 8675'. Cleaned out to 8716'. Made casing test O.K. with 1500# for one-half hour. Cleaned out to 8730'.
4/30	Pg. 8730'	Ran Johnston tester. Unable to set packer. Left packer rubber in hole. Cleaned out to 8730'.
5/1		Ran Johnston tester on 5 1/2" drill pipe. Unable to set packer. Filled tester and found slips fouled by packer rubber left in hole from previous attempt to make test. Re-ran tester. Set packer at 8675'. Bottom of tail pipe 8696'. Tail pipe perforated 8679', 8686'. Opened 3/8" bean at 4:00 P.M. Had mild decreasing blow of air for 45 minutes; occasional puff of air or gas for balance of test. Gas to surface in one hour 20 minutes. Closed valve at 5:40 P.M. after being open 1 hour 40 minutes. Recovered 7000# (45.7 bbls.) fluid as follows: Top 450' (2.9 bbls.) heavy oily gas-cut drilling mud grading to 6550' (42.8 bbls.) very thin, oily, gassy drilling mud. Unable to secure uncontaminated filtrate for salinity determinations, however, all of fluid tasted fresh. Ran two pressure recorders: one indicated flow pressure of 900# increasing to 2800#; the second indicated a flow pressure of 500# increasing to 3080#. Division of Oil and Gas ruled W.N.S.O.
5/2	Pg. 8702'	Set Baker cement retainer at 8702'. Pumped in 50 sacks Victor High Temperature cement. All away with maximum pressure of 3100# and final pressure 1900#. Time 10:57 P.M. Mixing time 9 minutes. Displacing time 1 hour 2 minutes. Displacing fluid 324 cu. ft. International Cementers, Inc.
5/3		Standing recemented.
5/4	Pg. 8730'	Cleaned out cement retainer and cement from 8702' to 8730'. Top of cement 8720'.

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DIVISION OF OIL AND GAS

History of Oil or Gas Well

SAN ANTONIO, CALIFORNIA

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard - Reson #1-5, Sec. 28, T. (5) N, R. 16 W, S. B. B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

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Date	Depth	
1944		
5/5	8730'	Ran Johnston tester on 5 1/2" drill pipe. Set packer at 8671'; bottom of tail pipe 8691'. Opened 3/8" bean at 8:40 A.M. Packer failed to hold. Pulled tester. Scraped 7" casing from 8644' to 8725' with Baker casing scraper.
5/6		Ran Johnston formation tester on 5 1/2" drill pipe. Set packer at 8700'; bottom of tail pipe 8724'; tail pipe perforated 8707'-8714'. Opened 5/8" bean at 7:44 A.M. Had mild decreasing blow of air for 10 minutes; occasional puff of air for seven minutes; and no blow for balance of test. Closed valve at 8:44 A.M. after being open 1 hour 0 minutes. Recovered 240' (1.6 bbls.) oily gas cut drilling fluid. Pressure recorder indicated valve open throughout test with 0' flow pressure. W.S.C. approved by D.O.G. Cleaned out to 9038'. Bottom of cement 8725'.
5/7	9038'	Wall scraped 7-5/8" hole from 8730' to 9038'.
5/8		Hung 550' of 5", 2 1/2", new and second-hand, Grade J-55 and D casing at 8724' including 505' perforated. Perforations are Kobe 80 mesh x 10 rows x 2" slots x 6" centers x 6" under-cut. Top of 1.2" Burns liner hanger 8654'. Perforated 8729'-9034'.
5/8		Hung 2-3/8", 4.7#, Grade H-40 and 2-7/8", 6.5#, Grade J-55, Range 2 Youngstown round thread upset tubing at 8983'. Bottom 876.4' is 2-5/8".
5/10		Installed Xmas tree. Circulated out mud with water. Swabbed to approximately 1500' when fluid began entering hole. Continued swabbing with fluid level 1000' - 1500'. Fluid -- mud, water and oil.
5/11		Casing pressure at 6:00 A.M. 175#. Swabbed mud, water and oil. Fluid level 1800' - 2000'. Salinity of water sample taken at 1:00 P.M. 31 G/G.

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History of Oil or Gas Well

LOS ANGELES, CALIFORNIA
Sheet #18

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Seaman #1-5, Sec. 23, T. (5) N, R. 16 W, S. A., B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	Operations
5/13	9058'	Casing pressure at 6:00 A.M. 500#. Swabbed oil, mud and some water. Fluid level surface to 3000'. On morning tour 5/13 well flowed two 30 minute heads to sump. Cut at 6:00 A.M. (5/13) 3.9% water; 0.1% mud; 21.1 dry gravity; casing pressure 800#. Cut at 2:00 P.M. (5/13) 46.0% mud; 4.0% water; 14.6 wet gravity.
5/13		Swabbed oil with some mud and water. Discontinued swabbing at 10:50 A.M. Shut well in and began tearing out rotary equipment.
5/14		Casing pressure at 6:00 A.M. 1100#. Shut-in. Moving out rotary.
5/15		Casing pressure at 6:00 A.M. 1325#. Shut-in. Moving out rotary.
5/16		Casing pressure at 6:00 A.M. 1400#. Shut-in. Moving out rotary. Ried casing pressure from 1400# to 1200# at 3:00 P.M.
5/17		Shut-in. Moving out rotary. Casing pressure at 6:00 A.M. 1275#.
5/18		Shut-in. Moving out rotary. Casing pressure at 6:00 A.M. 1340#.
5/19		Casing pressure at 6:00 A.M. 1400#. Opened well to mud tanks at 1:40 P.M. In 5 hours well flowed 60 barrels gross fluid; 53 barrels approximate net oil; 22.8 dry gravity; 12.0% total cut including 11.0% water and 1.0% mud; 20/64" bean; 900#-210# tubing pressure; 1500#-1075# casing pressure. Shut well in at 4:40 P.M.
5/20		In 4 hours well flowed to mud tanks 104 barrels gross fluid; 101 barrels approximate net oil; 22.8 dry gravity; 3.0% cut; 45/64" bean; 900# to 0# tubing pressure; 1350# to 1000# casing pressure.

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History of Oil or Gas Well

Sheet 419 CALIFORNIA

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon
Well No. Standard Season #1-S, Sec. 22, T. 4 (3)N, R. 16 W, S. 3, B. & M.
Signed [Signature]
Date July 1, 1944 Title Agent.
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	Depth	
1944		
5/21	9058'	In 1 hour well flowed to mud tanks 22 barrels gross fluid; 22 barrels approximate net oil; 22.8 dry gravity; 1.0% cut; 48/64° bean; 340# to 0# tubing pressure; 1350# to 1300# casing pressure.
5/22		In 5 hours well flowed 124 barrels gross fluid; 117 barrels approximate net oil; 22.8 dry gravity; 6.0% cut; 48/64° bean; 375#-0# tubing pressure; 1400#-1100# casing pressure.
5/23		At 6:00 A.M. tubing pressure 340#; casing pressure 1150#. Swabbed and flowed by heads. In 4 hours produced 87 barrels gross fluid; 85 barrels approximate net oil; 21.0 dry gravity; 2.0% cut.
5/24		Swabbed and flowed by heads. In 6 hours well produced 90 barrels gross fluid; 72 barrels approximate net oil; 21.0 dry gravity; 12.0% cut.
5/25		Shut-in. Tubing pressure 0#; casing pressure 1250#. Installed shipping pump to pump oil from well mud tanks to lease oil tanks.
5/26		In 5 hours swabbed 50 barrels oil and heavy emulsion. Casing pressure declined from 1000# to 250# during swabbing operations.
5/27		In 2 hours swabbed and flowed by heads 78 barrels gross fluid. Of the total production 50 barrels was heavy emulsion and was turned into the sump. The remaining production was 28 barrels gross fluid; 25 barrels approximate net oil; 21.0 dry gravity; 12.0 cut; 650# casing pressure.

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History of Oil or Gas Well

Sheet 400

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon
Well No. Standard-Semon #1-3, Sec. 28, T. (3)N, R. 16 W, S. 3 B. & M.
Signed R. A. [Signature]
Date July 1, 1944 Title Agent
(President, Secretary or Agent)

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Date	Depth	
1944		
5/28	9038'	In 24 hours swabbed and flowed by heads 144 barrels gross fluid; 128 barrels approximate net oil; 21.0 dry gravity; 11.0 total cut including 10.0 water and 1.0 mud; 400# casing pressure.
7/29		In 24 hours swabbed 126 barrels gross fluid; 104 barrels approximate net oil; 21.0 dry gravity; 13.5 cut; 450# casing pressure; fluid level 1200' to 5000'.
5/30		In 24 hours swabbed 152 barrels gross fluid; 129 barrels approximate net oil; 21.0 dry gravity; 15.0 cut; 500# to 0# casing pressure. Fluid level 1500' to 4500'.
3/31		In 24 hours swabbed 130 barrels gross fluid; 122 barrels approximate net oil; 21.0 dry gravity; 6.2 cut; 400# casing pressure; 116 M/D gas. Fluid level 2300' to 4500'.
6/1		In 24 hours swabbed 110 barrels gross fluid; 103 barrels approximate net oil; 21.0 dry gravity; 6.0 cut; 400# casing pressure; 118 M/D gas. Fluid level 2300' to 4000'.
6/2		In 6 hours swabbed 91 barrels gross fluid; 56 barrels approximate net oil; 21.0 dry gravity; 6.0 cut; 500# casing pressure; 108 MCF gas.
6/3		Shut-in. 750# casing pressure.
6/4		Shut-in. 900# casing pressure.
6/5		Shut-in. 1050# casing pressure.
6/6		Shut-in. 1100# casing pressure.

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History of Oil or Gas Well

Sheet 21 CALIFORNIA

OPERATOR WIDE WATERS ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Season #1-3, Sec. 22, T. 4N, R. 15W, S. B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent
(President, Secretary or Agent)

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Date	Depth	
1944		
6/7	9059'	Shut-in.
6/8		Shut-in. Casing pressure 1050#.
6/9		In 10 hours well flowed 152 barrels gross fluid; 151 barrels approximate net oil; 21.1 dry gravity; 0.5 cut; 1 1/2" bean; 200# tubing pressure; 900# casing pressure; 112 MCF gas.
6/10		Shut-in. Tubing pressure 750#. Casing pressure 950#.
6/11		Shut-in. Tubing pressure 825#. Casing pressure 950#.
6/12		Shut-in. Casing pressure 1050#.
6/13		Shut-in.
6/14		Shut-in. Tubing pressure 680#. Casing pressure 1050#.
6/15		Shut-in. Tubing pressure 680#. Casing pressure 1080#.
6/16		Shut-in. Tubing pressure 660#. Casing pressure 1050#.
6/17		Shut-in. Tubing pressure 630#. Casing pressure 1050#.
6/18		Shut-in. Tubing pressure 660#. Casing pressure 1050#.
6/19		In 6 hours well flowed 155 barrels gross fluid; 153 barrels approximate net oil; 20.3 dry gravity; 1.4% cut; 1 1/2" bean; 700# tubing pressure; 1000# casing pressure; 115 MCF gas.
6/20		In 5 hours well flowed 100 barrels gross fluid; 98 barrels approximate net oil; 20.3 dry gravity; 2.0% cut; 1 1/2" bean; 200# tubing pressure; 750# casing pressure; 74 MCF gas.

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History of Oil or Gas Well sheet #22 LOS ANGELES, CALIFORNIA

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard-Season #1-3, Sec. 25, T. 4N, R. 15W, S. E. B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent
(President, Secretary or Agent)

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Date	Depth	
/21	9058'	In 2 hours well flowed 24 barrels gross fluid; 23 barrels approximate net oil; 19.7 dry gravity; 1.8% cut; 16/64" bean; 0% tubing pressure; 900% casing pressure; 15 MCF gas.
/22		In 6 hours well flowed 100 barrels gross fluid; 99 barrels approximate net oil; 19.7 dry gravity; 0.7% cut; 16/64" bean; 140% tubing pressure; 900% casing pressure; 74 MCF gas.
/23		In 3 hours well flowed 36 barrels gross fluid; 35 barrels approximate net oil; 20.4 dry gravity; 2.0% cut; 16/64" bean; 150% tubing pressure; 1000% casing pressure; 27 MCF gas.
/24		In 12 hours well flowed 125 barrels gross fluid; 123 barrels approximate net oil; 20.4 dry gravity; 2.0% cut; 28/64" bean; 200% tubing pressure; 900% casing pressure; 95 MCF gas.
/25-6/26		Shut-in.
/27		Rigged up hoist, started pulling tubing.
/28		Pulled tubing, installed pump shoe at 7509' and began rerunning tubing.
/29		Reran tubing and hung same at 8937'. Pump shoe at 7509'. Bottom 875' of tubing is 2-5/8", remainder is 2-7/8".
/30		Ran rods and pump end put well on. In 12 hours well pumped 149 barrels gross fluid; 144 barrels approximate net oil; 20.0 dry gravity; 5.2% cut; 16/64" bean; 0% tubing pressure; 0% casing pressure; 75 MCF gas.
1		Well pumped 188 barrels gross fluid; 182 barrels approximate net oil; 20.0 dry gravity; 5.4% cut; 0% tubing pressure; 0% casing pressure; 94 MCF gas.

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History of Oil or Gas Well

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105 ANGELES, CALIFORNIA

OPERATOR STON VALLEY ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. STANDARD-ROSDEN #1, Sec. 22, T. 4, R. 10, S. 3 B. & M.

Signed [Signature]

Date JULY 10 1944 Title [Signature]
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, redrilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, redrilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

1944
7/2 Well pumped 181 barrels gross fluid; 170 barrels approximate net oil; 20.0 dry gravity; 6.0% cut; 52/64" bean; 0% tubing pressure; 60% casing pressure; 90 MCF gas.
7/8 Well pumped 145 barrels gross fluid; 134 barrels approximate net oil; 20.0 dry gravity; 6.0% cut; 52/64" bean; 0% tubing pressure; 500% casing pressure; 71 MCF gas.
7/4 Well pumped 119 barrels gross fluid; 113 barrels approximate net oil; 20.0 dry gravity; 6.0% cut; 52/64" bean; 0% tubing pressure; 200% casing pressure; 88 MCF gas.

Date	Gross Fluid	Approximate Net Oil	Dry Gravity	Cut (%)	Bean	Tubing Pressure	Casing Pressure	MCF Gas	Hours
7/5	145	136	20.0	6.0	52/64	0	50	75	24
7/6	185	118	20.0	5.5	52/64	0	250	62	24
7/7	116	111	20.0	4.3	52/64	0	450	53	20
7/8	117	112	20.0	4.5	52/64	0	600	58	24
7/9	103	100	20.0	4.0	52/64	0	250	60	24
7/10	110	105	20.0	4.3	52/64	0	250	55	24
7/11	103	99	20.0	4.0	52/64	0	225	51	15
7/12	152	148	20.0	4.0	52/64	0	250	76	24
7/13	159	149	20.0	6.0	52/64	0	650	79	24
7/14	180	125	20.0	3.5	52/64	0	500	70	24
7/15	11	10	20.0	4.5	52/64	0	1050	10	15
7/16	162	161	20.0	4.4	52/64	0	1050	10	15
7/17	155	150	20.0	4.2	52/64	0	900	10	15
7/18	110	105	20.0	4.4	64/64	0	900	10	15
7/19	124	119	20.0	4.0	64/64	0	800	10	15
7/20	77	74	20.0	4.2	64/64	0	300	10	15
7/21	118	112	20.0	5.0	64/64	0	260	10	15
7/22	240	140	20.0	6.0	64/64	0	500	10	15
7/23	106	102	20.0	6.5	64/64	0	260	10	15
7/24	122	117	20.0	3.8	64/64	0	250	10	15
7/25	118	115	20.0	3.9	64/64	0	250	10	15

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

RECEIVED
AUG 2 8 1944
SHEET 124
LOS ANGELES, CALIFORNIA

OPERATOR STANDARD OIL ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Standard Location #14, Sec. 20, T. (27)N, R. 16W, S. 12E B. & M.

Signed [Signature]

Date July 1, 1944 Title Agent
(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date

Date	Cross 1944 Fluid	Perforations Top	Depth Bottom	Dry Gravity	Gas (%)	Tubing Near Pressure	Casing Pressure	ISP psi	Hours on
7/26	116	115	20.0	20.0	2.5	64/64	0	250	24
7/27	121	119	20.0	20.0	3.5	64/64	0	250	24
7/28	142	136	20.0	20.0	4.0	64/64	0	250	24
7/29	116	111	20.0	20.0	4.0	64/64	0	250	24
7/30	108	104	20.0	20.0	4.0	64/64	0	250	24
7/31	115	110	20.0	20.0	4.0	64/64	0	250	24
8/1	114	109	20.0	20.0	4.0	64/64	0	250	24

* No gas figures available.

WELL LOG

12-3/8", 54.5', 0 527'.
8-3/8", 56', 40' & 43.5', 0 6065'. 0'-2815' is 56'; 2815'-4807' is 40'; 4807'-6065' is 43.5'.
7", 257', 267' & 297', 0 6725'. 0'-5187' is 257'; 5187'-6768' is 267'; 6768'-6725' is 297'.
350' - 6", 217', 1 9054'. Top 6034', 11' 6729'-2034'.

TUBING RECORD

2-5/8", 4.7' & 2-7/8", 6.5' hung at 8097'. Pump shoe 7509'. Bottom 575' of tubing is 2-3/8".

SIZE OF HOLE

0' - 527' is 17"
527' - 6065' is 12-1/4"
6065' - 6725' is 10-5/8"
6725' - 9038' is 7-3/8"

DIVISION OF OIL AND GAS

LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet #1

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon
Well No. Standard-Session #1-3 Sec. 28, T. 3⁴N, R. 16⁴W, S. B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
0	66		Drilled		Shale.
66	209		"		Sand and shale.
209	216		"		Shale.
216	259		"		Sand and shale.
259	298		"		Shale.
298	316		"		Sand and shale.
316	350		"		Shale.
350	522		"		Sand and shale.
522	534		"		Sand.
534	547		"		Shale.
547	574		"		Sand and shale.
574	586		"		Shale.
586	966		"		Sand and shale.
966	978		"		Shale.
978	1050		"		Sand and shale.
1050	1083		"		Sand.
1083	1180		"		Sand and shale.
1180	1220		"		Sand.
1220	2842		"		Sand and shale.
2842	2877		"		Sand.
2877	2965		"		Sand and shale.
2965	2984		"		Sand.
2984	2992		"		Sandstone.
2992	3010		"		Sand and shale.
3010	3024		"		Hard sandy shale.
3024	3170		"		Sand and shale.
3170	3197		"		Shale; hard streaks.
3197	3633		"		Sand and shale.
3633	3648		"		Shale.
3648	4097		"		Sand and shale.
4097	4149		"		Sandy shale.
4149	4649		"		Sand and shale.
4649	4676		"		Shale.
4676	4695		"		Sand and shale.
4695	4724		"		Shale.
4724	4738		"		Sand and shale.
4738	4772		"		Shale.
4772	4789		"		Hard sandy shale.

RECEIVED
AUG 23 1944

DIVISION OF OIL AND GAS

LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet #2

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon
Well No. Standard-Session #1-3 Sec. 23, T. (5)N, R. 16 W, S. E. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
4789	4831		Drilled		Shale.
4831	4845		"		Sand and shale.
4845	4876		"		Shale.
4876	4937		"		Hard sandy shale.
4937	4913		"		Shale.
4913	4916		"		Sandy shale.
4916	4930		"		Shale.
4930	4950		"		Sand and shale.
4950	4999		"		Shale.
4999	5140		"		Sand and shale.
5140	5151		"		Hard sandy shale.
5151	5177		"		Shale.
5177	5201		"		White chalk or bentonite.
5201	5235		"		Shale.
5235	5268		"		Sand and shale.
5268	5275		"		Hard sandy shale.
5275	5327		"		Sand and shale.
5327	5352		"		Shale and sandy shale.
5352	5786		"		Sand and shale.
5786	5816		"		Sandy shale.
5816	5884		"		Sand and shale.
5884	5904		"		Shale and shell.
5904	5980		"		Sand and shale.
5980	6002		"		Hard sandy shale.
6002	6021		"		Sand and shale.
6021	6040		"		Hard shale.
6040	6116		"		Sand and shale.
6116	6136		"		Shale and siltstone.
6136	6211		"		Sand and shale.
6211	6251		"		Shale.
6251	6303		"		Sand and shale.
6303	6320		"		Shale.
6320	6392		"		Sand and shale.
6392	6422		"		Shale and sandy shale.
6422	6472		"		Sand and shale.
6472	6496		"		Hard sandy shale.
6496	6525		"		Sand and shale.
6525	6532		"		Hard shale.
6532	6559		"		Shale.
6559	6629		"		Sand and shale.
6629	6671		"		Shale and sandy shale.
6671	6858		"		Sand and shale.

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet 43

Operator FIELD AREA RESOURCES OIL COMPANY Field Aliso Canyon
Well No. Standard-Season 71-3 Sec. 25, T. (3)N, R. 16W B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION								
Top of Formation	Bottom of Formation												
6858	6928		Drilled		Sandy shale and shale.								
6928	6982		"		Sand and shale.								
6982	7017		"		Sandy shale and shale.								
7017	7140		"		Sand and shale.								
7140	7226		"		Sandy shale.								
7226	7315		"		Sand and shale.								
7315	7389		"		Shale and sandy shale.								
7389	7628		"		Sand and shale.								
7628	7668		"		Sandy shale and shale.								
7668	7709		"		Sand and shale.								
7709	7740		"		Shale.								
7740	7768		"		Hard sandy shale and shale.								
7768	7861		"		Sand and shale.								
7861	7929		"		Sandy shale and shale.								
7929	7994		"		Sand and shale.								
7994	8017		"		Hard shale.								
8017	8074		"		Sandy shale.								
8074	8181		"		Sand and shale.								
8181	8198		"		Sandy shale.								
8198	8328		"		Sand and shale.								
8328	8343		"		Hard shale.								
8343	8386		"		Hard sandy shale.								
8386	8425		"		Shale.								
8425	8446		"		Shale and shell.								
8446	8454		"		Shale.								
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="2">MAP</td> <td rowspan="2">MAP BOOK</td> <td rowspan="2">CARDS</td> <td rowspan="2">BOND</td> <td colspan="2">FORMS</td> </tr> <tr> <td>114</td> <td>121</td> </tr> </table>						MAP	MAP BOOK	CARDS	BOND	FORMS		114	121
MAP	MAP BOOK	CARDS	BOND	FORMS									
				114	121								
<u>7-5/8" Mercury Wire Line Cores</u>													
8464	8464		Cored	2' 0"	Sandy siltstone. Fairly hard, dark brown to brownish-gray. Generally massive. Foraminiferal. Fair dips 30° to 35°. Occasional inclusion of re-worked material.								
8464	8474		"	3' 0"	Sandy siltstone. As above. Fair dips 33° to 40°. Minor fracturing and slickensiding along bedding planes in bottom 1'-0" of core.								
8474	8481		"	3' 0"	Conglomerate. Breccia (?). Sub-angular fragments to 0'-1" in diameter generally in a limestone matrix. Considerable re-worked material. Numerous calcite veinlets and inclusions.								

DIVISION OF OIL AND GAS

SFZU-3

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet 14

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Standard-Josonon #1-5 Sec. 28, T. (3)N, R. 16 W, S. & B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
<u>7-5/8" Mercury Wire Line Cores (Cont'd)</u>					
8481	8491		Cored	4' 0"	1' 0" Conglomerate. Breccia (?). As above. 2' 0" Shale. Hard, dark brown, foraminiferal phosphatic nodules. Contains considerable re-worked material. Occasional streak to 0'-1" conglomerate or breccia(?) as above. Dips 15° to 34°.
8491	8501		"	4' 0"	1' 0" Shale. As above. Dips 15° to 29°. 2' 0" Shale. Hard, dark brown, foraminiferal, phosphatic nodules. Good dips 20° to 31°. Lowermost 2'-0" somewhat fractured and slickensided.
8501	8507		Drilled		Hard shale.
8507	8521		"		Hard shale and shells.
8521	8542		"		Sandy shale.
8542	8588		"		Hard shale.
8588	8644		"		Shale.
<u>7-5/8" Globe Wire Line Cores:</u>					
8644	8654		Cored	8' 0"	Shale. Hard, dark brown, foraminiferal. Abundant fish scales. Occasional small phosphatic nodule. Somewhat fractured and slickensided. Fair dips 19° to 35°.
8654	8664		"	9' 0"	2' 0" Shale. As above. Fair dips 18° to 25°. Grades to 7' 0" Sandy siltstone. Hard, dark brownish-gray, massive, foraminiferal. Minor fracturing and slickensiding. Occasional spot free heavy oil in fractures. No cut or odor.
8664	8673		"	8' 6"	Sandy siltstone. As above.
8673	8683		"	9' 0"	Sandy siltstone. As above. Fair dips 19° to 25°.

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon Sheet 45
Well No. Standard-Cannon #1-3 Sec. 28, T. 5 N, R. 16 E, S. 1 B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
		<u>7-5/8" Globe Wire Line Core (Cont'd)</u>			
8693	8693		Cored	No Recovery	
8695	8705		"	6° 0"	Sandy siltstone. As above.
8703	8709		"	6° 0"	Sandy siltstone. Firm to fairly hard, brownish-gray, massive. Occasional fish scale and small megafossil. Sandier portions oil stained. No to slight cut and odor.
8709	8719		"	6° 0"	Sandy siltstone. As above. Two 0°-2" streaks approach a fine, silty oil sand. Occasional streak to 0°-3" limestone shell. No to fair cut and odor.
8719	8729		"	9° 0"	Sandy siltstone. Firm to fairly hard, brownish-gray massive. Occasional fish scale and small megafossil. Sandier portions oil stained. No to fair cut. No to good odor.
8729	8739		"	2° 0"	1°6" Shell. Limey siltstone. Possible dip 22°. 0°6" Sandy siltstone. Firm to fairly hard, brownish-gray, massive. Occasional fish scale and small megafossil. Sandier portions oil stained. No to fair cut and odor.
8739	8749		"	8° 0"	Sandy siltstone. As above. No to slight cut and odor.
8749	8759		"	3° 0"	Sandy siltstone. As above. No to good cut and odor. One 0°-5" streak limey siltstone shell near top of core showing minor fracturing and slickensiding.
8759	8769		"	5° 0"	Oil sand. Firm, fine, well sorted. Good cut and odor. One 0°-3" streak limey sandstone 0°-6" from top of core.

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet #6

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon
Well No. Standard-Gesnon #1-3 Sec. 28, T. 3⁴N, R. 16 W, S. 3⁴B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
<u>7-5/8" Globe Wire Line Cores (Cont'd)</u>					
8769	8779		Cored	5 ⁰ 0"	Sandy siltstone. Firm to fairly hard, brownish-gray, massive. Occasional fish scale and small megafossil. Sandier portions oil stained and with top 3 ⁰ -0" approaching a fine silty oil sand. Slight to good cut and odor.
8779	8789		"	9 ⁰ 0"	Sandy siltstone. As above. No to good cut and odor. Somewhat fractured and slickensided.
8789	8799		"	0 ⁰ 1"	Oil sand. Hard, fine to medium, somewhat silty. Good cut and odor.
8799	8809		"	0 ⁰ 3"	Fragments oil saturated sandy siltstone, fine silty oil sand and shell. Siltstone and oil sand have good cut and odor.
8809	8819		"	0 ⁰ 6"	Fragments sandy siltstone, limey siltstone shell, and dark brown shale. Probably, at least in part,avings from higher up hole.
8819	8829		"	1 ⁰ 0"	As above.
8829	8839		"	4 ⁰ 0"	Sandy siltstone. Firm to fairly hard, brownish-gray, massive. Sandier portions oil stained. No to good cut and odor.
8839	8849		"	10 ⁰ 6"	Sandy siltstone.
8849	8859		"	1 ⁰ 0"	Fragments reworked siltstone, shale and limey siltstone shell. Probably, at least in part,avings from higher up hole.
8859	8869		"	1 ⁰ 0"	Shell. Sandstone. Fine to coarse, silty, poorly sorted, sometimes pebbly, bluish-gray, micaceous.
8869	8879		"	9 ⁰ 0"	Shell. As above

DIVISION OF OIL AND GAS

LOG AND CORE RECORD OF OIL OR GAS WELL

Sheet #8

Operator AMERICAN ASSOCIATED OIL COMPANY Field Aliso Canyon
Well No. Standard-Osmon #1-5 Sec. 23, T. 4 N, R. 16 E, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
<u>7-5/8" Globe Wire Line Corer (Cont'd)</u>					
8996	8996		Cored	6' 0"	4'0" Shell, sandstone. As above. Local portions of core are difficultly friable. Grades to --
8996	9004		"	4' 6"	2'0" Gray sand. Firm to fairly hard, fine to coarse, poorly sorted, very silty. No cut or odor. 0'9" Gray sand. As last above. 3'9" Shell, sandstone. As above.
<u>7-5/8" Globe Link Basket Corer:</u>					
9004	9006		Cored	0' 4"	0'8" Fragments shale. Hard, dark brown. Probablyavings from higher up hole. 0'8" Fragments sandy siltstone. Hard, bluish-gray.
9006	9009		"	0' 8"	Shell, sandstone. Fine to coarse, silty, poorly sorted, pebbly, bluish-gray, micaceous. No cut or odor.
9009	9012		"	1' 0"	Shell, sandstone. As above.
9012	9017		Drilled		Hard sand.
<u>7-5/8" Globe Wire Line Corer</u>					
9017	9026		Cored	3' 0"	Streams to 0'-3' sandstone shell, hard dark brownish-gray shale and limy siltstone. Minor fracturing and slickensiding. Slightly cross-bedded. Possible dip 40° to 50°.
9026	9033		"	No recovery	
9033	9037		"	No recovery	
9037	9038		Drilled		Hard sand.

MEMORANDUM GO-144

TO

0370075b

GTB
3-30

194 4

FROM

SUBJECT: Session-3

FILE:

8950-60 8' Gy as small pebbly hd sd. Occ thin
shaley silt + large flake of mica

8960-70 8' Ditto No sample

8970-76 6' Ditto

8976-86 2' Top 1' Gy fn sdy v. firm siltst
1' Gy as small pebbly hd sd.

8986-94 6' Top 4' Ditto last item
2' Gy as friable wet sd

8996-9004 5' Top 2' Ditto last item
3' Gy hd as small pebbly sd.

IBM

TO

3-27

1944

FROM

SUBJECT: SERMAN-1-3, SD - Assoc.

FILE:

- 8779-89 9' Top 1' Dk Oil saturated v. firm silt
8' Dk gy hd mass siltst., quite broken
& slickensided. Few scattered Oil stain
stks.
- 8789-99 No rec.
- 8799-8809 1' Gy hd broken & slickens siltst. Few
pieces dk oil saturated firm silt, soap. No
- 8809-19 1' Hd ss shell. Few pieces Oil saturated silt
- 8819-29 1' Small pieces of gy hd broken & slickens
siltst., oil saturated silt & v. hd ss. No
soap.
- 8829-39 5' Top 4' Dk oil stain firm mass silt,
gy in spots
1' Gy hd mass siltst
- 8839-49 10' Top 5' Rather dk gy hd mass silty
fm sd. (May be called a fm sd, silty,
indicative of Q₂ 40-50?)
5' Gy + oil stain v. firm mass
silty fm sd, broken & slickens. locally

TO

3-20

1944

FROM

SUBJECT: Section # 3, 50 - Assoc.

FILE:

Cores, wire line

- 8703-09 5' Dk gy hd mass fussy siltst
Mega fossils
Oil stained
" " bot. 2"
- 8709-19 16' Top 1' some dk gy siltst
5' Dk oil staining, firm mass siltst
- 8719-29 8' dk gy hd mass siltst, dk oil
" " " " Indistinct Dip 27°
- 8729-39 3' Top 1' Hd ss shell, mega fossils
2' dk gy hd mass siltst, dk oil
stain in bot. 4"
- 8739-49 9' Some dk gy hd siltst 4" stk
near top broken & slickensided
- 8749-59 3' Top 1' some dk gy hd siltst, slickens.
1' dk oil stain in silty v. firm sd.
1' dk oil stain in ss v. firm poorly
sorted sd.
- Top Section Oil Zone 8759', & possibly as high as 8752'.
- 8759-69 5' Dk br. med-s. ss v. f. unsorted
Oil sd. Looks v. good. Rich odor
v. dk br cut.
- 8769-79 6' Top 1' Dk oil saturated firm fussy silt
2' Dk gy v. oil stain hd siltst Indistinct Dip 25°
1' Dk br. med grain v. f. Oil sd.
2' Oil saturated firm silt. BM

MEMORANDUM GO-144

G.T.B.

3-20

1944

TO

FROM

SUBJECT: Sashon # 1-3, SO - Assoc.

FILE:

8481-91 4' 2' DL δ + 1+ br + gy hd cemented
 "brecciated" conglom, w/ thin calc. veins
 2' DL br hd lam sh, dense Dip 23°

Ab. Fossils

Base of Conglomerate 8483'

Top Miocene 8483' + Top Modular shale

8491-8501 4' Same dk br hd lam. sh. w/ 1+
 br nodules,

8501-8644 Drilled

8644-54 9' Same dk br lam. hd sh.

Dip 27°
 32° 8654-104 9' Ditto, brk. + shaker locally Dip 23°

8664-73' 9' Top 1' Same dk br dense sh.
 8' Dk br ^{fn} sdy mainly mass quite
 hd sh.

8673-83' 9' Dk br ^{fn} sdy mainly mass hd sh.Dip 21° - 28°

8683-93 No rec.

8693-8703 1' Ditto

IBM

TO

3-12

1944

FROM

SUBJECT: Section No. 1-3

FILE:

Associated

Sec. 28, 3N, 16W

Aliso Canyon

White lime cores:

2520-24 2' Br. gy Oil stained v. sdy (Fu)
mainly mass. sh. Micas
Lenticular Fragments Faint Dip 33°

2520-22 3' Br. gy Oil stained faintly bedded
v. sdy (Fu) sh. w/ embedded fragments
of rounded dk br. low sdy sh. limestone
Few bedding planes near bottom
slight dip Dip 36° to 40°
Appears to be Plin w/ some
remnant Micas embedded

2520-21 2' Dk gy + dk br. mass. w/ rounded
ld. sh. ls. frags, including embedded
frags of a massive br + dk. ls.
White calc. vein scattered through
part of section, more rounded dk
sh. ls. frags. sh. ls. frags. getting into
matrix sh.

IBMA

MEMORANDUM GO-144

TO 03700756 ETS
3-30 194 4

FROM _____

SUBJECT: Session-3 FILE: _____

8950-60 8' Gy as small pebbly hd sd. Occ thin shaly silt + large flake of mica

8960-70 8' Ditto No sample

8970-76 6' Ditto

8976-86 2' Top 1' Gy fn sdy v. firm siltst
1' Gy as small pebbly hd sd.

8986-94 6' Top 4' Ditto last item
2' Gy as friable wet sd

8996-9004 5' Top 2' Ditto last item
3' Gy hd as small pebbly sd.

IBM

TO

3-28-44

194

FROM

SUBJECT: Session # 1-3, SO-Assoc.

FILE:

JFT 3/25/44 8695'-8849' Valve open 20 minutes.

Moderate steady blow thruout test Gas in 17 min.

Recovered 1390' rise in 4 1/2" DP (19.7 bbls) Top 500' Oil
 Jud + bot. 730' Oil. Oil sample 730' above tool tested

1.2° wet corrected gravity, 44% cut (mud) Oil sample
 190' above tool tested 16° grav, 28% cut (6% water, 22% mud)

Oil sample @ tool 12° grav, 52% cut (3% water, 49% mud)

Dry gravity 21.4°

8849-59 1' Gy hd fm sd, thinly interbedded w/ dk
 gy hd siltst. Dip 47°, taken from small piece

8859-69 1' Gy cs v. firm pebbly sd No sample

8869-79 9' Gy cs to v. cs v. firm unsorted sd
 ("salt + pepper") No sample

8879-89 4' Ditto

8889-99 1' Ditto, small pebbly, occ. large flake mica

8899-8910 1' Gy + lt Oil stained fm sdy firm silt
 (Sampled away by Core Lab)

8910-20 1' Gy hd fm ss. No sample

8920-30 1' Oil stained firm fm sdy silt

8930-40 4 1/2' Gy v. firm mass v. sdy (fm) siltst. Megafossils

8940-50 8' Gy cs-v. cs small pebbly v. firm unsorted sd
 Maybe wet, however, it is v. tight.

TO _____

3-27

1942

FROM _____

SUBJECT: SERMON-1-3, SD-Assoc.

FILE: _____

8779-89 9' Top 1' Dk Oil saturated v. firm silt
 8' Dk gy hd mass siltst., quite broken
 + slickensided. Few scattered Oil stain
 siltst.

8789-99 No rec.

8799-8809 1' Gy hd broken & slickens siltst. Few
 pieces dk Oil saturated firm siltst. ^{N.} some

8809-19 1' Hd ss shell. Few pieces Oil saturated

8819-29 1' Small pieces of gy hd broken & slickens
 siltst., Oil saturated silt & v. hd ss. ^{N.} some

8829-39 5' Top 4' Dk Oil stain firm mass silt
 gy in spots
 1' Gy hd mass siltst

8839-49 10' Top 5' Rather dk gy hd mass silty
 fm sd. (may be called a fm sd. siltst.)
 Indistinct Q₁₀ 40-50?

5' Gy + Oil stain v. firm mass
 silty fm sd., broken & slickens. locally

TO

3-20

194

FROM

SUBJECT:

Section #3, SO-Aspac

FILE:

Cores, wire line

- 8703-09 5' Dk gy hd mass fm sdy siltst
Mega fossils
Oil stained
" in bot 2"
- 8709-19 6' Top 1' same dk gy siltst
5' Dk Oil stain of firm mass siltst
- 8719-29 8' Dk gy hd mass siltst, dk Oil
stain in bot 2" Indistinct Dip 27°
- 8729-39 3' Top 1' Hd ss. shell, mega fossils
2' dk gy hd mass siltst, dk Oil
stain in bot 2"
- 8739-49 9' Same dk gy hd siltst. 4" sth.
near top broken & slickensided.
- 8749-59 3' Top 1' same dk gy hd siltst, slickens
1' Dk Oil stain in silty v. firm sd.
1' Dk Oil stain fm - ss v. firm poorly
sorted sd.
- Top Section Oil Zone 8759', v possibly as high as 8752'
- 8759-69 5' Dk br. med-slice v. fable unsorted
Oil Sd. Looks v. good. Rich odor
v. dk br cut.
- 8769-79 6' Top 1' Dk Oil saturated firm fm sdy silt
2' Dk gy & oil stain hd siltst Indistinct Dip 27°
1' Dk br. med grain v. fable Oil Sd.
2' Oil saturated firm silt. **BM**

G.T.B.

3-20

1945

TO

FROM

SUBJECT: Sashon #1-3, 50.- Assoc.

FILE:

8481-91 4' 2' DL dk + lt br + gy hd cemented
 "brecciated" conglom, w/ thin calc. veins
 2' DL br hd lam sh, dense Dip 23°

Ab. Forams

Base of Conglomerate 8483'

Top Miocene 8483' + Top nodular shale

8491-8501 4' Same dk br hd lam. sh. w/ lt
 br nodules,

8501-8644 Drilled

8644-54 9' Same dk br lam. hd sh.

Dip ^{27°} 32°8654-64 9' Ditto, brk. + slicken locally Dip 28°

8664-73 9' Top 1' Same dk br dense sh.
 8' Dk br ^{fm} sdy mainly mass quit
 hd sh.

8673-83 9' Dk br ^{fm} sdy mainly mass hd sh.Dip 21-28°

8683-93 No rec.

8693-8702 1' Ditto

IBM

TO

3-12

1945

FROM

SUBJECT: Section No. 1-2

FILE:

Associated

Sec. 28, 3N, 16W

Aliso Canyon

Wire line cores:

5159-79 2' Br. gy Oil stained v. sdy (fn)
 mainly mass. sh. Miocene
 Laminated Fossils Faint Dip 33°

5169-79 3' Br. gy Oil stained faintly bedded
 v. sdy (fn) sh. w/ embedded fragments
 of rounded dk br. low sdy sh. laminated
 Few bedding planes near bottom
 slickensided Dip 34° to 40°
 Appears to be Plio w/ frags of
 rounded Miocene embedded.

474-81 2' Dk gy + dk br. mass. w/ coarse
 bed conglomerate, including embedded
 frags of a massive br + dk. massive
 white calc. veins scattered throughout
 Part of specimen was laminated dk
 sh. bedded sh. laminated granitic with
 nodular sh.

IBM

TO

FROM

SUBJECT: Tidewater Assoc. Oil Co. - Assoc. Div.

FILE:

Standard-Season No 1-3

Fluv. 2731

Sec 28, 3N, 16W

Alijo Cu.

Ditch sampled borrowed for inspection

from T.W.A. Sampled abt. 1 1/2 - 2 cu. in. volume, ^{mostly washed clean.}240-440 = 1/4 blocky pcs dk br. and buff Tan sh
and sherty sh

440-460 ditto + a frago gy. silty sh. up. Velv. zone sh.

460-80 " + 2 pcs lt. gy. very coarse ss.

1 pc. green gy. calc. ss.

480-500 " + 1 pc. dk green-gy rotten basalt?

500-20 Gy. (w/dlight green shade) Clean very coarse ss.

no mica.

Soaked - No le ssils

540-620 Blk. "basalt."

620-40 ditto + coarse pcs. lt greenish gy. muddy ss.

40-60 few pcs. "basalt"; mostly " " " " " "

60-80 mostly green basalt

680-700 " green-gy. fine argill. ss. + 1 pc. lt. gy. very coarse.

ss. w/ coarse oo pebbles lt. gy. porphyry?

700-800 mostly "basalt" + few pcs white non-micae. ss.

800-20 v [] pcs. soft, greenish-gy. mic. siltstone -

microfine, dk. br.

20-40 " pcs. ditto + "basalt"

40-60 1 pc. drabish-green muddy poorly sort. biotitic

ss. + few pcs basalt Very unusual sample

860-920 white very coarse biotitic ss.

green-gy. muddy " ss

TO

194

FROM

SUBJECT: Season 1-3

FILE:

- 920-1480 smvr samples = $\pm \frac{1}{2}$ cwin. pec. \rightarrow
 H. qy. ces. biotitic ss, greenish qy. hd.
 calc. muddy, ^{slightly} ^{pyroclastic} fine ss. and ls. washed sample at 1000' no fossils
- 1480-1700 ditto. 1560-1600 washed - no fossils 1720-40 ditto
- 1700-1800 " + occa. pec. pebbles porphyry and
 gtz. at 1700 dk. bluish qy. ss. +
 varied mints. epidote, titanite?
 at 1800 one pec. ss. ditto + smvr
 amt. dk. green chlorita? Distinct influx of
 dark bluish qy. gtzose. pebbles
 giving sample bluish cast.
- 1800-1920 Bluish qy. feldspathic - gtzose - biotitic ss.
 and cgl. $\frac{1}{50}$ N Soak 1800-20 No fossils
 1900
- 1920-40 fresh sample dk. br. Tin sh \rightarrow (infault zone?)
- 1920-200 bluish qy biotitic ss. smvr amt
- 1980-2200 ditto 1800-1920 w/ increasing amt. greenish
 gray + yellowish green muddy soft ss. Saugus
- 2200-60 ditto w/ 5% " " " " " "
- 2260-2300 poor smvr clean samples ditto. 2260 soaked
 100 No fossils
- 2300-40 " samples + occa. pec. yellow green
 muddy soft siltstone
- 2340-60 poor sample washed clean
- 2380-2420 " " s " " + few pec. siltstone
 mostly dk. \rightarrow gtz
- 2420-3200 ± 1 mm to $\frac{1}{2}$ " qv. and broken pebbles w/
 s few pec. Tin sh and greenish qy. muddy Saugus ss.

TO _____

194

FROM TWA

SUBJECT: Standard-Sesnon #1-3

FIELD SAMPLES

3200-20 Ditch \pm 3 cu. in. qvt. up to \pm $\frac{1}{2}$ " dia. WASHED
CLEAN

mostly dk. qy. hd. qtzose rock - part

porphyritic. minor lt. qy. quartzose coarse grain
granitic
occa. pec. nodular sh. Severely pec.  lt. greenish qy siltstone
and argill. fine ss. Ttp?

Severely pec. neutral qy. fine soft. ss. +

First fossils carbon and \pm 2mm. pelecyp. shells. Tp

Severely pec. greenish qy muddy ss. ogo?

x lt. qy. fine grain porphyritic igneous rock

Severely pec. lt. qy. oca. biotitic ss. ogo?

ALL OF MATL. ABOVE HAS TAR STAIN

x bluish qy. fine grain igneous rock 
not a cobble.

x green rotten basalt?

Severely pec. lt. qy. biotitic ss. + sm. pelecypod = Tp?

3220-40 abt. same + one pe. lt. qy. ss. + sm. pelecyp.

3240-60 practically all cobbles, pebbles qtz., granitic
rock, dk porphyry.

few pec. fine tar sed.

3260-80 Gravel up to \pm $\frac{1}{2}$ "   smooth

occa. pec. w/ matrix oca. ss. + frags.

Oyster, Calliostoma?

some tar in cracks in pebbles and ss. IBMS3280-3300 ditto WHEN REPLY IS REQUIRED, FORWARD ORIGINAL AND ONE COPY. 2 few pec. lt. greenish qy. muddy ss. = Tp

TO _____

FROM _____

SUBJECT: Standard Section 1-3

FILE: Samples

3300-20 Ditch ditto gravel + occas. lumps

1 ft. green muddy soft ss. x frag.'Delecyp. shell stuck to gy. greenish
gray fine ss. matrix.3320-40 Ditch ditto one pc. 1 ft. gy. occ. ss. w/
ostrea? frag

3340-60

3400-3560 } mostly qul. ditto + occas. pcs. green-gy. muddy
ss. and siltstone = Scrupus lithal.3560-80 $\pm \frac{1}{4}$ " qul. ss above + several pcs.
green muddy-clayey p. s. soft ss.3580-3600 ditto w/ abt 40% green muddy
 $\frac{1}{50}$ H ss. and siltstone. Some calc. tubes3600-70 ditto A Poly. twinned feldspars iridescent IBM20-40 ditto40-60 $\pm 20\%$ qul. ditto. $\pm 50\%$ 1 ft. gray-green siltstone
 $\pm 30\%$ green gy + green muddy soft ss.

TO _____

FROM _____

SUBJECT: Standard-Lesson 1-3FILE: SAMPLES

- 3660-80 Ditch $\pm 70\%$ fine gvl.
 $\pm 80\%$ yellowish green + grayish green
 siltstone and muddy ss.
- 3680-3700 " ditto + several flaky pec. dense
 green claystone hard contained specks
 several pec. white soft marly limestone ^{carbon}
 + freq. fish bone
- 3700-20 " $\pm 70\%$ ± 3 mm. gvl.
 $\pm 20\%$ white marly ls. as above
 $\pm 10\%$ green hd claystone
 1 pc. blk carbonaceous mudstone
- 3720-40 " same sample ditto few pec. green
 muddy soft ss.
- 3740-60 " very same sample
- 3760-80 " ± 1 mm to $\frac{1}{4}$ " gvl.
 $\pm 10\%$ yellow-green, green muddy
 soft coe. ss.
- 3780-3800 " ditto w/ $\pm 30\%$ " " ss.
- 3800-20 " " "
- 20-40 " " "
- 40-60 " All clean gvl.
- 80-3900 " " + few pec. green silty mudst.
 weighed to N water and
 x hornblende
- 3900-20 ditto + 1 pc. dk green-gy. ^{BM}
- 40-60 " + 2 pec green muddy coe sd
- 3980-4000 gvl. " + 10% green muddy sd, some w/ reddish stks

TO

3-28-44 194

FROM

SUBJECT: Session # 1-3, SO-Assoc.

FILE:

J.F.T. 3/25/44 8695'-8849' Valve open 20 minutes.

Moderate steady blow thruout test Gas in 17 min.

Recovered 1390' rise in 4 1/2" DP (19.7 blks) Top 500' Oil
 ud + bot. 730' Oil. Oil sample 730' above tool tested
 12° wet corrected gravity, 24% cut (and) Oil sample
 190' above tool tested 16° grav, 28% cut (6% water, 22% mud)
 Oil sample @ tool 12° grav, 52% cut (3% water, 49% mud)
 Dry gravity 21.4°

- 8849-59 1' Gy hd fm sd, thinly interbedded w/ dk
 gy hd siltst. sh. Dip 47°, taken from small piece
- 8859-69 1' Gy cs v. firm pebbly sd No sample
- 8869-79 9' Gy cs to v. cs v. firm unsorted sd
 ("salt + pepper") No sample
- 8879-89 4' Ditto
- 8889-99 1' Ditto, small pebbly, occ. large flake mica
- 8899-8910 1' Gy + lt Oil stained fm sdy firm silt
 (Sampled away by Core Lab)
- 8910-20 1' Gy hd fm ss. No sample
- 8920-30 1' Oil stained firm fm sdy silt
- 8930-40 4 1/2' Gy v. firm mass v. sdy (fm) siltst. Mega fossils
- 8940-50 8' Gy cs-v. cs small pebbly v. firm unsorted sd
 Maybe wet, however, it is v. tight.

TO _____ 194 _____

FROM _____

SUBJECT: Std. - Section #1-3 TWA FILE: Ditton ^{soak 1/2 N} _{heavy phono} ^{minty}

4020-60 qul. + greenish-qq silty mudstone soft

4080-4100 ditto + few pcs. grayish-green chloritic fines.

4100-20 ditto + sp. of green siltstone + chlorite
Some w/ brownish oxidized stks.

4140-60 } ± 60% green muddy siltstone ditto ^{soak 1/2 N} _{No forms}

4180-4200 } ± 40% qul. ditto + ~~1~~ pcs. ^{R carbon} _{incl. some pellets}

4200-20 ditto 4020-40 some pct. + specks carbon

4220-60 ditto 4140-60 soak 4220-40 1/2 N _{No forms} ^{some pink mudstone}

4280-4300 " part yellowish

4300-40 largely gray-green muddy firm siltstone 
flakey pcs.

40-60 ditto w/ 60% qul.  _{see en. sd.}

* 4360-4400 " w/ sm. frags. sm. pelecypods - increase to many at ^{4400'}

4420-40 mixed qq mud, fine sd, ~~in~~ few pcs. dk green muddy siltstone

4440-60 Greenish-qq - dk green muddy siltstone w/ numerous minute pelecypods 

* 4460-4500 ditto w/ green ^{VCElphidium soaked out} _{soft} mudstone

20-60 "

60-4600 "

40-80 " w/ some pcs. yellowish claystone

80-4700 "

4700-40 " + few pcs. dk green carbonaceous ^{BM} _{clay}  _{fine annulations smooth}

4740-60, 4780-4800 ditto 4700-40 _{See sample sm. envelope}

4820-40 qq. sm. _{shells}

4840-60 Greenish-qq clayey siltstone. 4860-80 fine qul. many dk bluish-qq. _{see 4820-40}

TO _____

194

FROM _____

SUBJECT: TWH - Standard - Section # 1-3

FILE: _____

Ditch -

- 4400-4600 Essentially cuttings neutral-grey siltstone & fine grained friable silty sd - c Minute molluscs & Mill. frags - Also forams? -
- 5800-5960 Essentially pea gravel w/ occ. rounded frags qz & green-grey siltstone. Some samples w/ gray mud.
- 5960-6000 Practically All gravel
- 6000-20 Gray mud & gravel.
- 6660-6780 Essentially gravel w/ some qz mud & few pieces qz siltstone
- 6780-6860 Gray Pliocene siltstone cuttings w/ very minor amt gravel.

Ditch

- 7700-7900 Med dk qz argill siltstone mottled w/ qz silt.
- 8000-8360 Ditto Also 8360-8454

CORE

- 8454-64 Rather massive dk. brn-qz siltstone - Occ Mollusc frags
- 8464-74 Dip $\pm 40^\circ$ - Brn-qz sdy siltstone - faintly Bedded - - Occ Glauconite
- 8474-81 Hard mottled dk-qz sporadic s.s. - UA Sporbo, glauconite - & Liebusella L worm smooth, occ fish Bones, one piece Brn limestone - P/M contact - immediately Below? -

- 8491-8501 DK brn phosphatic sh - OC forams & Calyptra nodules -
Dip $25^\circ-30^\circ$ -

IBM

SUBJECT: Standard - Section #1-3

FILE: Sample description

8644-54 Compact dk brn shale - somewhat silty Occ crushed forams & RC fish frags. Dip 25°-30°

8654-64 DK brn compact shale as above. Dip 25°-30°

8664-73 Mohinian - Lूसियन Break in this core? - Top ± 4' of core dk brn shale as above - Bottom ± 5' more of ^{Mohinian} ~~Lूसियन~~ 8668± greyish Brn, much more silty massive sh w/ more forams.

8673-83 Rather massive grey-brn silty to sdy shale - VC crushed forams incl. Valv. sp., Non. 362L, Anquilo. 796 Most forams crushed & indet. Also occ fish Rems & S frags (Gastropod (nodose) ~~fish~~ Dip (mostly on orientation of forams) ± 32°

IBM

TO _____

FROM _____

SUBJECT: Standard Section #1-3

FILE: Sample description

- 8703-09 Mass. compact gy siltstone - Occ forams incl *Ulv. sp.*, *Mon-362?*
Dip approx. 30°
- 8709-19 Siltstone as above - one pec rather hd & w/ one BIK rounded
Pebble $\pm 1/4"$ - Part of siltstone quite sdy - this portion (oil stained)
good odor.
- 8719-29 Mass. compact gy siltstone - mottled (oil-stains)
- 8729-39 Siltstone as above - w/ several pecs hd lined siltstone
- 8739-49 Gy siltstone as above - none of sample oil-stained.
Fairly consistent fracture from 20° - 30° = Dip?
- 8749-59 Siltstone - similar to above - Part w/ mottled (oil-stains)
- 8759-69 Few pecs thin but friable, rather esc, silty (oil-st)
- 8769-79 Mass. to crossbedded gy-siltstone, part w/ mottled (oil-stain)
& fine to med. grained (oil-st)
- 8779-89 Siltstone as above w/ one pec fine grained (oil-st)
Part of siltstone very compact - part moderately sheared.

9617 Steep dips

IBM

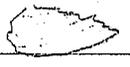
TO _____

194

FROM _____

SUBJECT: Standard Section #1-3

FILE: Sample description

- 8809-19 One pec fine grained oil-sd - Remainder hd grey fossiliferous ss
 Small Pelecypods & Gastropods - leached -   - crushed.
- 8829-39 Part Compact, dense gy siltstone containing ooc forams &
 mollusc frags - Part very fine grained silty gy sd -
 faint oil odor -
- 8839-49 Massive brzy siltstone - Part mottled oil stained
- 8849-59 Compact fine grained grey sd w/ streaks of dense, slickensided
 dk grey shale - sd contains Bronze colored to dk Brn micas -
 Resembles Eocene - One pec w/ apparent Dip 45°-50°
- 8859-8930 - No Samples - sd -
- 8930-40 Fine grained massive grey sd - firm But friable - ooc
 Small Mollusc frags incl Smashed Pelecypod midst  (grey)
 & Small Pecten sp.  - One pec w/ string of small
 Colophane nodules → 
- 89A0-50 Ore, poorly sorted gy sd w/ pebbles up to 1/4" - Part oolc. &
 Quite hd - Also several pecs dk gy pebbly sdy mudstone
 Minute leached Mollusc frags?

IBM

TO _____

194

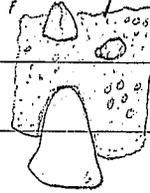
FROM _____

SUBJECT: Standard Section #1-3

FILE: _____

8950-60 Med to coarse firm gray sd & dk gray sdy, pebbly mudstone -

Rounded BLK Pebbles up to 1" in diameter

Occ small ~~smoothed~~ Mollusc frags -

8976-86 Compact med to fine grained gray sd - occ small leached Mollusc remains -

8986-96 Firm but friable mass gray med. grained s.s. -

8996-9004 Firm to hd coarse gray s.s. - Part w/ small angular frags dk gray
hd shale - This may have been derived from Eocene -

9006-09 One piece rather hd coarse gray s.s.

9017-26 Firm coarse gray s.s. mottled w/ dk gray pebbly mudstone & containing
frags to small blocks dk gray dense sh. - = Eocene detritus ? -

IBM

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off
(FORMATION TESTER)

No. T 1-42830

Los Angeles 14, Calif. May 9, 1944

Mr. R. S. Curl
Los Nietos, Calif.

Agent for TIDE WATER ASSOCIATED OIL COMPANY

12-1

DEAR SIR:

Your well No. Standard-Sesnon 1# 3, Sec. 25, T. 4N, R. 16 W., S. E. B. & M.
Aliso Canyon Field, in Los Angeles County, was tested for water shut-off
on May 6, 1944. Mr. J. I. White, Inspector, designated by the supervisor,
was present as prescribed in Sec. 3222 and 3223, Ch. 93, Stat. 1939; there were also present
John F. Sinclair, Engineer, and W. W. Roberts, Drilling Foreman

Shut-off data: 7 in. 23, 26 lb. casing was ¹⁶⁻cemented at 8725 ft. on May 2, 1944
in 10-5/8" hole with 50 sacks of cement of which 4 sacks was left in casing.
Casing record of well: 13-3/8" con. 527'; 9-5/8" con. 6065', N.P.; 7" con. 8725', V.S.O.

Reported total depth 9038 ft. Bridged with cement from 8790 ft. to 8730 ft. Cleaned out to 8730 ft. for this test.
A pressure of 1500 lb. was applied to the inside of casing for 30 min. without loss after cleaning out to 8716 ft.
A Johnston tester was run into the hole on 3-1/2 in. drill pipe, with xxx ft. of water cushion,
and packer set at 8700 ft. with tailpiece to 8724 ft. Tester valve, with 3/8" bean, was opened at 7:24 a.m.
and remained open for 1 hr. and xxx min. During this interval ~~there was a mild diminishing blow for~~
~~10 minutes, puffs of 5 second duration for 7 minutes, and no blow for the balance of the~~
~~test.~~

INSPECTOR WHITE VISITED THE WELL FROM 7:45 TO 11:50 P.M., MAY 1, 1944, AND MR. SINCLAIR
REPORTED THE FOLLOWING:

1. A 17" rotary hole was drilled from the surface to 527'; a 12-1/4" rotary hole, from 527' to 6065'; a 10-5/8" rotary hole, from 6065' to 8745', and a 7-5/8" rotary hole from 8745' to 9138'.
2. Electrical core readings showed the top of the Miocene 8466', and the top of Sesnon zone at 8742'.
3. On April 21, 1944, 9-5/8", 36, 40 and 43-1/2 lb. casing was cemented at 6065' with 500 sacks of cement. The casing shoe was not tested.
4. On April 25, 1944, 7", 23, 26 and 29 lb. casing was cemented at 8725' with 250 sacks of cement.
5. Fifty-two feet of ^{set} cement was drilled out of the 7" casing (equivalent to 10 sacks).
6. The Johnston tester was run into the hole on 3-1/2" drill pipe and the wall packer was set at 8675'.
7. The tester valve was opened at 4:00 p.m. and remained open 1 hr. and 40 minutes. During this interval there was a mild decreasing blow for 45 minutes, and occasional light puffs for 55 minutes.

THE INSPECTOR NOTED THE FOLLOWING:

1. When the drill pipe was removed 7000' of very light, oily, gas-cut drilling fluid was found in the drill pipe above the tester, equivalent to 52 bbl.

INSPECTOR WHITE ARRIVED AT THE WELL AT 10:45 A.M., MAY 6, 1944, AND MR. SINCLAIR REPORTED:

1. On May 2, 1944, 50 sacks of cement was squeezed away through a Baker cement retainer set at 8702'. The final pressure was 1900 lb.
2. Cement was drilled out of the 7" casing from 8702'-8725' and the hole was cleaned out to 8730'.

THE INSPECTOR NOTED:

1. When the drill pipe was removed 240' of gassy, oily, medium drilling fluid was found

R. D. BUSH, State Oil and Gas Supervisor



STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

OR

Special Report on Operations Witnessed

No. T 1-42630

Page 2

TIDE WATER ASSOCIATED OIL COMPANY

Well No. "Standard-Sesnon 1" 3, Sec. 28, T. ³4N., R. 16 W., S.B. B. & M.

was found in the drill pipe above the tester, equivalent to 1.8 bbl.

2. The recording pressure bomb chart showed that the tester valve was open 1 hr.

The test was completed at 11:45 a.m.

THE SHUT-OFF IS APPROVED.

cc- L. C. Decius
Jos Jensen
G. C. Pfeffer (2)
JLW:OH

S/P

R. D. BUSH

State Oil and Gas Supervisor

By *E. H. Messer* Deputy

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P 1-38945

Los Angeles 14, Calif. October 18, 1943.

Mr. R. S. Curl,

Los Nietos, Calif.

Agent for TIDE WATER ASSOCIATED OIL COMPANY

DEAR SIR:

Your 3 proposal to drill Well No. "STANDARD-SESSION 1" 3

* Section 28, T~~1~~N., R16 W., S.B. B. & M., Aliso Canyon Field, Los Angeles County,

dated Oct. 13, 1943, received Oct. 14, 1943, has been examined in conjunction with records filed in this office.

*Correction letter 9-28-53 OH

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:

"The well is 1840 feet S. and 5255 feet W. from Station #84

The elevation of the derrick floor above sea level is 2680 feet (approx) 2731.24 feet.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 8530 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
	13-3/8	54.5	J-55	500	Cemented
	7	23 to 29	J-55 & N-80	8515	Cemented
	5	18	N-80	8775	Landed

Well is to be drilled with rotary tools.

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. Mud fluid consistent with good drilling practice shall be used and the column of mud fluid maintained at all times to the surface, particularly while pulling the drill pipe.
2. Blowout prevention equipment, sufficient to provide a complete close-in of the well under pressure at any time, shall be installed.
3. Any hole to be sidetracked in any oil zone shall be filled with cement, if possible.
4. This division shall be consulted before running the 7" casing.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS a test of the effectiveness of the 7" shut-off.

cc- P. A. W.
L. C. Decius
Jos. Jensen
G. C. Pfeffer (2)
ERMA:OH

R. D. BUSH
State Oil and Gas Supervisor

By E. H. Mussen Deputy

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL & GAS
RECEIVED
OCT 14 1943

14

Notice of Intention to Drill New Well

This notice must be given and surety bond filed before drilling begins

LOS ANGELES, CALIFORNIA

037-00756

Calif. _____ 19____

DIVISION OF OIL AND GAS

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-Sesnon 1-3, Sec ²⁸~~78~~, T~~4~~³-N, R. 16-W, S. B. B. & M., Aliso Canyon Field, _____ County.
 Lease consists of _____

The well is 1840 feet N. or S., and 5255 feet E. or W. from 84
(Give location in distance from section corners or other corners of legal subdivision)

The elevation of the derrick floor above sea level is 2680 feet. ^{2731.24**}

**Correction letter 9-28-53 OE We estimate that the first productive oil or gas sand should be encountered at a depth of about 8530 feet. ⁽⁸⁵³⁰⁾

10/14/43
GCP. to
Ema

*Correction letter 9-14-44. my 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
13-3/8	54.5	J-55	500	
7	23 to 29	J-55 & N-80	8515	
5	18	N-80	8775	

* Corrected elevation filed on form 100. ~~set~~ (9/25/44)

Well is to be drilled with rotary cable tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address _____

(Name of Operator)

Telephone number _____

By _____

ADDRESS NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED

MAP	184	10.15.43	Blanket	43486
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