'^'^TURAL RESOURCES AGENCY OF CALIFORI
JEPARTMENT 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 **216-0491**

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
October 12, 2016

Your operations at well **"Porter" 30**, A.P.I. No. **037-00717**, Sec. **27**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **9/23/2016**, by **Bryan Norman**, a representative of the supervisor.

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

DECISION:

APPROVED

BWN/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By
Patricia A. Abel, *District Deputy*

MD106.

No. T 216-0491
16, 1

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CASING PRESSURE TEST/PFO

Operator: Sothern California Gas Co. Well designation: Porter 30
Sec. 27, T. 03N, R. 16W, SB B.& M. API No.: 037-00717 Field: Aliso Canyon
County: Los Angeles. Witnessed/Reviewed on: 09/23/16. B. Norman, representative(s)
of the supervisor, was/were present from 1256 to 1356.
Also present was/were Jason Fike WSM for So Cal Gas
Casing record of well:

The operations were performed for the purpose of: Pressure test 7'-5-1/2' casing annulus

Pressure Test Casing

Packer/Bridge Plug at: Packer 7100' Well Type: GS
Casing Pressured With: Polymer Volume: NA
Casing Pressure: Start Psi: 530 Start Time: 1256
Casing Pressure: End Psi: 533 End Time: 1356
Pressure Held: 60 min. Total Drop in Pressure: +3 psi +1 %
Tests Results: X Good ____ No Good
Remarks:

PFO

Casing or Tubing Pressure: ____ psi
Initial Pressure Drop: ____ psi after ____ sec./min.
Final Pressure: ____ psi
PFO Timeframe> Date: ____ Time: ____ To Date: ____ Time: ____
Total Time: ____

Remarks:

OGD6A (1/07)

CalWIMS UIC DB

UIC Folder

TURAL RESOURCES AGENCY OF CALIFORI
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1000 S. Hill Rd, Suite 116 Ventura, CA 93003-4458
Phone:(805) 654-4761 Fax:(805) 654-4765

No. T **216-0492**

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
October 12, 2016

Your operations at well **"Porter" 30**, A.P.I. No. **037-00717**, Sec. **27**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **9/23/2016**, by **Bryan Norman**, a representative of the supervisor.

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

DECISION:

APPROVED

BWN/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By pp. E
Patricia A. Abel, *District Deputy*

API No. 037-00717 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 216-0492

MD106. **BLOWOUT PREVENTION EQUIPMENT MEMO** 12, 1

Operator Sothern California Gas Co. Well Porter 30 Sec. 27 T. 03N R. 16W

Field Aliso Canyon County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	09/23/2016	B. Norman	(1300 to 1415)	Jason Fike	WSM
2nd			(to)		

Contractor Rival Rig # 6 Contractor's Rep. & Title

Casing record of well: '

OPERATION: Testing (inspecting) the blowout prevention equipment and installation. Critical well? Y ☐ N ☒

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

Proposed Well Opns: Rework . MACP: psi

Hole size: " fr. ' to ', " to ' & " to '

REQUIRED BOPE CLASS: III 5M

CASING RECORD OF BOPE ANCHOR STRING

Size	Weight(s)	Grade(s)	Shoe at	CP at	Cement Details	Top of Cement Casing	Top of Cement Annulus
7"	23 & 29		7229				

BOP STACK / **TEST DATA**

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
A	CSO	Hydrill	GK 10	11"	5M		9.81						
PR	2-7/8	Shaffer	LXT	11"	5M		2.8						
BR	CSO	Shaffer	LXT	11"	5M		2.8						

TOTAL: 15.41

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 2900 psi

Total Rated Pump Output gpm Fluid Level

Distance from Well Bore 60 ft. OK

	Accum. Manufacturer	Capacity	Precharge
1	Koomey	80gal.	1000psi
2		gal.	psi

CONTROL STATIONS	Elec.	Hyd.	Pneu.
Manifold at accumulator unit		X	
Remote at Driller's station			X
Other:			

EMERG. BACKUP SYSTEM			Press.	Wkg. Fluid
N_2 Cylinders	1	L= 55 "	2600	9.65gal.
Other:	2	L= 55 "	2550	9.5gal.
	3	L= 55 "	2650	9.8gal.
	4	L= 55 "	2600	9.65gal.
	5	L= 55 "	2600	9.65gal.
	6	L= 55 "	2600	9.65gal.
		TOTAL: 57.9		ga

HOLE FLUID MONITORING	Alarm Type: Audible	Alarm Type: Visual	Class
Calibrated Mud Pit			A
Pit Level Indicator			
Pump Stroke Counter			B
Pit Level Recorder			
Flow Sensor			C
Mud Totalizer			
Calibrated Trip Tank			
Other:			

AUXILIARY EQUIPMENT

				Connections: Weld	Flange	Thread	
Fill-up Line							
Kill Line		2"	5M		X		
Control Valve(s)	2		5M		X		
Check Valve(s)	1		5M		X		
Aux. Pump Connect.			5M		X		
Choke Line		3"	5M		X		
Control Valve(s)	10		5M		X		
Pressure Gauge					X		
Adjustable Choke(s)	2	3"	5M		X		
Bleed Line		3"			X		
Upper Kelly Cock							
Lower Kelly Cock							
Standpipe Valve							
Standpipe Press. Gau.							
Pipe Safety Valve		2.87	5M				
Internal Preventer		2.87	5M				

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Polymer	8.5	One 400 bbl frac tanks, 100 bbl mud pump
		375 bbl fluid total on site

REMARKS AND DEFICIENCIES: Inpection only. Test pressures 300 low 5000 high Anular preventor tested to 3500. 20 min tests

OGD9 (3/98)

URAL RESOURCES AGENCY OF CALIFORN
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1000 S. Hill Rd, Suite 116 Ventura, CA 93003-4458
Phone:(805) 654-4761 Fax:(805) 654-4765

No. T **216-0448**

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
October 12, 2016

Your operations at well **"Porter" 30**, A.P.I. No. **037-00717**, Sec. **27**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **9/2/2016**, by **Nigatu Workneh**, a representative of the supervisor.

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

DECISION:

APPROVED

NW/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By _____
Patricia A. Abel, *District Deputy*

KG98.

T216-0448
#16,1

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

CASING PRESSURE TEST/PFO

Operator So Cal Gas Well Designation Porter 30

Sec. 27, T. 03N, R. 16, W B.& M. API No. 037-00717 Field Aliso Canyon

County Los Angeles. Witnessed on 09/12/16. Nigatu Workneh, representative

Supervisor, was present from 06:40 to 7:41.

Also present were _____.

Casing record of the well 7" inside 3 1/2"

The operations were performed for the purpose of _____

Pressure Test Casing

Packer/Bridge Plug at 7100' Well Type gas

Casing Pressured With Kcl Volume 1 bbl

Casing Pressure Start PSI 595 Start Time 06:41

Casing Pressure End PSI 536 End Time 07:41

Pressure Held 60 minutes. Total drop in pressure 59 psi 9.9 %

Test results ✓ Good _____ No Good

Remarks Failed on 1st attempt & passed on 2nd attempt dropped by 9.9%

Pressure Fall-Off

Casing or tubing pressure _____

Initial pressure drop _____ psi. after _____ seconds/minutes

Final pressure _____ psi.

PFO Timeframe Date _____ Time _____ To Date _____ Time _____

Total Time: _____

Remarks: _____

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: **Southern California Gas Company** WELL DESIGNATION **"Porter" 30**

API No. **03700717** SE **27** T: **3N** R.: **16W** , **SB** B. and M.

County: **Los Angeles** FIELD: **Aliso Canyon**

Type of Notice: **Rework** **Date** **9/12/2016** **Report Number:** **P216-0233**

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

	Date	OK	NEED	Remarks
Well Summary (OG100)				
History (OG103)				
E-Log				
Mud Log				
Dipmeter				
Directional				
Core and/or SWS				
Press Test	9/23/16	✓		
" "	9/24/16		✓	Need from SCG

NEW STATUS

DATE: _____

NOTICE OF RECORDS DUE

DATE: _____

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

CalWims Abandonment Form: _____ SURFACE INSPECTION NEEDED _____ COMPLETED _____
Date and Inspector

FINAL LETTER NEEDED _____ COMPLETED _____ Calwims DRILL/REDRILL Form _____
(Date)

ENGINEER'S CHECK LIST

T-REPORT(S) _____ OPERATOR'S NAME _____ WELL DESIGNATION _____ SIGNATURE _____

Calwims Location _____ Calwims ELEVATION: _____ CONFIDENTIAL RELEASE DATE: _____ PERMIT REQUIREMENTS MET _____

CLERICAL CHECK LIST

LOCATION CHANGE (OG165) _____ ELEVATION CHANGE (OG165) _____ RELEASE OF BOND (OG150) _____

REMARKS

RECORDS SCANNED: _____ RECORDS APPROVED: _____
(Date) (Date and Engineer)

Modified OGD2

AOR Datbase _____

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

No. P 216-0233

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

PERMIT TO CONDUCT WELL OPERATIONS

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

Ventura, California
September 15, 2016

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

Your proposal to **Rework** well **"Porter" 30**, A.P.I. No. **037-00717**, Section **27**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **9/12/2016**, received **9/12/2016** has been examined in conjunction with records filed in this office. (Lat: **34.309395** Long: **-118.546711** 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: Class **III 5M**
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 **5 1/2"** casing and the installed bridge plug. **This test shall be to at least 1000 psi at surface.**
4. A pressure test is conducted to demonstrate the mechanical integrity of the **7" x 5 1/2"** annulus. **This test shall be to at least 500 psi at surface.**
5. 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.
6. In all other respects, the provisions of Division Order #1109 and its amendments shall remain in effect.
7. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.
8. **THIS DIVISION SHALL BE NOTIFIED TO:**
   a. Inspect the installed blowout prevention equipment prior to commencing **downhole** operations.
   b. Witness a pressure test of the **5 1/2"** casing and bridge plug.
   c. Witness a pressure test of the **7" x 5 1/2" annulus.**

Continued on Next Page

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

Engineer David Ortiz
Office (805) 654-4761

DO/do

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By _____
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.

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**

cc:

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.

Rec'd 09-15-16 DOGGR Ventura.

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

FOR DIVISION USE ONLY		
	Forms	
Bond	~~OGD114~~	OGD121
	CALV WIMS	115 ✓

P216-0233

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 ☐ (Check one) well Porter 30, API No. 037-00717-01,

Sec. 27, T. 3N, R. 16W, S.B. 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

The total depth is: 7400 feet. The effective depth is: 7386 feet.

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

See attached program

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

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	Zip Code 91313-2300
Name of Person Filing Notice Jovy Kroh	Telephone Number: 937-239-0279	Signature Jovy E Kroh	Date 09/12/2016
Individual to contact for technical questions: Jovy Kroh	Telephone Number: 937-239-0279	E-Mail Address: jkroh@semprautilities.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.

Rec'd 09-15-16 DOGGR Ventura.

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
  (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  (B) Any airport runway.
(2) 100 feet of the following:
  (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
  (B) Any navigable body of water or watercourse perennially covered by water;
  (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
  (D) Any officially recognized wildlife preserve.

WELL OPERATIONS REQUIRING BONDING

1. Drilling, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dog/

Rec'd 09-15-16 DOGGR Ventura.

SoCal Gas Company

SoCalGas
A Sempra Energy utility

Well Operations Procedure

Porter 30
Aliso Canyon
Storage Integrity Management Program
9/12/2016 Version 1

Primary Engineer:	Jovy Kroh	818 725-1119 (ofc)/937 239-0279 (mobile)
Alternate Engineer:	Mark Ghann-Amoah	818 700-3888 (ofc)/806 401-2979 (mobile)
Engineering Supervisor:	Jose Iguaz	818 700-3889 (ofc)/661 384-5337 (mobile)
Well Site Supervisor:	Paul Brogdin	661 444-1620 (mobile)
Well Work Superintendent:	Mike Volkmar	562 685-3810 (mobile)

Well Data:

API #:	037-00717-01
Datum:	1799.15' GL
KB to GL:	10'
MD:	7400'
TVD:	7400'
PBMD:	n/a

Nature of Plug Back: None; Liner to 7386'

Geologic Markers:

Top of Zone Markers	md (tvd)
A1	3899' (3899')
UP	4981' (4981')
LP	5397' (5397')
UDA1	5861' (5861')
LDA	6592' (6592')
MP	6922' (6922')
S1	7150' (7150')
S4	7234' (7234')
S8	7348' (7348')

SoCal Gas Company

SoCalGas
A Sempra Energy utility

Well Operations Procedure

Casing Data:

Surface Casing: 13-3/8" Cem @ 565'
54.5#, J55, 0 – 565'

Production Casing: 7" 0 – 7230'md / ETOC @ 6190'
23#, J55, 0 – 3602'
23#, N80, 3602 – 5284'
26#, N80, 5284 – 6868"
29#, N80, 6868 – 7230'

Tubing Data: See Attached

Perforations: See attached WBD

Objective: The intent of this program is to pull production tubing and install a retrievable bridge plug for isolation.

Current Status: Idle – no tubing plug

PROJECT NOTES

1. BOPE requirements in Gas Company Standard 224.05 shall be fully implemented at all times.
2. The storage reservoir pressures shall be monitored during the workover with a minimum of 300 psig overbalance for well control fluids.
3. Prepare the location by removing all relevant landscaping/lighting fixtures as well as surface piping and electrical components as needed. Locate rig anchors, reinstall if necessary.
4. DOGGR permit must be posted on site. Notify the DOGGR as required for BOPE testing prior to commencing downhole operations as stated on permit. DOGGR Ventura District office (805)-654-4761. If a permit has not been issued contact DOGGR 24 hours prior to rigging up on the well for verbal approval to rig up.

SoCal Gas Company

SoCalGas
A Sempra Energy utility

Well Operations Procedure

WELLWORK PROGRAM

1. Move in production rig and rig pump with tank, shaker, and mixer.

2. Spot 500 bbl Baker tanks and load with 8.5 ppg KCl brine.

   - Connect pump to the tubing and vent the casing through the choke manifold to the SoCalGas withdrawal system.
   - Treat all brine with Biocide, 5 gals/100 bbls

3. Verify the well is dead. If needed, circulate well with 8.5 ppg KCL brine.
   i. The 2-7/8" 4.6# tubing volume is ~ 27 bbls and
   ii. The tubing x 5.5" casing annulus is ~ 126 bbls.
   iii. *Use HEC polymer as required to minimize lost circulation.*

4. Install BPV in tubing hanger. ND tree.

5. +++Install Class III 5M BOPE per Gas Company Standard 224.05 and in accordance with the DOGGR permit. All connections and valves must be flanged and at least 5000 psig rated. (*Confirm BOPE rating*)

   - All tests are to be charted and witnessed by a DOGGR representative.
   - Perform a 300 psig low pressure test on the annular preventer, blind rams and pipe rams for 20 minutes. Test all lines and connections to 300 psig.
   - Pressure test the Class III 5M annular preventer to 3500 psig for 20 minutes. Test blind rams and the pipe rams to 5000 psig for 20 minutes. Test all lines and connections to 5000 psig.

6. Pressure test 5-1/2" x 7" inner string annulus to 500 psi for 1 hour, and record digitally with DOGGR witness. Pressure must be > 500 psi during entire test for pass.
   - Note: 4 squeezed holes in 7" casing at 2699'
   - 9/2/16: This annulus was tested and passed; need to re-test with rig on.

7. Remove back pressure valve and un-land tubing.
   a.) Attempt to release tubing from Baker F-1 packer seal assembly at 7053'.
   7.1.1 If not successful plan releasing seal assembly plan for a cut as close to production packer as possible – see attached tubing detail for jewelry.
   b.) POOH with production equipment, standing back tubing.
8. RIH with 7" all-weight casing scraper to top of Baker F-1 Packer or as deep as possible. Circulate well clean. POOH.

9. RIH with RBP. Set at 10' above F-1 packer (or as deep as possible if tubing has been cut), and test to 1000 psi for 1 hour. Sand off. Cement across cap rock verified on CBL 1/6/1976

10. POOH with RBP setting tool.

11. RIH with old 2-3/8" tubing for kill string.

12. ND BOPE and RDMO.

Rec'd 09-15-16 DOGGR Ventura.

Well
Porter 30 RD

API #: 04-037-00717-01
Sec 27, T3N, R16W

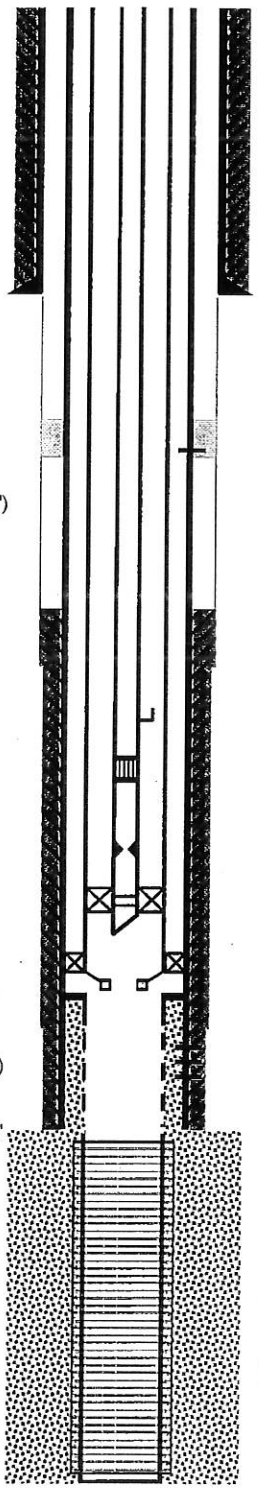
Operator: So. California Gas Co.

Lease: Porter
Field: Aliso Canyon
Status: Active Gas Storage
BFW:
USDW:

Ground Elevation: 1799.15' asl
Datum to Ground: 10' DF

Spud Date: 5/12/1945
Redrill (RD) Kick-off Date: 1/15/1976
Completion Date: 2/12/1976

Junk: None



13-3/8" TOC Surface

17-1/2" Hole

Surface Casing
13-3/8", 54.5#, J-55
0' - 565'

CMT'D w/ 400 SKS,
Good CMT Returns to Surface

565'

12-1/4" Hole (565' - 6809')

7" ETOC 6190'

Inner Liner
5-1/2", 17#, N-80
0' - 7100'

11" Hole (6809' - 7215')

Production Casing
7"
0' - 3602' 23#, J-55
3602' - 5284' 23#, N-80
5284' - 6868' 26#, N-80
6868' - 7230' 29#, N-80

CMT'D w/ 500 SKS 7133'
(f/ 7477' in OH)

9-5/8" Hole (7215' - 7230')

7" Top of Window 7230'

13" Hole

Liner
5", 18#, N-80
7133' - 7386'

7386'

Tubing
2-3/8", 4.6#, J-55
0' - 7059'

2566' ETOC (after 1st SQZ of 73 CF)
2699' Four (4) Holes, CMT SQZ'D 5X
(73 CF + 50 CF + 35 CF + 74 CF + 136
CF CMT SQZ'D Away, 9/25/72)

Wellbore History
Orig. Hole (OH) TD @ 7477'
(See Porter 30 OH)
RD KOP @ 7230'
TD @ 7400'

6959' KBMG GLM

7015' Camco 2" TRB-8TA Safety System (3/23/79)

7042' Otis "XN" No-Go Nipple

7053' Baker F-1 PCKR
7059' Tail
7100' Baker F-1 Perm. PCKR w/ 5.45' mill out extension
& "R" No-Go Nipple @ 7109'

7216' Four (4) Holes WSO (42 CF CMT SQZ'D Away, 9/29/72)
7220' Four (4) 1/2" Holes WSO (SQZ'D w/ 100 SKS, 8/12/45)
7225' Four (4) Holes (154 CF CMT SQZ'D Away, 9/27/72)

7230' Redrill (RD) KOP (from OH) into this wellbore (See History)

Liner Perfs:
7154' - 7232' 20M Slots
7232' - 7386' 10M WWS (Gru-V-Kut)

Gravel Packed w/
165 SKS 20-40

Top of Zone Markers	md (tvd)
A1	3899' (3899')
UP	4981' (4981')
LP	5397' (5397')
UDA1	5861' (5861')
LDA	6592' (6592')
MP	6922' (6922')
S1	7150' (7150')
S4	7234' (7234')
S8	7348' (7348')

TD 7400'
TVD (7400')
Directionally Drilled: Yes* (TD is 7' E, 5' N of Surf)
(*Dyna-driilled f/ 7230')

Prepared by: MAM (6/8/2016)

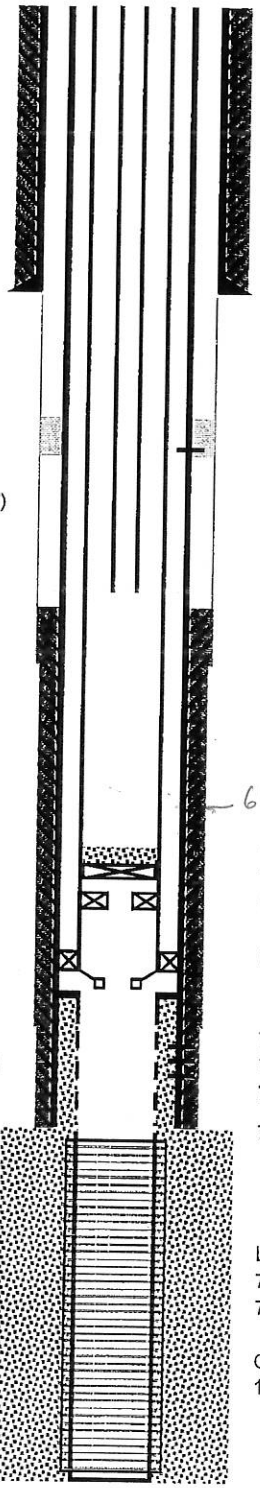
InterAct

Rec'd 09-15-16 DOGGR Ventura.

Well
Porter 30 RD

API #: 04-037-00717-01
Sec 27, T3N, R16W

Proposed



13-3/8" TOC Surface

17-1/2" Hole

Surface Casing
13-3/8", 54.5#, J-55
0' - 565'

CMT'D w/ 400 SKS,
Good CMT Returns to Surface

565'

12-1/4" Hole (565' - 6809')

7" ETOC 6190'

Inner Liner
5-1/2", 17#, N-80
0' - 7100'

11" Hole (6809' - 7215')

Production Casing
7"
0' - 3602' 23#, J-55
3602' - 5284' 23#, N-80
5284' - 6868' 26#, N-80
6868' - 7230' 29#, N-80

CMT'D w/ 500 SKS 7133'
(f/ 7477' in OH)

9-5/8" Hole (7215' - 7230')

7" Top of Window 7230'

13" Hole

Liner
5", 18#, N-80
7133' - 7386'

7386'

TD 7400'
TVD (7400')
Directionally Drilled: Yes* (TD is 7' E, 5' N of Surf)
(*Dyna-drilled f/ 7230')

Tubing
0' - 6000' 2-3/8" Kill String

2566' ETOC (after 1st SQZ of 73 CF)
2699' Four (4) Holes, CMT SQZ'D 5X
(73 CF + 50 CF + 35 CF + 74 CF + 136
CF CMT SQZ'D Away, 9/25/72)

6922 top MP

7023' Top of Sand Cap
7043' Retrievable Bridge Plug
7053' Baker F-1 PCKR (2/10/1976)

7100' Baker F-1 Perm. PCKR w/ 5.45' mill out extension
& "R" No-Go Nipple @ 7109'

7216' Four (4) Holes WSO (42 CF CMT SQZ'D Away, 9/29/72)
7220' Four (4) 1/2" Holes WSO (SQZ'D w/ 100 SKS, 8/12/45)
7225' Four (4) Holes (154 CF CMT SQZ'D Away, 9/27/72)

7230' Redrill (RD) KOP (from OH) into this wellbore (See History)

Liner Perfs:
7154' - 7232' 20M Slots
7232' - 7386' 10M WWS (Gru-V-Kut)

Gravel Packed w/
165 SKS 20-40

Operator: So. California Gas Co.

Lease: Porter
Field: Aliso Canyon
Status: Active Gas Storage
BFW:
USDW:

Ground Elevation: 1799.15' asl
Datum to Ground: 10' DF

Spud Date: 5/12/1945
Redrill (RD) Kick-off Date: 1/15/1976
Completion Date: 2/12/1976
Last Rework Date: 11/3/1977

Junk: None

Wellbore History
Orig. Hole (OH) TD @ 7477'
(See Porter 30 OH)
RD KOP @ 7230'
TD @ 7400'

Top of Zone Markers	md (tvd)
A1	3899' (3899')
UP	4981' (4981')
LP	5397' (5397')
UDA1	5861' (5861')
LDA	6592' (6592')
MP	6922' (6922')
S1	7150' (7150')
S4	7234' (7234')
S8	7348' (7348')

Prepared by: MAM (6/8/2016)

InterAct

Rec'd 09-15-16 DOGGR Ventura

OPERATOR Southern California Gas Co.

WELL # Porter #30

FIELD Aliso Canyon

COUNTY Los Angeles

STATE California

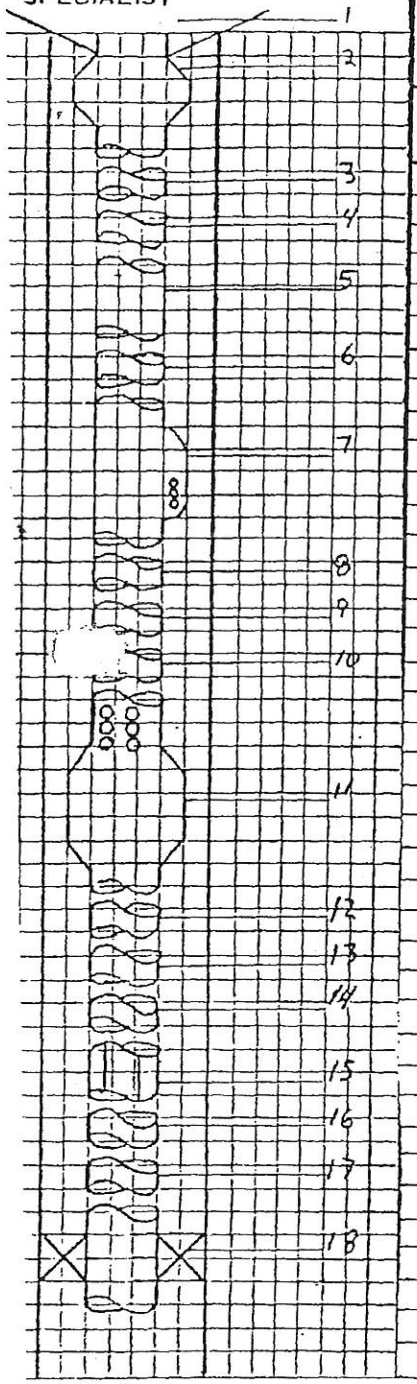
DATE March 27, 1979

☐ NEW COMPLETION ☐ WORKOVER

P[illegible] SAL ☒ INSTALLATION
QU[illegible]TION

RAN BY

☒ CAMCO SPECIALIST ☐ CUSTOMER



	CASING	LINER	TUBING 1	TUBING 2	
SIZE					
WEIGHT					
GRADE					
THREAD					
DEPTH					

ITEM NO.	TUBING DETAILS	LENGTH	DEPTH
1.	Kelly Bushing	10.00	10.
2.	Tubing Hanger	.70	10.
3.	Pup Jt. 2 3/8" 8rd EUE N-80	2.03	12.
4.	Pup Jt. 2 3/8" 8rd EUE N-80	8.01	20.
5.	227 Jts. 2 3/8" 8rd EUE tubing	6934.63	6955.
6.	Pup Jt. 2 3/8" 8rd EUE N-80	4.04	6959.
7.	Camco KBMG mandrel O.D. 4.25", I.D. 1.901"	6.09	6965.
8.	Pup Jt. 2 3/8" 8rd EUE N-80	1.74	6967.
9.	1 Jt. 2 3/8" 8rd EUE N-80 tubing	29.98	6997.
10	Pup jt. 2 3/8" 8rd EUE N-80	4.09	7001.
11	Camco TRB-8TA-DP safety valve O.D. 4.062" I.D. 1.875"	13.83	7015.
12	Camco 2 3/8" x 4' Flow coupling	3.90	7019.0
13	Pup Jt. 2 3/8" 8rd EUE N-80	1.65	7020.6
14	20' x 2 3/8" Blast joint	20.33	7041.0
15	Otis "XN" nipple I.D. 1.79"	.75	7041.7
16	10' Blast joint	10.23	7052.0
17	Baker latch-in locator	.55	7052.5
18	Baker seal assembly	3.76	7056.3

- Notes -

Camco KBMG mandrel was run with "EK" dummy in pocket

Camco TRB-8TA-DP safety valve was run with B-6 packoff in nipple to be replaced with 2" GS

Baker model "F" packer set at 7,052' wireline measurement

pipe measurments = 6,957.49'

PARTY Mike NAZ

COMMENTS:

Rec'd 09-15-16 DOGGR Ventura.

Completed Work Summary - Porter 30		
Step	**Work Completed**	**Date**
4b	150' of good cement in MP per CBL dated 10/2/1972	10/2/1972
5b	Inner string packer set in good cement at 7100' (per CBL dated 10/2/1972)	2/3/1976
5b	Mechanical packer set at 7052' in 7" inner string	2/10/1976

Rec'd 09-15-16 DOGGR Ventura.

Casing Pressure Test Safety Check (500 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
Porter 30	7053' / 7053'	7", 23#, J-55	3602	4360	4360	2092	Yes
		7", 23#, N-80	5284	6340	5389	2836	Yes
		7", 26#, N-80	6868	7240	6154	3536	Yes
		7", 29#, N-80	7053	8160	6936	3617	Yes

Ortiz, David@DOC

From: Walker, Scott@DOC
Sent: Tuesday, September 13, 2016 5:11 PM
To: Ortiz, David@DOC
Subject: RE: Porter 30

David,

The uncemented annulus would have to pass a 500 psi pressure test for us to approve it. Otherwise the proposed bridge plug would need to be below the permanent packer at 7100'. One possibility would be to pull the uncemented string and then set the bridge plug.

Scott

From: Ortiz, David@DOC
Sent: Tuesday, September 13, 2016 4:49 PM
To: Walker, Scott@DOC <Scott.Walker@conservation.ca.gov>
Subject: Porter 30

Hello Scott,
I've received an NOI from Jovy and had the well diagram attached with it. This is the current configuration. The NOI says to remove the tubing and packer and to place a bridge plug for a P and S for this well. I remember Scott McGurk approving a similar one with an inner casing with no cement behind the packer for a P and S. This is ok, right?
Any input is really appreciated.
Thanks,
Dave

David Ortiz P.G., C.E.G.
Associate Oil and Gas Engineer, Operations Engineer
California Division of Oil, Gas, and Geothermal Resources, District 2
1000 South Hill Road, Suite 116
Ventura, CA 93003-4458
(805) 654-4761
www.conservation.ca.gov

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DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: **Southern California Gas Company** WELL DESIGNATION **"Porter" 30**

API No. **03700717** SE **27** T: **3N** R.: **16W** , **SB** B. and M.

County: **Los Angeles** FIELD: **Aliso Canyon**

Type of Notice: **Rework** **Date** **8/22/2016** **Report Number:** **P216-0205**

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

	Date	OK	NEED	Remarks
Well Summary (OG100)				
History (OG103)				
E-Log				
Mud Log				
Dipmeter				
Directional				
Core and/or SWS				

NEW STATUS

DATE: _____

NOTICE OF RECORDS DUE

DATE: _____

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

CalWims Abandonment Form: _____ SURFACE INSPECTION NEEDED _____ COMPLETED _____
Date and Inspector

FINAL LETTER NEEDED _____ COMPLETED _____ Calwims DRILL/REDRILL Form _____
(Date)

ENGINEER'S CHECK LIST

T-REPORT(S) _____ OPERATOR'S NAME _____ WELL DESIGNATION _____ SIGNATURE _____

Calwims Location _____ Calwims ELEVATION: _____ CONFIDENTIAL RELEASE DATE: _____ PERMIT REQUIREMENTS MET _____

CLERICAL CHECK LIST

LOCATION CHANGE (OG165) _____ ELEVATION CHANGE (OG165) _____ RELEASE OF BOND (OG150) _____

REMARKS

RECORDS SCANNED: _____
(Date)

RECORDS APPROVED: _____
(Date and Engineer)

Modfied OGD2

AOR Datbase _____

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

No. P 216-0205

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

PERMIT TO CONDUCT WELL OPERATIONS

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

Ventura, California
August 24, 2016

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

Your proposal to **Rework** well **"Porter" 30**, A.P.I. No. **037-00717**, Section **27**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **8/22/2016**, received **8/22/2016** has been examined in conjunction with records filed in this office. (Lat: **34.309395** Long: **-118.546711** 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 and the 7" x 5 1/2" annulus. Pressure is 500 psi due to squeeze holes at 2566'.**
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 of the **7"** casing and the **7" x 5 1/2".**

Continued on Next Page

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

Engineer Kris Gustafson
Office (805) 654-4761

KG/kg

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By pp. E. Bell
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.

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

FOR DIVISION USE ONLY		
	Forms	
Bond	~~OGD114~~	~~OGD121~~
	CAL WIMS	115

P216-0205

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 ☐ (Check one) well Porter 30, API No. 037-00717,

Sec. 27, T. 3N, R. 16W, S.B. 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: 7400 feet. The effective depth is: 7368 feet.

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

The SCGC plans to take this well out of operation and isolate from the gas storage reservoir as per the First Amended Safety Review Testing Regime: Steps 4b-7b.

5b - Set plug set in XN nipple at 7042' and open SSD at 7015'.

6b - Circulate well with 8.5 ppg KCL brine down tbg. through SSD at 7015' and back to surface to completely fill well.

7b - 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).

7b - Pressure-up on 7" x 5-1/2" annulus to 500 psi for 1 hour.

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

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	Zip Code: 91313-2300
Name of Person Filing Notice: A.J. Alshammasi	Telephone Number: (818) 700-3887	Signature: A.J. Alshammasi	Date: 8/22/16
Individual to contact for technical questions: Mike Giuliani	Telephone Number: (805) 290-2074	E-Mail Address: mike.giuiliani@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.

OG107 (1/09)

Rec'd 08-22-16 DOGGR Ventura.

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
  (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  (B) Any airport runway.
(2) 100 feet of the following:
  (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
  (B) Any navigable body of water or watercourse perennially covered by water;
  (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
  (D) Any officially recognized wildlife preserve.

WELL OPERATIONS REQUIRING BONDING

1. Drilling, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dog/

Rec'd 08-22-16 DOGGR Ventura.

Well
Porter 30 RD

API #: 04-037-00717-01
Sec 27, T3N, R16W

Operator: So. California Gas Co.

Lease: Porter
Field: Aliso Canyon
Status: Active Gas Storage
BFW:
USDW:

Ground Elevation: 1799.15' asl
Datum to Ground: 10' DF

Spud Date: 5/12/1945
Redrill (RD) Kick-off Date: 1/15/1976
Completion Date: 2/12/1976

Junk: None

13-3/8" TOC Surface

17-1/2" Hole

Surface Casing
13-3/8", 54.5#, J-55
0' - 565'

CMT'D w/ 400 SKS,
Good CMT Returns to Surface

565'

Tubing
2-3/8", 4.6#, J-55
0' - 7059'

2566' ETOC (after 1st SQZ of 73 CF)
2699' Four (4) Holes, CMT SQZ'D 5X
(73 CF + 50 CF + 35 CF + 74 CF + 136
CF CMT SQZ'D Away, 9/25/72)

12-1/4" Hole (565' - 6809')

7" ETOC 6190'

Wellbore History
Orig. Hole (OH) TD @ 7477'
(See Porter 30 OH)
RD KOP @ 7230'
TD @ 7400'

Inner Liner
5-1/2", 17#, N-80
0' - 7100'

6959' KBMG GLM

11" Hole (6809' - 7215')

7015' Camco 2" TRB-8TA Safety System (3/23/79)

Production Casing
7"
0' - 3602' 23#, J-55
3602' - 5284' 23#, N-80
5284' - 6868' 26#, N-80
6868' - 7230' 29#, N-80

7042' Otis "XN" No-Go Nipple

7053' Baker F-1 PCKR
7059' Tail
7100' Baker F-1 Perm. PCKR w/ 5.45' mill out extension
& "R" No-Go Nipple @ 7109'

CMT'D w/ 500 SKS
(f/ 7477' in OH)

7133'

9-5/8" Hole (7215' - 7230')

7216' Four (4) Holes WSO (42 CF CMT SQZ'D Away, 9/29/72)
7220' Four (4) 1/2" Holes WSO (SQZ'D w/ 100 SKS, 8/12/45)
7225' Four (4) Holes (154 CF CMT SQZ'D Away, 9/27/72)

7" Top of Window 7230'

7230' Redrill (RD) KOP (from OH) into this wellbore (See History)

13" Hole

Liner
5", 18#, N-80
7133' - 7386'

Liner Perfs:
7154' - 7232' 20M Slots
7232' - 7386' 10M WWS (Gru-V-Kut)

Gravel Packed w/
165 SKS 20-40

Top of Zone Markers	md (tvd)
A1	3899' (3899')
UP	4981' (4981')
LP	5397' (5397')
UDA1	5861' (5861')
LDA	6592' (6592')
MP	6922' (6922')
S1	7150' (7150')
S4	7234' (7234')
S8	7348' (7348')

7386'

TD 7400'
TVD (7400')
Directionally Drilled: Yes* (TD is 7' E, 5' N of Surf)
(*Dyna-drilled f/ 7230')

Prepared by: MAM (6/8/2016)

InterAct

Rec'd 08-22-16 DOGGR Ventura.

Completed Work Summary -Porter 30		
Step	**Work Completed**	**Date**
4b	150' of good cement in MP per CBL dated 10/2/1972	10/2/1972
5b	Inner string packer set in good cement at 7100' (per CBL dated 10/2/1972)	2/3/1976
5b	Mechanical packer set at 7052' in 7" inner string	2/10/1976

Rec'd 08-22-16 DOGGR Ventura.

Casing Pressure Test Safety Check (500 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
Porter 30	7053' / 7053'	7", 23#, J-55	3602	4360	4360	2092	Yes
		7", 23#, N-80	5284	6340	5389	2836	Yes
		7", 26#, N-80	6868	7240	6154	3536	Yes
		7", 29#, N-80	7053	8160	6936	3617	Yes

Rec'd 08-22-16 DOGGR Ventura.

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/1000 psi Surface Pressure	Press < 85% of Burst
Porter 30	7100' / 7100'	5-1/2", 17#, N-80	7100	7740	4360	4138	Yes

Rec'd 08-22-16 DOGGR Ventura.

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Ventura, California

October 30, 1991

R. D. Phillips, Agent
SOUTHERN CALIFORNIA GAS COMPANY
P.O. Drawer 3249m Mail Location 22G0
Los Angeles, CA 90051-1249

Your request, dated July 24, 1991, proposing to change the designation of well(s) in Sec. 27, 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:

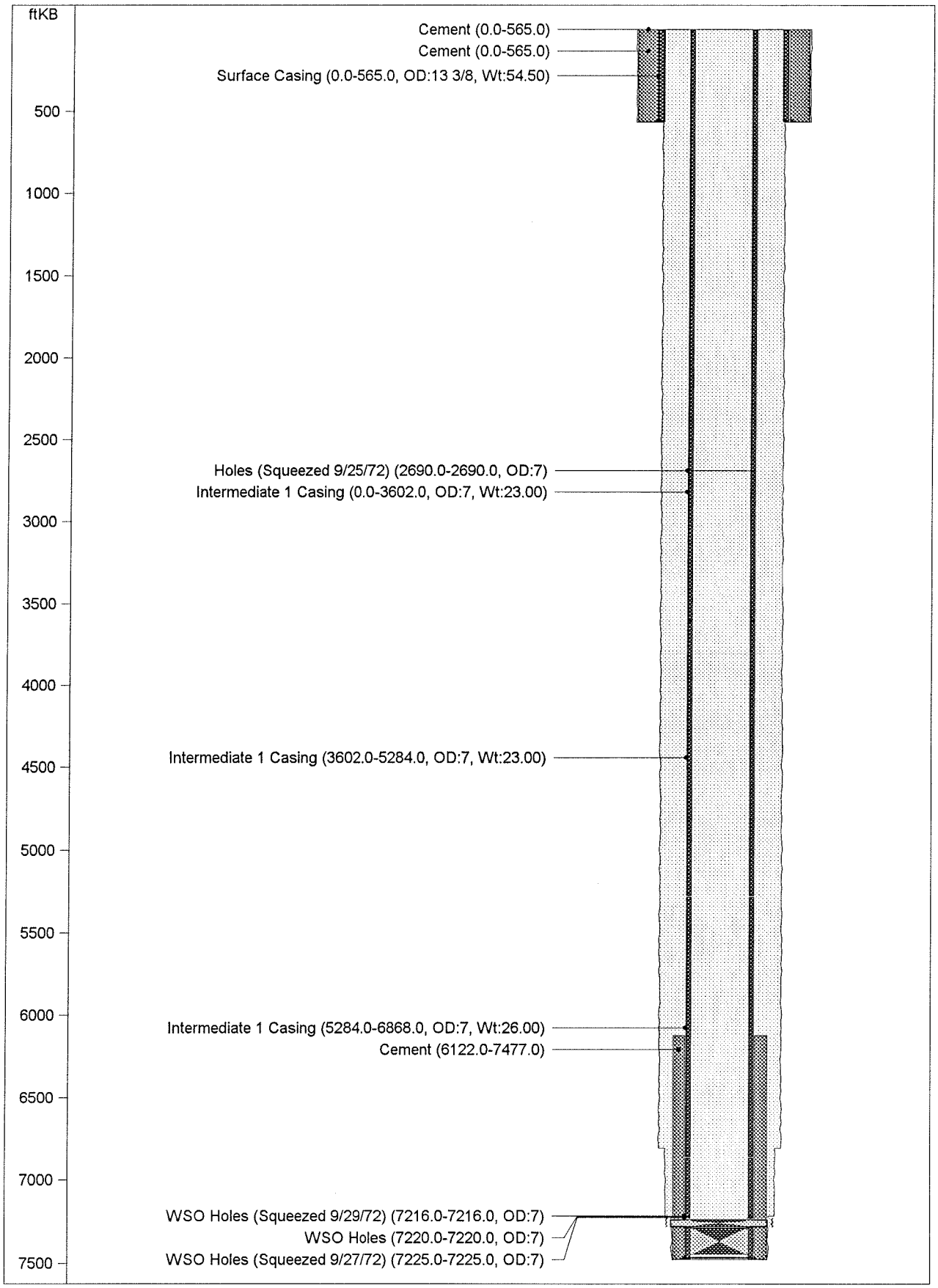
FROM	TO
"SFZU" P-12 (037-00701)	"Porter" 12 (037-00701)
"SFZU" P -14 (037-00703)	"Porter" 14 (037-00703)
"SFZU" P-30 (037-00717)	"Porter" 30 (037-00717)
"SFZU" P-31 (037-00718)	"Porter" 31 (037-00718)
"SFZU" P-32 (037-00719)	"Porter" 32 (037-00719)
"SFZU" P-36 (037-00723)	"Porter" 36 (037-00723)
"SFZU" P-37 (037-00724)	"Porter" 37 (037-00724)
"SFZU" P-45 (037-00732)	"Porter" 45 (037-00732)
"SFZU" FF-32 (037-00686)	"Fernando Fee" 32 (037-00686)
"SFZU" P-50A (037-22737)	"Porter 50A (037-22737)
"SFZU" P-68A (037-22742)	"Porter" 68A (037-22742)
"SFZU" P-37-A (037-22046)	"Porter" 37-A (037-22046)
"SFZU" FF-32-A (037-21872)	"Fernando Fee" 32-A (037-21872)

M. G. MEFFERD, State Oil and Gas Supervisor

By Patrick J. Kinnear
Deputy Supervisor
PATRICK J. KINNEAR

OGD157 (10/85/DWRR/1M)

PORTER 30 **1/4/99**



OPERATOR SOUTHERN CALIF. GAS CO.
LSE & NO SFZU P-30
MAP 250

	(1)	(2)	(3)	(4)	( )	( )
INTENTION	DRILL	SUPP TO (1)	ALTR CSG & CONVERT GAS STORAGE	PLUG & REDRILL	Rework	
NOTICE DATED	5-10-45	8-6-45	9-8-72	12-1-75	7-25-77	
P-REPORT NUMBER	1-40713	1-41012	172-1072	275-434	277-279	
CHECKED BY/DATE						
MAP LETTER DATED	5-14-45 Loc	N/C		5-8-76	N/	
SYMBOL	●	●	◎	⊘G		

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	5-14-45		8-7-45		9-13-72		12-10-75		8-2-77	X		
HISTORY	→		9-28-45		12-1-72		3-24-76		11-18-77	X		
SUMMARY	→		9-28-45									
IES/ELECTRIC LOG												
DIRECTIONAL SURV								X				
CORE/SWS DESCRIP	→		9-28-45				5-5-76	X				
OTHER									VBOPE 10-29-77	X		
RECORDS COMPLETE	(W)		(W)		(W)		(W)		RZ-TT			

ENGINEERING CHECK

T-REPORTS	
OPERATOR'S NAME	
WELL DESIGNATION	
LOC & ELEV	
SIGNATURE	
SURFACE INSPECTION	
FINAL LETTER OK	

CLERICAL CHECK

POSTED TO 121 _____ 170 _____ MAILED _____ FINAL LETTER MAILED _____

RELEASED BOND _____

REMARKS: _____

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
NOV 18 1977
SANTA PAULA, CALIFORNIA

History of Oil or Gas Well

Operator SOUTHERN CALIFORNIA GAS COMPANY Field or County Aliso Canyon
Well name and No. PORTER #30, Sec. 27, T 3N, R 16W S.B.B. & M.
A.P.I. well No. 037-00717 Name P. S. Magruder, Jr. (Person submitting report) Title Agent (President, Secretary or Agent)
Date November 10, 1977

Signature P S Magruder Jr

P.O. Box 3249, Terminal Annex, Los Angeles, California 91324 (Address) (213) 689-3561 (Telephone Number)

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

Date	
1977	
10-27	Killed well with 50 barrels 300 viscosity pill and 140 barrels 40 viscosity pill 85#/cu.ft. polymer drilling fluid. Total used to kill well = 190 barrels.
10-28	Moved California Production Service Rig #M-28 from Mission Adrian #3 to Porter #30. Rigged up and circulated gas out of polymer drilling fluid. Attempted to install back-pressure valve in doughnut.
10-29	Installed Archer-Reed 2 3/8" tubing plug to test B.O.P.E. Removed Christmas tree and installed B.O.P.E. Tested with water and nitrogen, as follows: Blind rams at 4000 psi for 20 minutes Pipe rams " 4000 psi " 20 " Hydril bag " 3000 psi " 20 " Above tests witnessed by D.O.G. Released Baker anchor seal assembly and started out of hole.
10-30	Rig and crew idle.
10-31	Pulled tubing and safety system out of well (4' x 1/4" tubing control line was broken off safety system). Ran open-end tubing to 7060' (packer set at 7053') to assure 1/4" x 4' pie e of control line had fallen through packer bore. Broke off old tubing collars, cleaned pins, Baker sealed and installed new collars.
11-1	Hydrotested 2 7/8" tubing with 5000 psi for 60 seconds. Tested wellhead seals to 5000 psi for 20 minutes. Removed B.O.P.E. and installed Christmas tree. Installed new 3" valve between W.K.M. valve and tubing head on annulus withdrawal side. Tested Christmas tree to 5000 psi for 20 minutes - O.K. Circulated brine-polymer drilling fluid out of well with lease salt water.
11-2	Ran in with tubing plug for 1.79" "X-N" NO-GO nipple to pressure test seals and packer. Tested seals and packers at 2000 psi for 20 minutes. When pulling wireline-tools and tubing plug were left in well. Still fishing with wireline. RIG RELEASED at 2:30 P.M. (11-2-77)
11-3	Recovered all wireline tools.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 277-307

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

Santa Paula Calif.
November 4, 1977

DEAR SIR:

Operations at well No. "SFZU" P-30, API No. 037-00717, Sec. 27, T. 3N, R. 16W, S.B., B & M. Aliso Canyon Field, in Los Angeles County, were witnessed on October 29, 1977. Mr. T. E. Adams, representative of the supervisor was present from 1530 to 1800. There were also present Mr. J. Bradberry, company foreman

Present condition of well: No additions to the casing record since proposal dated 7/25/77.

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

DECISION:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

r

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

By [signature] Deputy

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

No. P 277-279

REPORT ON PROPOSED OPERATIONS

Santa Paula, California

August 3, 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 "SPZU" P-30 (Name and number), A.P.I. No. 037-00717, Section 27, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon field, Los Angeles County, dated 7-25-77, received 8-2-77, 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.

NOTE: A COPY OF THIS APPROVAL SHALL BE POSTED AT THE WELL SITE PRIOR TO COMMENCING OPERATIONS.

Blanket Bond
MD:b

M. G. MEFFERD (acting)
State Oil and Gas Supervisor

By
Deputy Supervisor

John L. Hardoin

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS RECEIVED
AUG 2 1977
SANTA PAULA, CALIFORNIA

DIVISION OF OIL AND GAS

Notice of Intention to Rework Well

This notice and indemnity or cash bond shall be filed, and approval given, before rework begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

FOR DIVISION USE ONLY		
BOND	FORMS	
	114	121
SB	✓	✓

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. PORTER #30, API No. _____,

Sec. 27, T3N, R.16W, S.B. B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 7386'

2. Complete casing record, including plugs and perforations:

	13 3/8"	cemented 565'
	7"	cemented 7230'
252'	5"	landed wire-wrapped 10-mesh 7386'-7232' slotted 7232'-7154', top of liner 7133' gravel flow packed with 20-40 mesh gravel (165 sacks)
7130'	5 1/2"	landed at 7130' on packer (inner string)

3. Present producing zone name SESNON Zone in which well is to be recompleted -

4. Present zone pressure 3500 psi New zone pressure -

5. Last produced _____ (Date) Gas Storage Well (Oil, B/D) _____ (Water, B/D) _____ (Gas, Mcf/D)

or

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

The proposed work is as follows:

1. Move in and rig up. Kill well. Install B.O.P.E. and pressure test.
2. Pull tubing.
3. Run new down-hole safety system on tubing.
4. Return well to gas storage operation.

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 (City) California (State) 91324 (Zip)

Telephone Number (213) 689-3561

SOUTHERN CALIFORNIA GAS COMPANY (Name of Operator)

By P. S. Magruder, Jr. (Name) P. S. Magruder, Jr. (Date) 7-25-77

Type of Organization Corporation (Corporation, Partnership, Individual, etc.)

OG103 (12-72 GSP1 15M)

PORTER #30 - Aliso Canyon

Program to Replace Down Hole Safety System

Take all measurements from original derrick floor 10' above ground.

PRESENT CONDITIONS:

13 3/8" cemented 565'

7" cemented 7230'

252' 5" landed 7386', wire-wrapped 10-mesh
7232'-7386', slotted 20-mesh
7232'-7154', gravel flow packed
with 165 sacks 20-40 mesh gravel
Top of liner 713

7130' 5 1/2" Hydril super flush joint and
LT&C landed on packer at 7130'
(see attached)

TUBING DETAIL:

Baker "F" Packer 7053'
Chamfered Collar
Seals
Latch-in Locator
2 3/8" "XN" Nipple
Otis 2 3/8" Annular Flow Safety System
2 3/8" Tubing to Surface

PROGRAM

1. Move in and rig up. Pressure test wellhead seals.

2. Kill well with 85#/cu.ft. brine-polymer drilling fluid. Volume of well = 180 barrels.

3. Install back-pressure valve in doughnut. Remove Christmas tree and install Class III 5000 psi B.O.P.E. Pressure test complete shut-off rams and pipe rams to 4000 psi with water and nitrogen. Pressure test Hydril bag to 3000 psi with water and nitrogen. Pressure test choke manifold with 2000 psi using water.

4. Pull tubing. Re-run tubing, change collars, clean pins, apply Baker Seal, hydrotest tubing to 5000 psi holding each test for one minute. Tubing to include:

   Baker Production Tube
   Baker Seals (4)
   Baker Latch-in Locator
   Otis 10' Blast Joint
   Otis 1.56" "XN" Nipple - 2 3/8" 8rd EUE
   Otis 20' Blast Joint (centralizer on top)
   Otis Annular Flow - 2 3/8" Safety System
   2 3/8" 8rd EUE Tubing to Surface

5. Land tubing on packer with up to a maximum of 10,000# on packer - pull 25,000# over weight of tubing to check latch.

6. Set plug in doughnut. Remove B.O.P.E. and install Christmas tree. Pressure test Christmas tree to 5000 psi.

7. Circulate brine-polymer drilling fluid out of well with waste lease salt water. Set tubing plug in NO-GO nipple. Pressure test seals and packer to 2000 psi. Remove tubing plug and release rig.

GCA

G. C. ABRAHAMSON
July 25, 1977

cc: Rig Supervisor
Relief Rig Supervisor
Contract Pusher (2)

Division of Oil & Gas ✓

B. Jones
D. Smiley
J. Melton
D. Justice)
M. Grijalva)

Well File
Book Copy
Spare Copy

GCA/jp

FORM 156

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

REPORT OF PROPERTY AND WELL TRANSFER

Field or County: Los Angeles — District: 1

Former Owner: Getty Oil Company — Date: Sept. 26, 1968

Description of Property: Sec. 27,28,34, T. 3 N., R. 16 W., S. B. B. & M.

List of Wells

Sec. 27:
"Fernando Fee" 32 (037-00686)
"Porter" 12 (037-00701)
" 30 (037-00717)
" 31 (037-00718)
" 32 (037-00719)
"Porter" 36 (037-00723)
" 37 (037-00724)
" 45 (037-00732)

Sec. 28:
"Porter" 4 (037-00699)
" 25 (037-00712)
" 26 (037-00713)
" 34 (037-00721)
" 35 (037-00722)
" 38 (037-00725)
" 39 (037-00726)
"Porter" 40 (037-00727)
" 41 (037-00728)
" 42 (037-00729)
" 43 (037-00730)
" 44 (037-00731)
" 46 (037-00733)
" 47 (037-00734)
"Porter-Sesnon" 42 (037-00753)

Sec. 34:
"Fernando Fee" 31 (037-00685)
" 33 (037-00687)
" 34 (037-00688)
" 35 (037-00689)
"Mission-Adrian Fee" 3 (037-00693)
" 4 (037-00694)
" 5 (037-00695)

Date of Transfer: August 1, 1968
New Owner: GETTY OIL COMPANY, OPERATOR
Address: 3450 Wilshire Boulevard, Room 720
Los Angeles, California 90005
Telephone No. 381-7151

Type of Organization: Corporation
Reported by: C. G. Nelson for Getty Oil Co. & Getty Oil Co., Operator (letter of 8-7-68)
Confirmed by:
New Operator New Status PA , Old Operator New Status PA
Request Designation of Agent No

Remarks:

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

Wm. C. Bailey
Deputy Supervisor

	INITIALS	DATE
Form 121		
New Well Cards		
Well Records		
Electric Logs		
Production Reports		
Map and Book		
Form 148		
Notice to be cancelled		
Bond status		

LEGEND
PA—Producing Active
NPA—Non Potential Active
PI—Potential Inactive
NPI—Non Potential Inactive
Ab—Abandoned or No More Wells

Proposed Changes of Well Designation

Old Designation:	New Designation:
Sec. 27:	
"Fernando Fee" 32	"SFZU" FF-32 (037-00686)
"Porter" 12	" P-12 (037-00701)
" 30	" P-30 (037-00717)
" 31	" P-31 (037-00718)
" 32	" P-32 (037-00719)
" 36	" P-36 (037-00723)
" 37	" P-37 (037-00724)
" 45	" P-45 (037-00732)
Sec. 28:	
"Porter" 4	"SFZU" P-4 (037-00699)
" 25	" P-25 (037-00712)
" 26	" P-26 (037-00713)
" 34	" P-34 (037-00721)
" 35	" P-35 (037-00722)
" 38	" P-38 (037-00725)
" 39	" P-39 (037-00726)
" 40	" P-40 (037-00727)
" 41	" P-41 (037-00728)
" 42	" P-42 (037-00729)
" 43	" P-43 (037-00730)
" 44	" P-44 (037-00731)
" 46	" P-46 (037-00733)
" 47	" P-47 (037-00734)
"Porter-Sesnon" 42	" PS-42 (037-00753)
Sec. 34:	
"Fernando Fee" 31	"SFZU" FF-31 (037-00685)
" 33	" FF-33 (037-00687)
" 34	" FF-34 (037-00688)
" 35	" FF-35 (037-00689)
"Mission-Adrian Fee" 3	" MA-3 (037-00693)
" 4	" MA-4 (037-00694)
" 5	" MA-5 (037-00695)

FORM 157

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 26, 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. 27,28,34, T. 3 N., R. 16 W., S.B. 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: (formerly owned by Getty Oil Co.)

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

△ SPO

FORM 103 SUBMIT IN DUPLICATE △ OSP

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Southern California Gas Company FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3N, R. 16W, S.B. B. & M.

Date 3-18, 1976 Signed P.S. Magruder Jr. P.S.Magruder,Jr.

P.O. Box 3249 Terminal Annex
Los Angeles, California 90051 (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	
12-05-75	Kill well with 290 bbls. of 81 PPFT.^{3} Calcium Chloride polymer mud.
12-18-75	Dug rat hole and moved in Pool Co. rig #38.
12-19-75	Rigging up.
12-20-75	Circulate through sliding sleeve at 7104' (25 bbls. to fill hole) Install blanking plug in doughnut. Remove Xmas tree. Install 8" 1500 series B.O.P.E. test to 2500 psi with water. Test Hydril with nitrogen to 2000 psi., pipe and bland rams with nitrogen to 2500 psi. Choke manifold to 1000 psi., approved by Murray W. Dosch, D.O.G.
12-21-75	Rig and crew idle.
12-22-75	Filled hole with 10 bbls. Could not pull seals out of Model "D" Baker packer at 7183'. Ran McCullough free point. Pipe free to 7160'. Ran chemical gun shot pipe into at 7156': pulled out laying down 2-7/8" EUE, 8rd, J-55, tubing.
12-23-75	Lay down 2-7/8" tubing (226 joints + cut off + mandrels). Run in with 5-3/4" X 2-7/8" Bowen overshot jars. Bumper sub, jars 4-4-3/4" D C., excelerator. Pick up 79 jts. of 2-7/8", 10.40, N-80 drill tubing.
12-24-75	Pick up drill tubing.
12-25-75	Shut down for X-mas.
12-26-75	Continued picking up 2-7/8", 10.40#, drill tubing with overshot jars- B.S. excelerator. Work over cut off 2-7/8" tubing at 7156'. Jar seals out of Baker model "D" packer at 7183'. Pull out of hole. Recovered fish. Test upper and lower Kelly cock, with 1700 psi., O.K. Run in with Baker C-1 packer mill and retrieving tool.

DIVISION OF OIL AND GAS
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MAR 24 1976
SANTA PAULA, CALIFORNIA

12-27-75 Mill over Baker Model "D" packer at 7194'. Pull packer up to 7067' - Stuck packer. Backed off packer to pick up kelly. Mill on packer until free. Pull out 55 stands. Shut down for high winds at 5:00 p.m.

12-28-75 Rig and crew idle.

12-29-75 Pull out, Baker C-1 retrieving tool. Did not retrieve packer. Ran Bowen TCO (3-1/4") spear. Unable to stab into Model "D" packer at 7363'. Ran Baker C-1 retrieving tool.

12-30-75 Continued running retrieving tool. Washed packer down hole from 7363' to 7467', (BTM)circulate. Pull out. Ran in with 6" bit and 7" casing scraper to 7459'. Circulate clean. Pulled 30 stands.

12-31-75 Finish pull out. Install lubricator (7"). Work on Dresser-Atlas logging equipment. Did not log. Run in 7" Servco section mill.

1-01-76 Rig and crew idle.

1-02-76 Continued running in 7" Servco section mill. Mill window from 7230'-7252', circulate.

1-03-76 Continued milling window from 7252'- 7259'. Pull out. Ran in mill (7" x 8-3/8") #2. Mill from 7259'-7261'. Pull 2 stands. Secure rig.

1-04-76 Rig and crew idle.

1-05-76 Run in. Continued milling with 7" x 8-3/8" window from 7261'- 7275'. Pull out 80 stands.

1-06-76 Continued pulling out mill #2. Ran in with mill #3. Mill from 7275'-7286'. (Window from 7230'-7286'-56') Circulate clean. Pull 2 stands.

1-07-76 Pull out mill. Ran 306' of 2-7/8" tubing on 2-7/8" drill tubing. Wash out fill from 7" casing from 7268' to 7468'. To aband perforations from 7232'-7400'. Hung open end tubing at 7450'. Circulate. Put 20 ft.^{3} water ahead. Mixed 65 sacks (75 ft.^{3}) of Class "G" cement (117 P.P.FT.^{3}). Displace with 5 ft.^{3} of water and 170 ft.^{3} of calcium chloride - polymer mud. Cement in place at 5:45 p.m. Had good returns throughout job. Pull out. Ran in 6" bit + 30 stands.

1-08-76 Continued running in bit. Located top of cement at 7188'. Clean out soft cement to bottom of window at 7286'. (D.O.G. declined to witness). Circulate. Pull out. Ran in 6" x 11" Servco underreamer. Open hole from 7230' to 7285'. Circulate. Pull to shoe.

1-09-76 Run in to 7285'. Circulate. Pull out. Ran 306' of 2-7/8" tubing on 2-7/8" drill tubing. Hung at 7285'. Circulate. Put 25 cu. ft. of water ahead. Mixed 55 sacks (69 ft.^{3}) of Class "G" cement with 20% sand. (126 P.P.FT.^{3}) Displace with 5 cu. ft. of water and 170 cu.ft. of calcium chloride polymer mud. C.I.P. 2:45 p.m. Pull to 1500'. Secure rig at 8:00 p.m.

1-10-76 Continued pullout out. Ran Dresser-Atlas vertilog to 6000'. Ran in with 6" bit to 5000'.

1-11-76 Rig idle.

1-12-76 Drilled out cement stringer at 6500'. Tagged top of firm cement at 7252'. Drilled out cement to 7285'. Circulated and pulled out of hole. Broke off 6" bit and made up a Servco 6" x 11" hole opener. Ran in and opened 6" hole to 11" hole from 7230' to 7285'. Circulated hole.

1-13-76 Pulled out of hole. Broke off Servco hole opener. Made up 10 joints of 2-7/8" tubing and ran in hole. Circulated hole and rigged up Halliburton. With drill pipe and tubing at 7285', pumped 50 ft.^{3} of water ahead with 2% caustic soda, followed by 76 ft.^{3} of Class "G" cement with 20% sand, followed by 10 ft.^{3} of water behind, and displaced with 167 ft.^{3} of workover fluid. Cement in place at 3:45 p.m. Started pulling out of hole. *Note: Lost 45 bbls. during circulation

1-14-76 Finished pulling out of hole. Stood back tubing. Made up 6" bit and ran in hole. Ragged top of cement at 7134'. Drilled out cement to 7236'. Circulated and pulled out of hole. Made up Dyna-drill tools and ran in hole.

1-15-76 Oriented Dyna-drill. Directionally drilled 6" hole from 7236' to 7279'. Unable to drill beyond that point. Ran single shot survey and pulled out of hole. Laid down damaged Dyna-drill and used bit. Picked up new Dyna-drill and 6" bit. Started running back in hole.

1-16-76 Finished running in hole. Ran single shot survey to orient Dyna-drill. Wireline unit on Pool rig broke down with survey tools at 6800'+ Shut down rig at 9:00 a.m. for repairs. Unit back in service at 11:00 p.m. Pulled survey tools out of hole.

1-17-76 Oriented Dyna-drill. Directionally drilled 6" hole from 7279' to 7287'. Unable to make hole past 7287'. Pulled out of hole. Laid down Dyna-drill. Picked up 6" bit and ran in hole. Cleaned pits.

1-18-76 Rig idle.

1-19-76 Continued running in 6" bit. Ream from 7257' to 7287'. Drill 6" hole from 7287' to 7361'. Pull out.

1-20-76 Pulled out for bit change. Ran in drilling 6" hole from 7361' to 7400'. Circulate clean. Pull to shoe at 7230'. Secure rig.

1-21-76 Ran in to bottom at 7400', circulate. Pull out. Ran Dresser- Atlas induction log. Ran sidewall samples (45 samples). Ran in 6" x 13" underreamer.

1-22-76 Continued running hole opener. Open 6" x13" hole from 7231' to 7285', with hole opener #3. Pull out. Ran in Hole opener #4, open 6" to 13" hole from 7285' to7301'. Pull out.

1-23-76 Continued pulling out hole opener #4. Ran in 6" x13" hole opener #5. Open hole from 7301' to 7351' (50' in 10 hours). Pull out. Ran hole opener #6. Open hole from 7351' - 7362'.

1-24-76 Continue opening hole from 7262' to 7363'. Pull out. Ran hole opener #7. Open hole from 7363' to 7386' (13' in 6 hours). Pull out. Ran in hole opener #8 to 7220'. Secure rig 10:00 p.m.

1-25-76 Rig and crew idle.

1-26-76 Finish running in hole opener #8. Re-scrape hole from 7230' to 7286'. Open 6" to 13" from 7286' to 7400'. Circulate. Pull out. Ran Schlumberger 4-arm caliper log from 7228' to 7393'. Ran hole opener #8 in hole.

1-27-76 Continued running hole opener to 7400'. Change over mud system from 80 P.P. FT.^{3} calcium chloride polymer mud, to 72 P.P.FT.^{3} calcium chloride polymer mud. (276 bbls.) Pull out. Ran in with 6" bit to 7399'. Circulate. Pull out.

1-28-76 Continued pulling out. Ran 6 joints (160.50') of 5" wire-weld, Gru-V-Kut, .010 gauge screen, made on 18# Sm Ls, N-80, 8rd, ST&C, casing. + 86.10' of 5", 18#, .010 gauge, SFJ, liner, (top 10' blank) + Burnsport collar + Burns lead seal hanger with hold down slips. Total length 252.35'. Hung shoe at 7386', top of hanger at 7133.65'. Tested lead seal with 1000 psi. Gravel pack liner with 20-40 mesh Ottawa sand (blended) pressure of 450 psi, 1.7 bbls, per minute, 1/2 lb. per gallon of fluid. Pressure built up to 650 psi. Reverse out 3 ft.^{3} total behind liner 140 sacks. Close port collar. Pull out.

1-29-76 Continued pulling out. Ran in Burns 5" washer. Wash perforations from 7383' to 7149'. Circulate. Pull out. Ran Burns gravel packing tools. Open port collar. Gravel pack liner with 18 sacks of 20x40 mesh Ottawa (blended) sand. Close port collar. Test with 600 psi. Pull up 4 stands.

1-30-76 Pulling out. Ran in Burns double cup washer. Wash perforations from 7383' to 7149'. Circulate. Pull out. Ran Burns gravel packing tools.

1-31-76 Run in. Open port collar. Finish gravel packing liner with 7 sacks. Total behind liner 165 sacks of 20x40 mesh Layne & Bowler Ottawa (blended) sand. Close port collar and test with 800 psi. Pull out. Ran Baker Model "B" Lok-Set bridge plug (6") set at 6000' - test with 2000 psi. Pull out.

2-01-76 Rig and crew idle.

2-02-76 Continued pulling out. Remove B.O.P.E. Install 10" x 10", 5000# (7" x 5") casing spool. Test ring gasket and 7" packing seal with 4500 psi. 40 minutes nipple up 8", 5000# B.O.P.E. Test blind rams with water to 2500 psi for 30 minutes. Test blind rams with nitrogen 2500 psi for 20 minutes. Ran Baker Model "B" Retrieving tool to 4000'. Test pipe rams with water to 2500 psi for 20 minutes. Test Hydril with water to 2000 psi for 20 minutes. Test Hydril with nitrogen to 2000 psi for 20 minutes. Test pipe rams and choke manifold with nitrogen to 2500 psi D.O.G. declined to witness. Ran in hole. Release bridge plug at 6000'.

2-03-76 Circulate. Pull bridge plug to 30 stands. Shut down at 3:00 a.m. Start up at 6:00 a.m., finish pulling out. Did not retrieve bridge plug. Ran in and stabbed into bridge plug. Pull out. Ran Baker Model F-1 permanent packer with 5.45' mill out extension, + 5" L.G. 8rd box + 3-1/2 EU, 8rd box + Baker "R" "No-Go" nipple at 7109.40'; top of packer at 7100'. Ran 4 Baker seal units on 5-1/2" Hydril superflush casing. Hydrotest to 4000#.

2-04-76 Wait on crossover joint. Start rig 2:00 p.m., ran 43 joints of 5-1/2" crossover joint. Secure rig at 9:00 p.m.

2-05-76 Continue running 5-1/2" casing. Ran total of 170 joints. Hydrotest to 4000 psi. Stabbed into Baker Model "F-1" packer at 7085'.

2-06-76 Pulled out of packer-pump 70 bbls. of calcium chloride polymer (72 P.P.FT.3) fluid between 5-1/2" and 7" casing. Set RZG plug Baker "No-Go" nipple. Tested plug with 1000 psi. Remove B.O.P.E. Stab into packer with 40,000# - 88,000# on slips. Test seals with 1500 psi for 30 minutes. Cut off 5-1/2" casing. Install tubing head and packoff for 5-1/2" casing. Test to 4500 psi. Install 8" 5000 B.O.P. .

2-07-76 Finish nipple up B.O.P. Test blind rams against doughnut with 2500 psi water. Test pipe rams with 2500 psi. Test Hydril with 2000 psi water. Test Hydril with 2000 psi nitrogen. Test pipe rams and blind rams with 2500 psi nitrogen. Lay down 2-7/8" drill pipe.

2-08-76 Lay down remainder of 2-7/8" drill pipe. Installed 2-3/8" pipe rams and tested with 2500 psi. Loaded out 2-7/8" drill pipe and unloaded 2-3/8" tubing. Installed lubricator and rigged up Archer-Reed. Archer-Redd made 4 runs to retrieve Baker RZG plug, pulled piano wire out of rope socket. Rigged down Archer-Reed. Picked up 60 joints of 2-3/8" tubing. Secured rig at 10:00 p.m.

2-10-76 Pulled 2-3/8" tubing out of hole and rigged up Archer-Reed. Made 4 runs to retrieve Baker RZG plug with negative results. Ran fishing tools on 2-3/8" tubing andretrieved Baker RZG plug. Ran Baker F-1 production packer on Dresser-Atlas wire line and set at 7052'. Rigged down Dresser-Atlas and ran 30 stands of 2-3/8" tubing. Secured rig at 1:00 a.m.

2-11-76 Pulled out of hole and laid down Kelly and swivel. Ran Baker seal nipple with latchin locator assembly and Otis safety valve assembly on 2-3/8" tubing and Hydro-tested entire tubing string with 5000 psi. Stabbed seal assembly into Baker F-1 packer and tested latchin with 10,000#. Landed tubing with 14,000# on locator sub. Placed back pressure valve in tubing hanger and removed B.O.E. damaged tubing hanger seals while installing Xmas tree. Secured well at 10:00 p.m.

2-12-76 Installed Xmas tree and pressure tested to 4500 psi for 20 minutes, O.K. Changed mud system over to lease water. Ran blanking plug on Otis piano wireline. Set plug in "No-Go" nipple at 7050'. Tested Baker F-1 packer installation with 2000 psi for 20 minutes, O.K. Installed blanking plug in casing head and removed 3" McEvoy casing wing valve. Installed 3" W.K.M. Air actuated valve and pressure tested installation with 4500 psi. Removed blanking plug from casing head and closed air actuated valve. Disassembled and prepared to move Pool rig from location. Released rig at 9:00 p.m.

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 275-408

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

Santa Paula, Calif.
Dec. 24, 1975

DEAR SIR:

Operations at well No. "GR"ZU" P-30, API No. 037-00717, Sec. 27, T. 3N, R. 16W, S.B., B & M. ALISO CANYON Field, in LOS ANGELES County, were witnessed on Dec. 21, 1975. Mr. M. Dosch, representative of the supervisor was present from 1630 to 2000. There were also present V. Stinnett, engr. and D. Wolf, drilling foreman

Present condition of well: 13 3/8" cem. 565'; 7" cem. 7477', c.p. 2690' and 7225', perf. 7216' WSO perf. 7220', WSO perfs. 7232-7400', T.D. 7477' effec. depth 7467'.

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

HAROLD W. BERTHOLF
JOHN F. MATTHEWS, Jr.
State Oil and Gas Supervisor

By [signature] Deputy

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 275-434

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

Santa Paula, Calif.
Dec. 11, 1975

DEAR SIR:

Your proposal to plug back and redrill Well No. (037-00717) "SFZU" P-30, Section 27, T. 3N, R. 16W, S.B.B. & M., Aliso Canyon Field, Los Angeles County, dated 12/1/75, received 12/10/75, 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 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. NO CONTAMINANTS OR TOXIC MATERIAL SHALL BE USED IN ANY DRILLING FLUID THAT IS TO BE PLACED IN AN UNLINED SUMP.
2. Any sump used during drilling operations shall be thoroughly cleaned of all drilling materials and the site restored to its prior condition as soon as drilling operations are completed.
3. Blowout prevention equipment, at least of the Division of Oil and Gas Class III rating, shall be installed and maintained in operating condition at all times.
4. Constant surveillance of drilling fluid characteristics and volume shall be maintained by drilling personnel, and the use of return monitoring equipment and a mud pit level indicator with a visual and audible alarm device.
5. Blowout-prevention practice drills shall be conducted at least weekly for each creew, and recorded in the log book.
6. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
   a. The location and hardness of the cement plug at 7245', or above.
   b. A pressure test of the blowout prevention equipment before commencing redrilling operations.

Blanket Bond
MD:b

HAROLD W. BERTHOLF
~~JOHN F. MATTHEWS, JR.~~, State Oil and Gas Supervisor

By D. D. Pettijohn, Deputy

25476-705 7-74 50M ①D OSP
OG 111

FORM 107

037-00717

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS RECEIVED
DEC 10 1975
SANTA PAULA, CALIFORNIA

DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Los Angeles Calif. December 1, 1975

DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of ~~deepening, redrilling, plugging or~~ altering casing at Well No. Porter #30
(Cross out unnecessary words)

, Sec. 27, T. 3N, R. 16W, S.B. B. & M.

Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 7477'

2. Complete casing record, including plugs:

13-3/8" cemented 565'

7" cemented 7477', cement plug 7467'

Perforated 7232'-7400' with four 1/2" gunholes per foot, WSO @ 7220'.

MAP	MAP BOOK	CARDS	BOND	FORMS 113	FORMS 12
			BB	✓	✓

3. Last produced. S.I. (Date) Gas Storage Well (Oil, B/D) (Water, B/D) (Gas Mcf/D)

The proposed work is as follows:

1. Move in rig, kill well, install BOPE and test same.
2. Pull tubing, mill up and recover packer. Run casing inspection log.
3. Mill section in 7" casing from 7230'-7280'.
4. Plug with cement 7467'-7245'. Redrill 6-1/8" hole 7245'-7450'.
5. Open 6-1/8" hole to 13", run caliper and reopen as necessary.
6. Run 300' of 5" wire wrapped and slotted liner & gravel flowpack.
7. Contingent on C.I. log, run about 2500' of 5-1/2" special clearance collared casing with lead seals at 4000' and 1500'.
8. Recomplete with 2-3/8" tubing and safety valve.

P. O. Box 3249 Terminal Annex
Los Angeles, (Address) Calif. 90051
(213) 689-3561
(Telephone No.)

Southern California Gas Company
(Name of Operator)
By P. S. Magruder, Jr.
P. S. Magruder, Jr.

24226-705 8-68 15M OSP

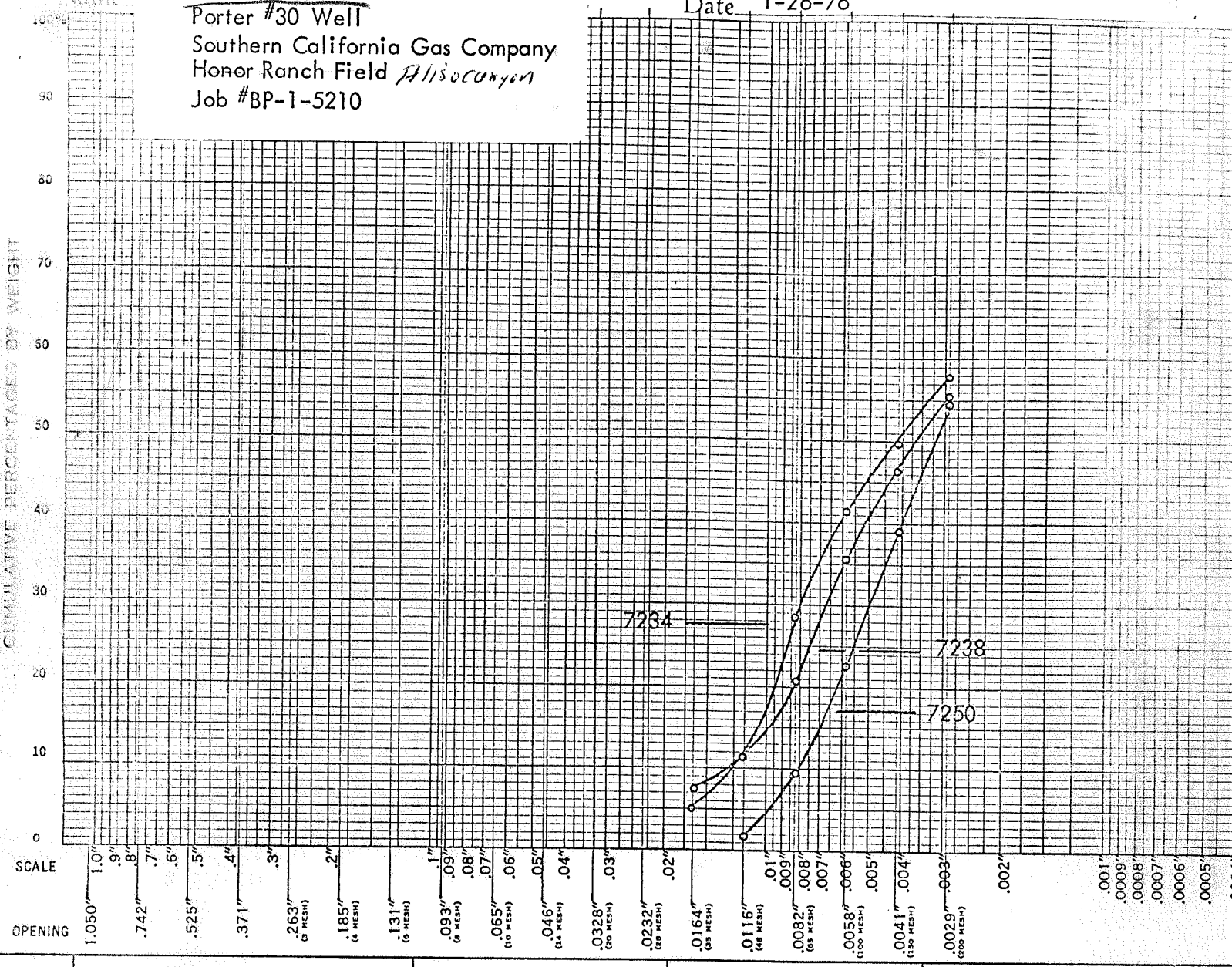
The Tyler Standard Screen Scale

21-3-76

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Core

Name "SFZU" P-30
Porter #30 Well
Southern California Gas Company
Honor Ranch Field Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7234 Ft.			7238 Ft.			7250 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	0.8	5.0	5.0	1.0	7.7	7.7			
.0116	.295	48	50	1.0	6.2	11.0	0.5	3.9	11.6	.2	1.9	1.9
.0082	.208	65	70	2.8	17.4	28.6	1.2	9.3	20.9	.8	7.6	9.5
.0058	.147	100	100	2.1	13.0	41.6	1.9	14.7	35.6	1.4	13.3	22.8
.0041	.104	150	140	1.3	8.1	49.7	1.4	10.9	46.5	1.7	16.2	39.0
.0029	.074	200	200	1.3	8.1	57.8	1.1	8.5	55.0	1.6	15.3	54.3
.0029	.074	200	200	6.8	42.2	100.0	5.8	45.0	100.0	4.8	45.7	100.0
			Totals.	16.1	100.0		12.9	100.0		10.5	100.0	

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The Tyler Standard Screen Scale

Form No. L-5
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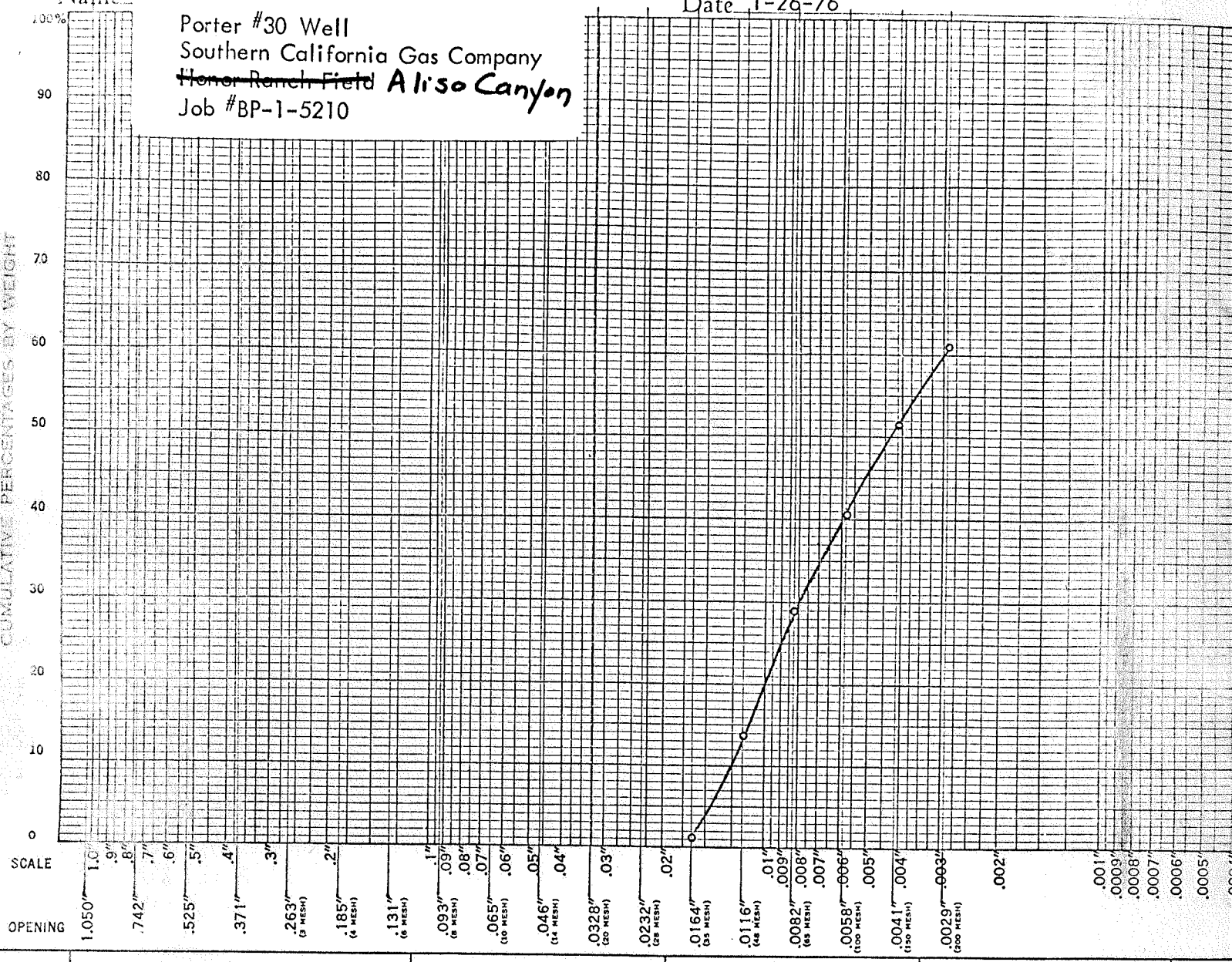
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414

7254 Ft.

Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	0.2	1.2	1.2						
.0116	.295	48	50	2.0	12.4	13.6						
.0082	.208	65	70	2.5	15.4	29.0						
.0058	.147	100	100	1.9	11.7	40.7						
.0041	.104	150	140	1.7	10.5	51.2						
.0029	.074	200	200	1.6	9.9	61.1						
.0029	.074	200	200	6.3	38.9	100.0						
			Totals.	16.2	100.0							

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The Tyler Standard Screen Scale

Form No. L-5
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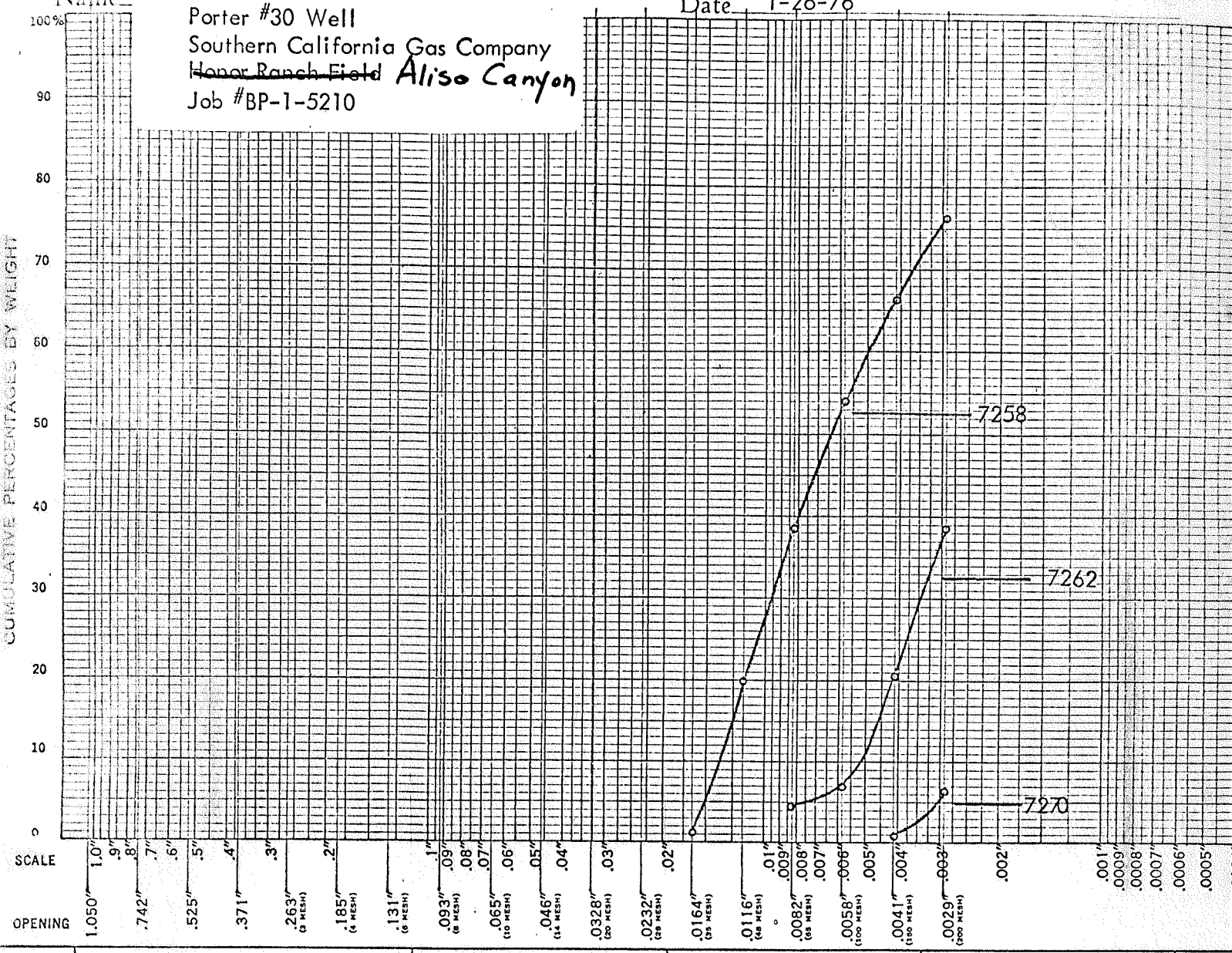
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414				7258 Ft.			7262. Ft.			7270 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	0.2	1.0	1.0						
.0116	.295	48	50	4.0	19.0	20.0						
.0082	.208	65	70	3.9	18.4	38.4	1.0	4.7	4.7			
.0058	.147	100	100	3.3	15.6	54.0	.5	2.3	7.0			
.0041	.104	150	140	2.6	12.3	66.3	2.9	13.6	20.6	.1	.8	.8
.0029	.074	200	200	2.1	10.0	76.3	3.9	18.2	38.8	.7	5.5	6.3
.0029	.074	200	200	5.0	23.7	100.0	13.1	61.2	100.0	9.5+2.5	93.7	100.0
ass												
			Totals,	21.1	100.0		21.4	100.0		12.8	100.0	

The Tyler Standard Screen Scale

Form No. L-6
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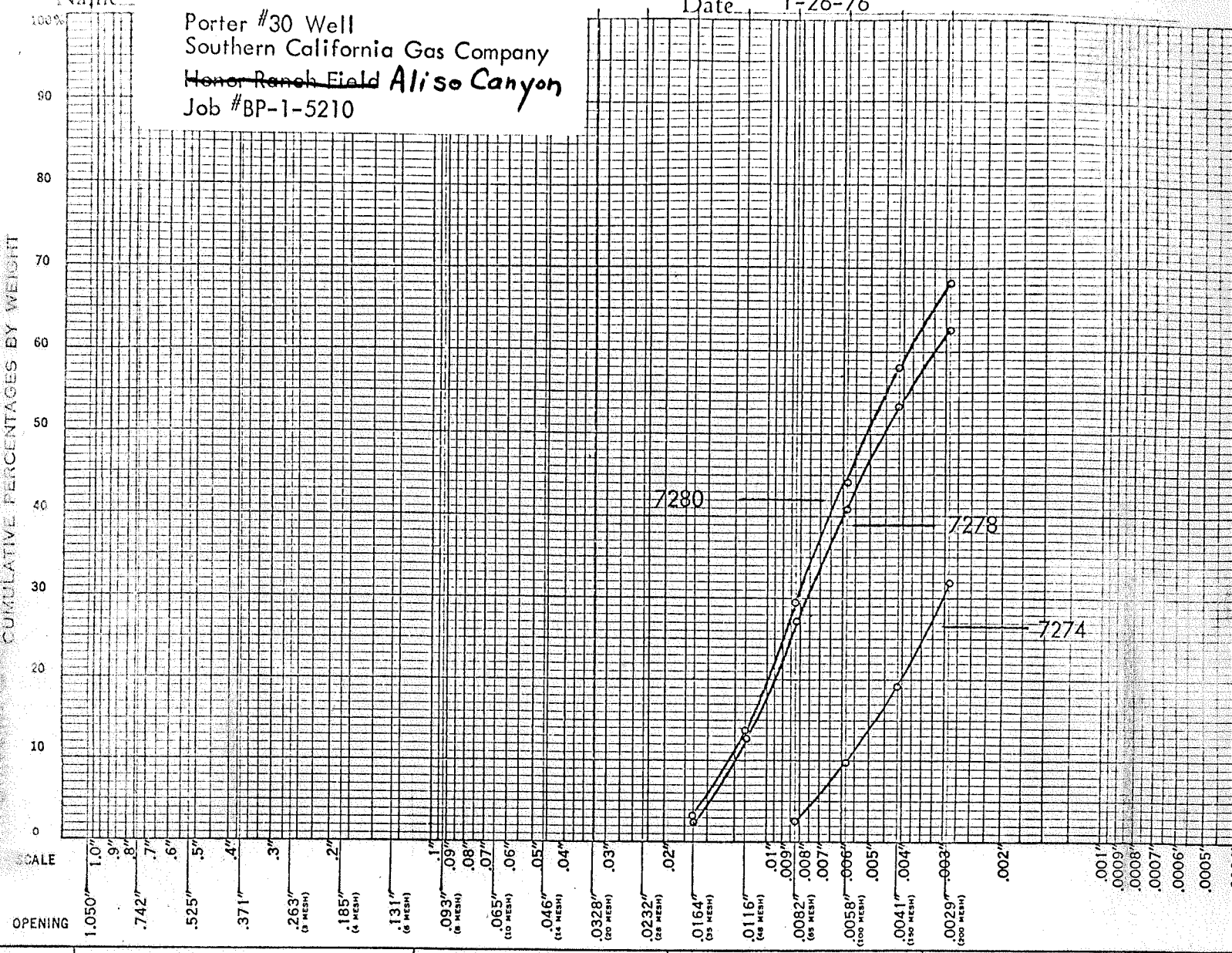
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414				7274 Ft.			7278 Ft.			7280 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40				0.3	2.5	2.5	0.6	3.5	3.5
.0116	.295	48	50				1.2	10.2	12.7	1.7	9.8	13.3
.0082	.208	65	70	0.4	2.7	2.7	1.7	14.4	27.1	2.8	16.2	29.5
.0058	.147	100	100	1.0	6.8	9.8	1.6	13.6	40.7	2.5	14.5	44.0
.0041	.104	150	140	1.5	10.1	19.6	1.5	12.7	53.4	2.4	13.9	58.1
.0029	.074	200	200	1.8	12.2	31.8	1.1	9.3	62.7	1.9	10.9	68.8
.0029	.074	200	200	10.1	68.2	100.0	4.4	37.3	100.0	5.4	31.2	100.0
			Totals,	14.8	100.0		11.8	100.0		17.3	100.0	

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The Tyler Standard Screen Scale

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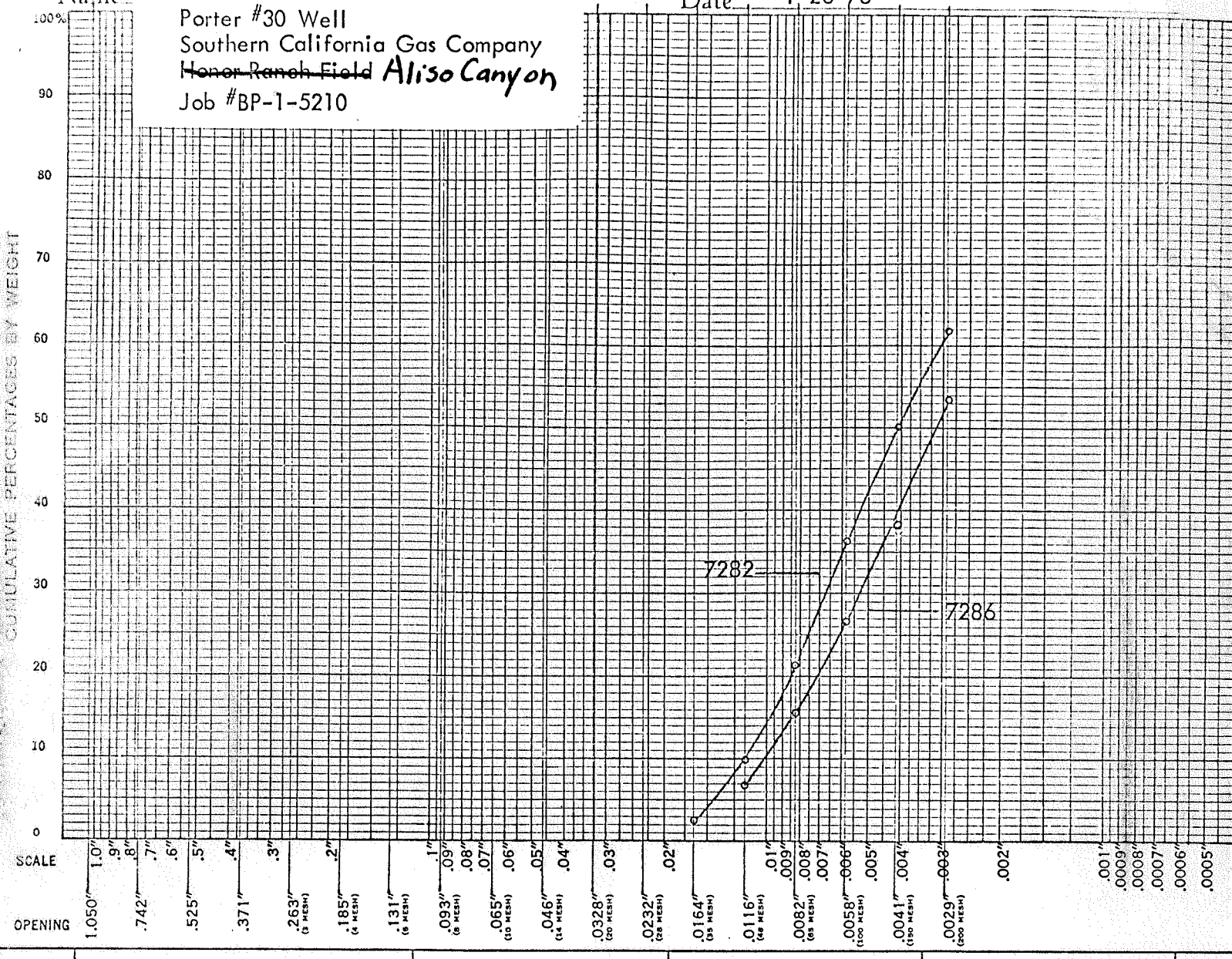
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414				7282 Ft.			7286 Ft.					
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	.5	2.5	2.5						
.0116	.295	48	50	1.5	7.4	9.9	1.0	7.0	7.0			
.0082	.208	65	70	2.3	11.4	21.3	1.2	18.4	15.4			
.0058	.147	100	100	3.0	14.8	36.1	1.6	11.2	26.6			
.0041	.104	150	140	2.8	13.9	50.0	1.7	11.9	38.5			
.0029	.074	200	200	2.4	11.9	61.9	2.1	14.7	53.2			
.0029	.074	200	200	7.7	38.1	100.0	6.7	46.8	100.0			
			Totals.	20.2	100.0		14.3	100.0				

The Tyler Standard Screen Scale

Form No. L-5
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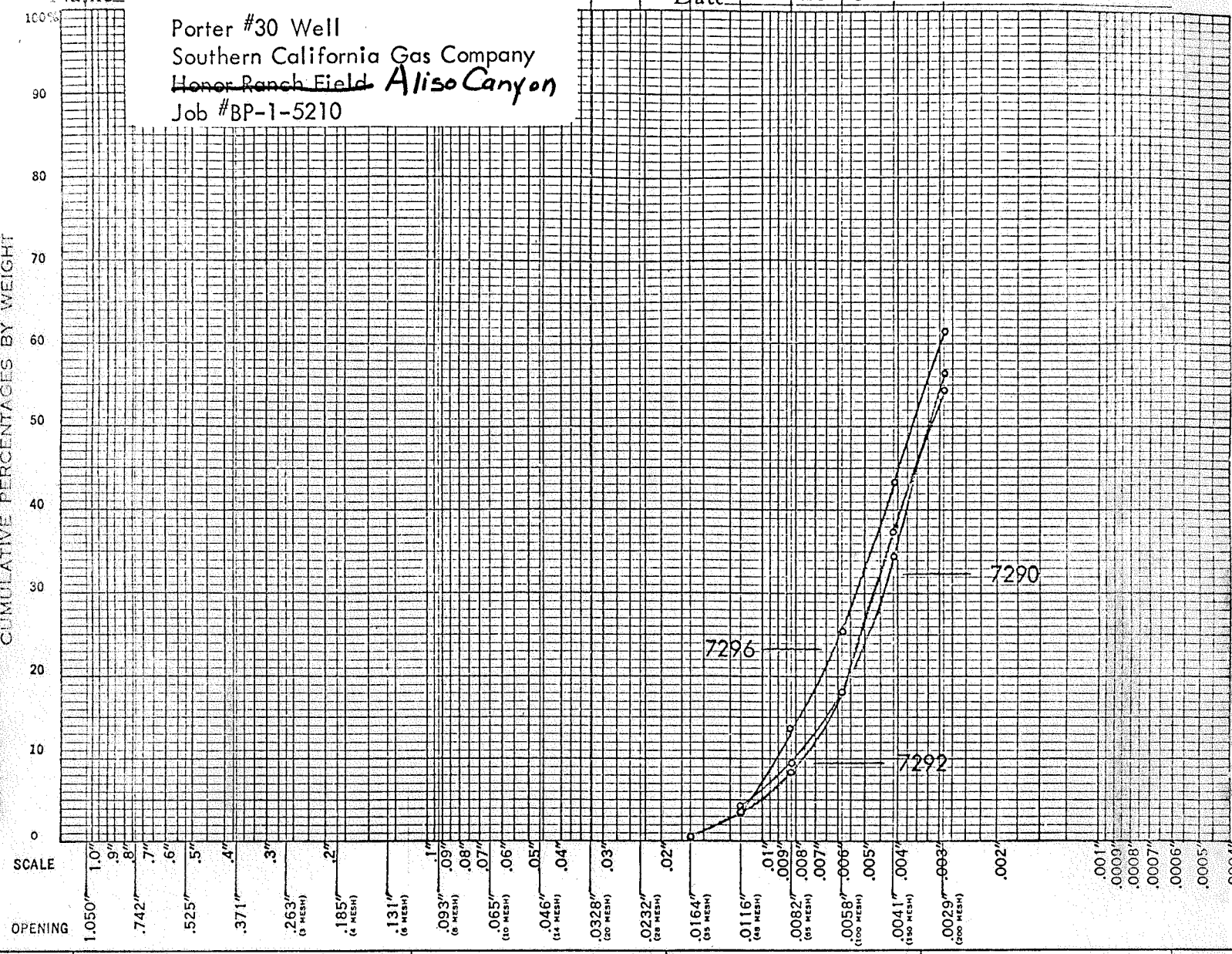
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414

Openings Inches	Openings Millimeters	Tyler Mesh	U.S. No.	7290 Ft. Sample Weights	7290 Ft. Per Cent	7290 Ft. Per Cent Cumulative Weights	7292 Ft. Sample Weights	7292 Ft. Per Cent	7292 Ft. Per Cent Cumulative Weights	7296 Ft. Sample Weights	7296 Ft. Per Cent	7296 Ft. Per Cent Cumulative Weights
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40				0.1	0.6	0.6			
.0116	.295	48	50	0.5	4.0	4.0	0.5	2.9	3.5	.5	3.5	3.5
.0082	.208	65	70	0.7	5.7	9.7	0.8	4.7	8.2	1.5	10.4	13.9
.0058	.147	100	100	1.1	8.9	18.6	1.8	10.5	18.7	1.7	11.8	25.7
.0041	.104	150	140	2.0	16.1	34.7	3.2	18.7	37.4	2.5	17.4	43.1
.0029	.074	200	200	2.7	21.8	56.5	2.9	17.0	54.4	2.7	18.7	61.8
.0029	.074	200	200	5.4	43.5	100.0	7.8	45.6	100.0	5.5	38.2	100.0
Pass				12.4	100.0		17.1	100.0		14.4	100.0	

The Tyler Standard Screen Scale

Form No. L-5
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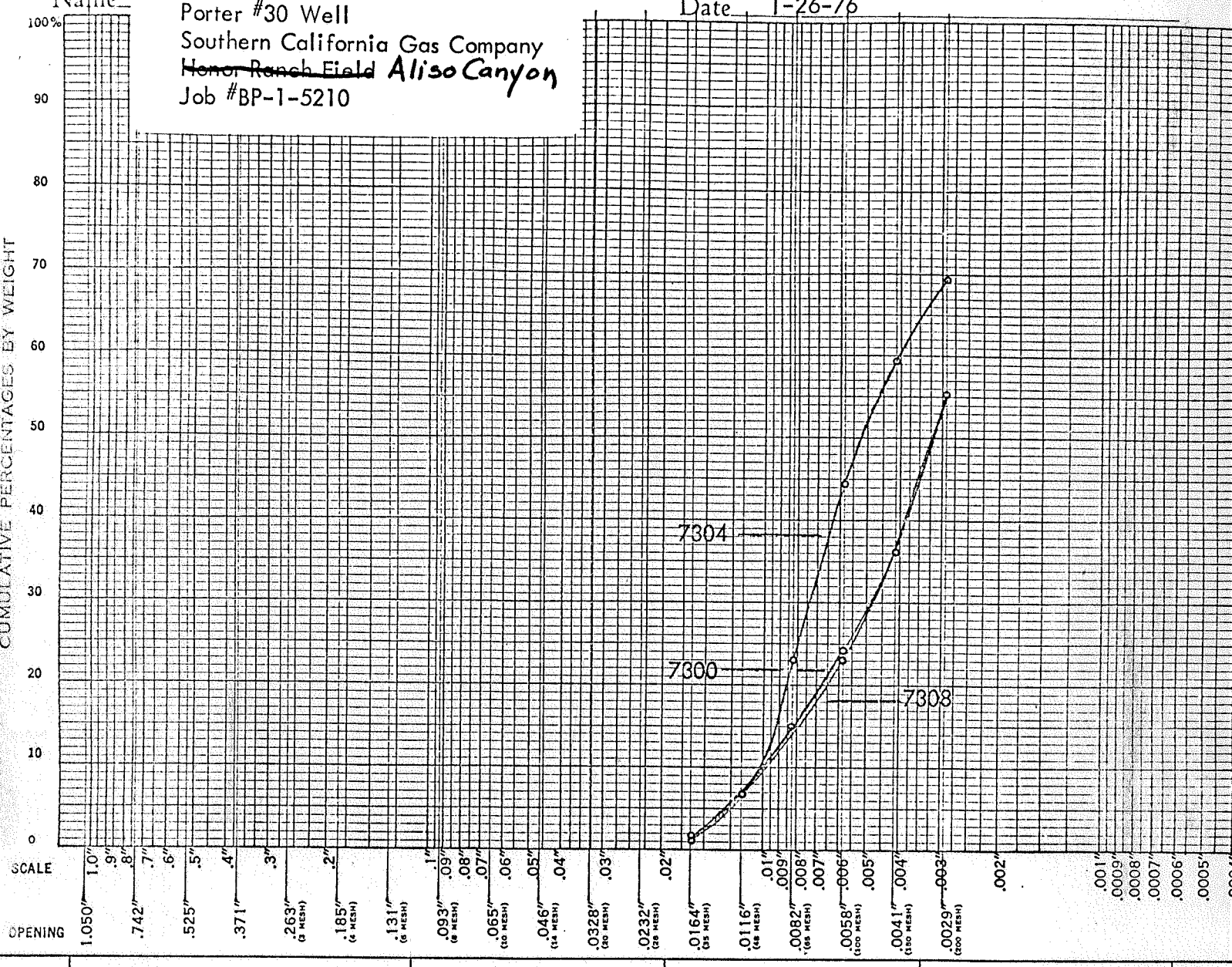
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7300 Ft.			7304 Ft.			7308 Ft.		
Openings		Tyler Mesh	U.S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	.2	1.7	1.7	.2	1.1	1.1	.2	1.4	1.4
.0116	.295	48	50	.6	5.0	6.7	1.0	5.2	6.3	.8	5.4	6.8
.0082	.208	65	70	1.0	8.3	15.0	3.2	16.7	23.0	1.2	8.2	15.0
.0058	.147	100	100	1.1	9.2	24.2	4.1	21.5	44.5	1.2	8.1	23.1
.0041	.104	150	140	1.4	11.6	35.8	2.9	15.2	59.7	1.9	13.0	36.1
.0029	.074	200	200	2.4	20.0	55.8	1.9	9.9	69.6	2.9	19.7	55.8
.0029	.074	200	200	5.3	44.2	100.0	5.8	30.4	100.0	6.5	44.2	100.0
			Totals,	12.0	100.0		19.1	100.0		14.7	100.0	

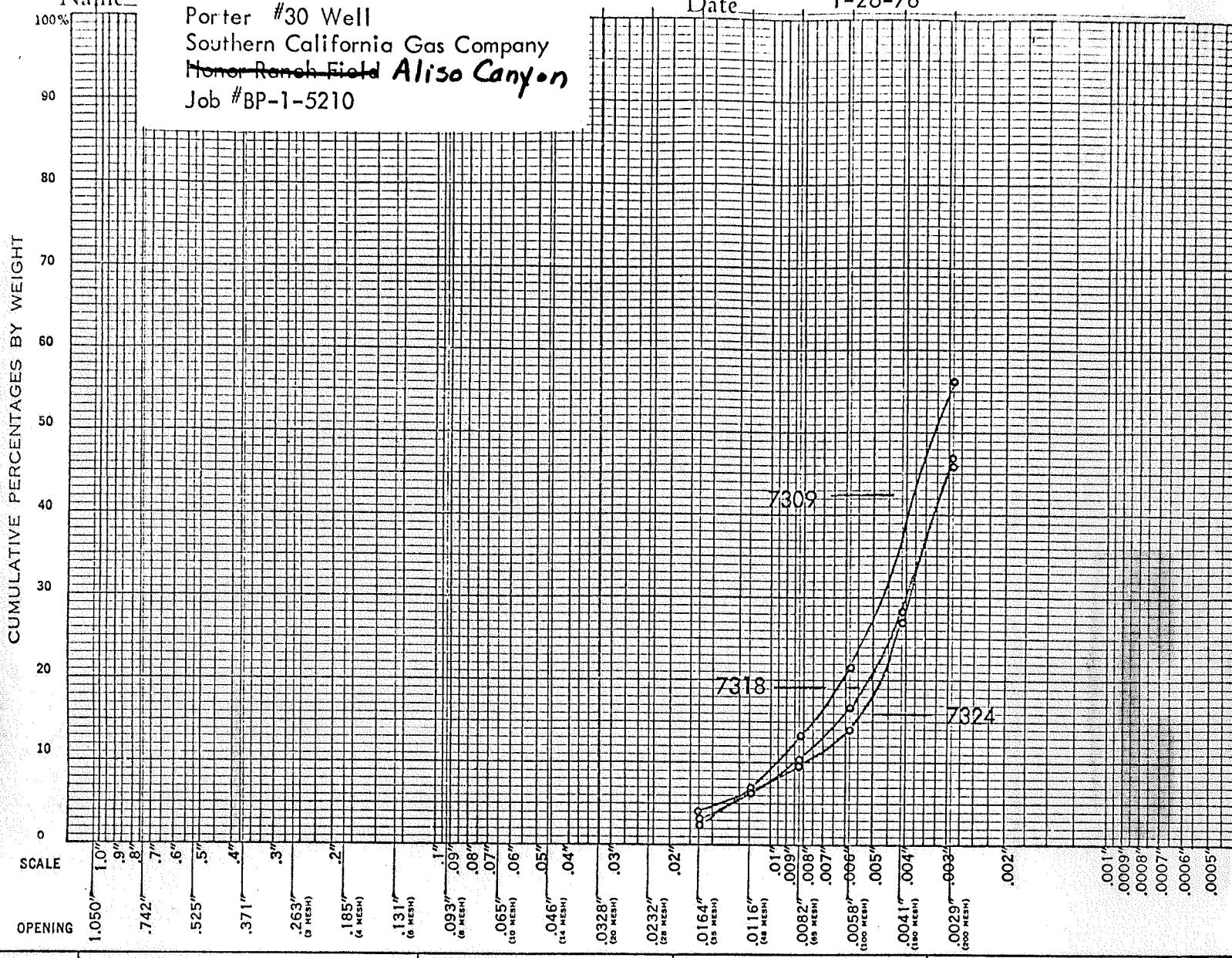
The Tyler Standard Screen Scale

Form No. L-5
Please mention above when ordering

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Core Analysis

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7309 Ft.			7318 Ft.			7324 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40	0.4	2.5	2.5	0.5	3.1	3.1	.6	4.0	4.0
.0116	.295	48	50	0.7	4.4	6.9	0.5	3.1	6.5	.4	2.6	6.6
.0082	.208	65	70	1.0	6.3	13.2	0.6	3.8	10.0	.4	2.7	9.3
.0058	.147	100	100	1.4	8.7	21.9	1.1	6.8	16.8	.7	4.6	13.9
.0041	.104	150	140	2.1	13.1	35.0	1.9	11.8	28.6	2.0	13.2	27.1
.0029	.074	200	200	3.4	21.3	56.3	2.8	17.4	46.0	3.0	19.8	47.0
Pass .0029	.074	200	200	7.0	43.7	100.0	8.7	54.0	100.0	8.0	53.0	100.0
			Totals,	16.0	100.0		16.1	100.0		15.1	100.0	

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SANTA PAULA, CALIFORNIA

The Tyler Standard Screen S[illegible]

Form No. L-6
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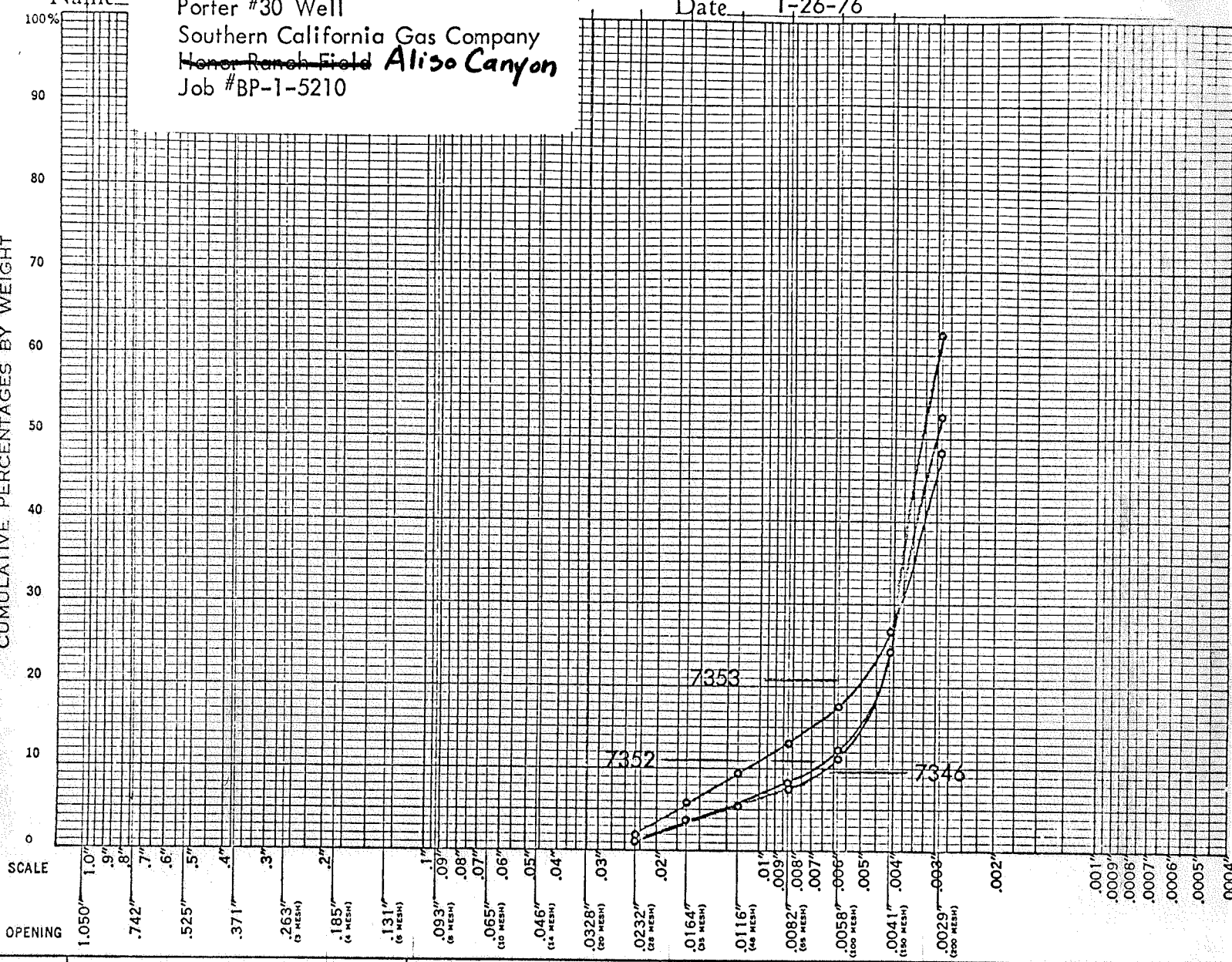
Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7346 Ft.			7352 Ft.			7353 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30	0.3	1.7	1.7	.2	1.2	1.2	0.3	2.2	2.2
.0164	.417	35	40	0.4	2.2	3.9	.3	1.9	3.1	0.5	3.6	5.8
.0116	.295	48	50	0.2	1.1	5.0	.4	2.5	5.6	0.5	3.6	9.4
.0082	.208	65	70	0.5	2.7	7.7	.4	2.5	8.1	0.5	3.6	13.0
.0058	.147	100	100	0.8	4.4	12.1	.5	3.0	11.1	0.6	4.4	17.4
.0041	.104	150	140	2.2	12.1	24.2	2.1	12.9	24.0	1.3	9.4	26.8
.0029	.074	200	200	7.0	38.4	62.6	4.7	28.9	52.9	3.0	21.7	48.5
.0029	.074	200	200	6.8	37.4	100.0	7.7	47.1	100.0	7.1	51.5	100.0
			Totals	18.2	100.0		16.3	100.0		13.8	100.0	

The Tyler Standard Screen Scale

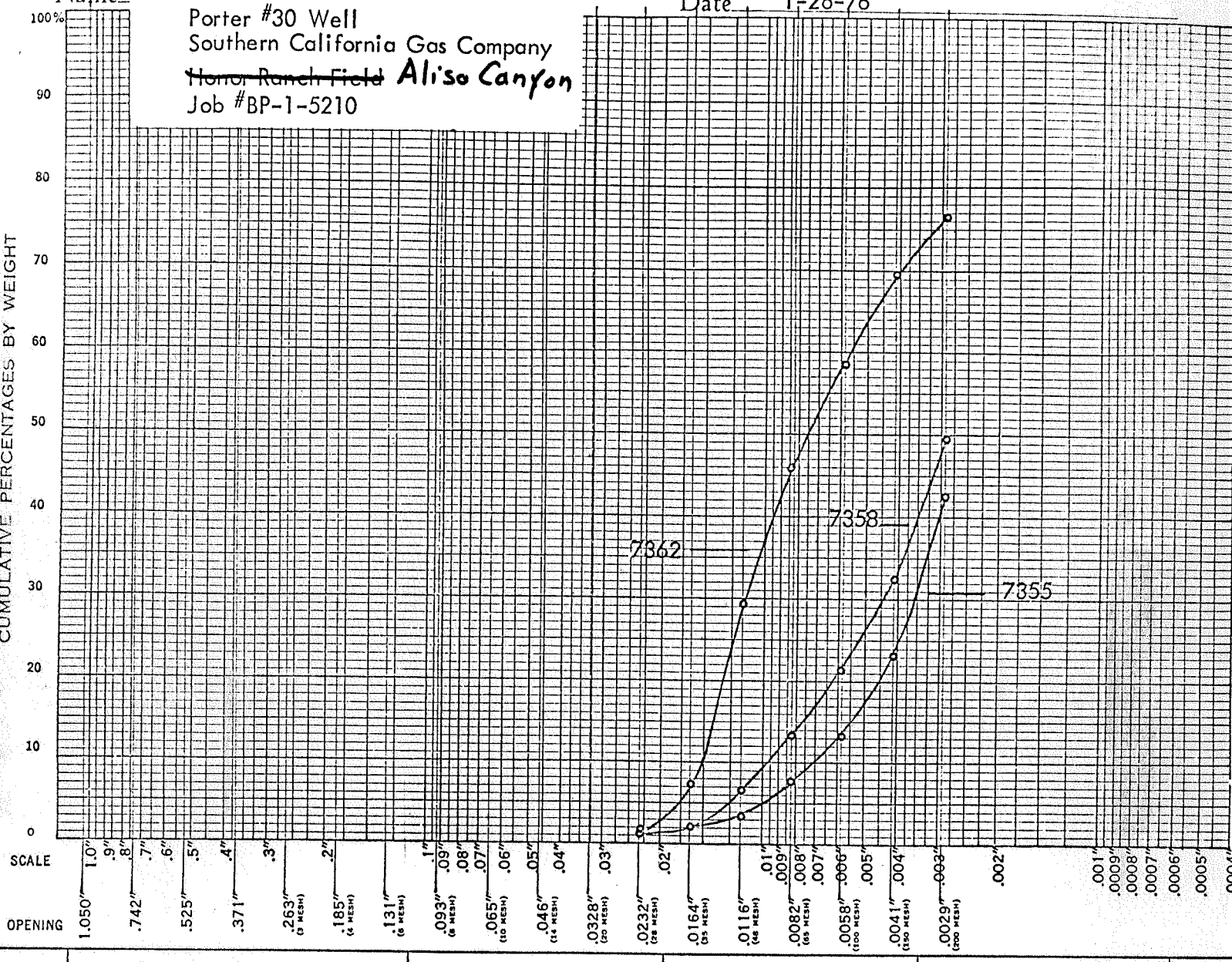
Form No. L-5
Please mention above when ordering

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name

Date 1-26-76

Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210



SCREEN SCALE RATIO 1.414				7355 Ft.			7358 Ft.			7362 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30				0.3	1.5	1.5	.2	1.0	1.0
.0164	.417	35	40				0.1	0.5	2.0	1.3	6.6	7.6
.0116	.295	48	50	.6	3.3	3.3	1.0	4.8	6.8	4.3	21.8	29.4
.0082	.208	65	70	.8	4.5	7.8	1.4	6.8	13.6	3.3	16.8	46.2
.0058	.147	100	100	1.0	5.5	13.3	1.6	7.7	21.3	2.4	12.2	58.4
.0041	.104	150	140	1.8	9.9	23.2	2.3	11.2	32.5	2.2	11.2	69.6
.0029	.074	200	200	3.5	19.3	42.5	3.5	17.0	49.5	1.4	7.1	76.7
.0029	.074	200	200	10.4	57.5	100.0	10.4	50.5	100.0	4.6	23.3	100.0
			Totals,	18.1	100.0		20.6	100.0		19.7	100.0	

The Tyler Standard Screen Scale

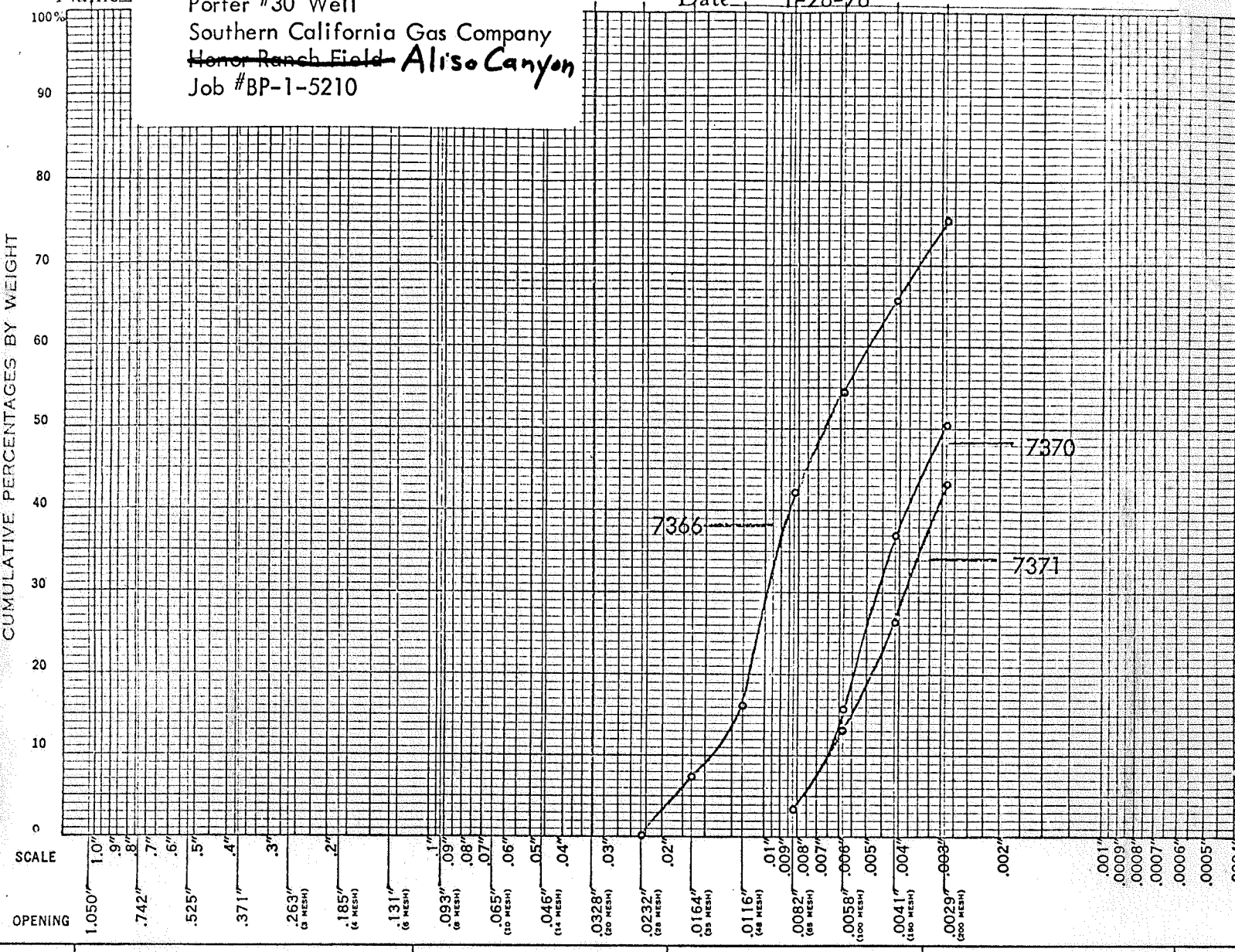
Form No. L-5
Please mention above when ordering

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

L-

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7366 Ft.			7370 Ft.			7371 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30	0.0	0.0	0.0						
.0164	.417	35	40	1.0	7.3	7.3						
.0116	.295	48	50	2.6	18.8	26.1						
.0082	.208	65	70	2.2	15.9	42.0	.4	3.4	3.4	.5	3.5	3.5
.0058	.147	100	100	1.7	12.3	54.3	1.5	12.6	16.0	1.4	9.7	13.2
.0041	.104	150	140	1.5	10.9	65.2	2.5	21.0	37.0	1.9	13.2	26.4
.0029	.074	200	200	1.4	10.2	75.4	1.6	13.4	50.4	2.4	16.7	43.1
.0029	.074	200	200	3.4	24.6	100.0	4.1+1.8	49.6	100.0	8.2	56.9	100.0
ass												
			Totals,	13.8	100.0		11.9	100.0		14.4	100.0	

DIVISION OF OIL AND GAS
RECEIVED
MAY 5 1976
SANTA PAULA, CALIFORNIA

The Tyler Standard Screen Scale

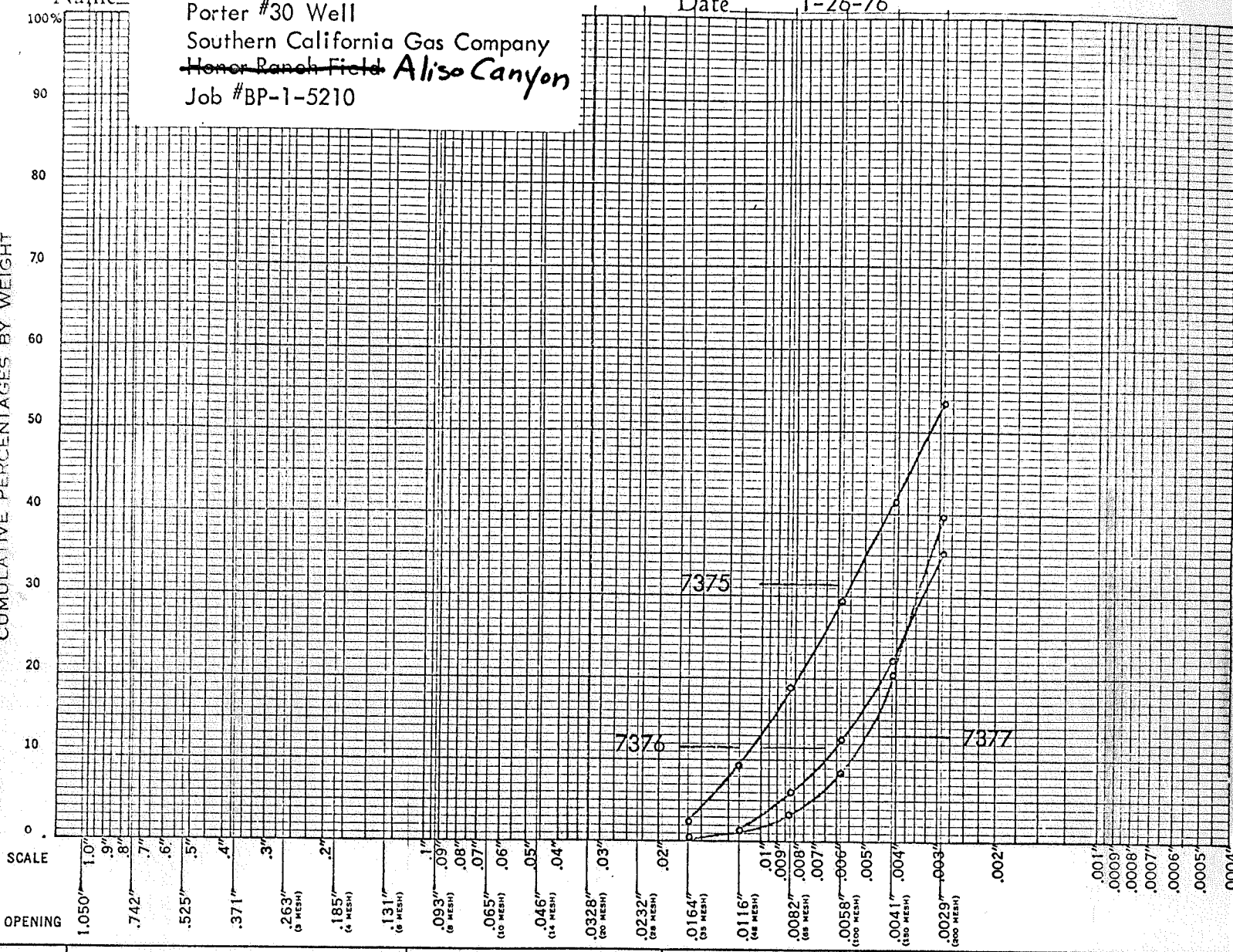
Form No. L-5
Please mention above when ordering

L-

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Sidewall Cores

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7373 Ft.			7375 Ft.			7377 Ft.		
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Milli-meters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40				.3	2.5	2.5	.1	.7	.7
.0116	.295	48	50	.2	1.3	1.3	.8	6.6	9.1	.1	.7	1.4
.0082	.208	65	70	.7	4.6	5.9	1.2	9.9	19.0	.3	1.9	3.3
.0058	.147	100	100	1.0	6.5	12.7	1.3	10.7	29.7	.8	5.2	8.5
.0041	.104	150	140	1.5	9.8	22.2	1.4	11.6	41.3	1.8	11.8	20.3
.0029	.074	200	200	2.0	13.1	35.3	1.5	12.4	53.7	3.0	19.6	39.9
.0029	.074	200	200	9.9	64.7	100.0	3.9+1.7	46.3	100.0	9.2	60.1	100.0
			Totals,	15.3	100.0		12.1			15.3	100.0	

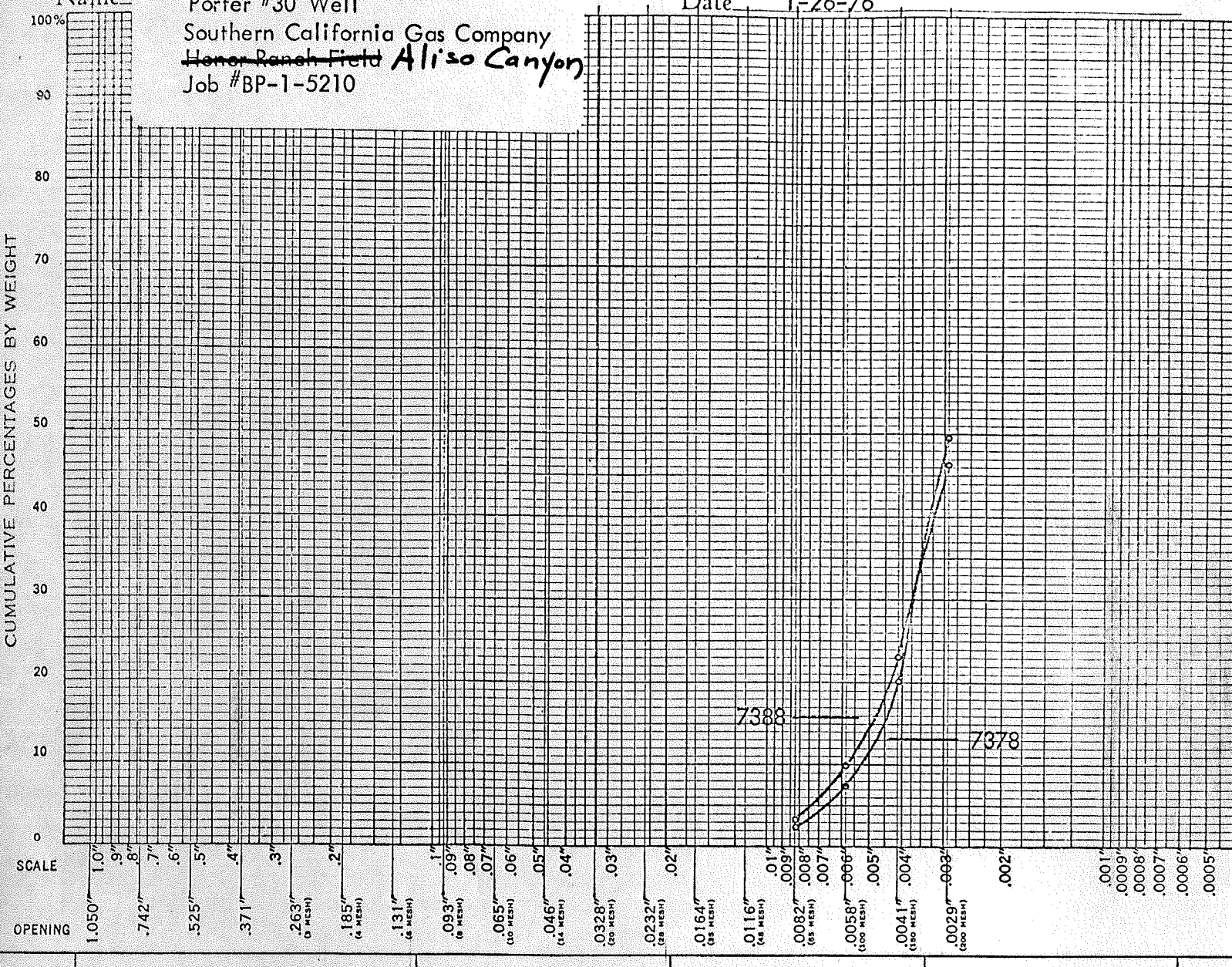
The Tyler Standard Screen Scale

Form No. L-5
Please mention above when ordering

Cumulative Logarithmic Diagram of Screen Analysis on Sample of Side Wall Cores

Name Porter #30 Well
Southern California Gas Company
~~Honor Ranch Field~~ Aliso Canyon
Job #BP-1-5210

Date 1-26-76



SCREEN SCALE RATIO 1.414				7378 Ft.			7388 Ft.					
Openings		Tyler Mesh	U. S. No.	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights	Sample Weights	Per Cent	Per Cent Cumulative Weights
Inches	Millimeters											
1.050	26.67											
.742	18.85											
.525	13.33											
.371	9.423											
.263	6.680	3										
.185	4.699	4	4									
.131	3.327	6	6									
.093	2.362	8	8									
.065	1.651	10	12									
.046	1.168	14	16									
.0328	.833	20	20									
.0232	.589	28	30									
.0164	.417	35	40									
.0116	.295	48	50									
.0082	.208	65	70	.4	2.3	2.3	.4	3.1	3.1			
.0058	.147	100	100	.9	5.3	7.6	.9	6.9	10.0			
.0041	.104	150	140	2.1	12.3	19.9	1.7	13.1	23.1			
.0029	.074	200	200	5.1	29.8	49.7	3.0	23.1	46.2			
.0029	.074	200	200	8.6	50.3	100.0	7.0	53.8	100.0			
Pass			Totals.	17.1	100.0		13.0	100.0				

DIVISION OF OIL AND GAS
RECEIVED
MAY 5 1976
SANTA PAULA, CALIFORNIA

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
DEC 1 1972
LONG BEACH, CALIFORNIA

History of Oil or Gas Well

OPERATOR Pacific Lighting Service Co. FIELD Aliso Canyon

Well No. SFZU P 30, Sec. 27, T. 3N, R. 16W, SB B. & M.

Date 11-30, 1972 Signed R. S. Maguire Jr.

P. O. Box 54790, Terminal Annex
Los Angeles, CA 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.

1972
Date

9-18 Rigged up CPS production rig and killed well with brine-polymer mud.

9-19 Conditioned mud and installed blowout preventer, tested BOP at 1500 psi. Approved by Bill Guerard of DOG at 1000 psi. Tried to pull packer but donut would not fit thru riser spool. Replaced riser spool below BOP.

9-20 Retested BOP and flanges at 1500 psi. Pulled packer and tubing. Ran in 7" scraper and cleaned out to 7467'. Ran Dresser-Atlas Neutron-Lifetime log 7468' - 7100'.

9-21 Ran Dresser-Atlas Density Log 7470' - 6600' and cement bond log 7466' - 5060'.
Ran Baker bridge plug. Initially set at 7200'. Held 2000 psi for 10 minutes.
Tool reset at 7278'. Pressured up to 2200 psi, after 10 minutes pressure bled off to 1500 psi. Tool reset at 7200', but repeated attempts to pressure test failed.

9-22 Ran in new bridge plug. Set at 7275'. Pressure dropped from 2000 to 600 psi in 30 minutes. Ran in full bore packer to 3100'. Pressure in annulus bled off from 1500 psi to 600 psi in 15 minutes. Pressure test in tubing held 2000 psi for 15 minutes. Pulled up to 2500'. Pressure in annulus held 2000 psi for 3 minutes. Ran packer to 2800'. Pressure in annulus bled off from 2000 psi to 1500 psi in 3 minutes. Pulled up to 2700' held 1500 psi on tubing. Pulled up to 2690' tested down tubing. Pressure would not hold. Therefore, leak must be between 2690' and 2700'.

9-23-72 Ran Dia-Log Caliper Log 7265' to surface.

Ran Schlumberger Pipe Inspection Log 7255' - 565'.

Ran Go-International WSO perforator and shot four holes at 2699' per Go collar log; four holes at 2690' per Dia-Log and Schlumberger collar logs.

Ran in full bore packer and set at 2581'.

9-25-72 Lowered full bore to 2776' and pumped in 4 sacks of sand on top of bridge plug. Squeezed holes at 2699' with 75 sacks (86 cu ft) cement. Breakdown with 26 cubic feet/minute at 2100 psi. Final cementing pressure was 2250 psi.

Drilled out with bit, scraper and drill collars 2656' - 2713' and fell free to 2733'. Unable to make any hole below 2733'. Took 25,000 lb pull over weight of pipe to pull loose. Bit was jammed with cement. Calculated 75 cu ft cement behind pipe.

9-26-72 Ran Dia-Log minimum ID tool and collar locator to determine problem of tight spot at 2733'. Logging tools would not drop below 2733', but did not indicate either collapse or parting. Tool had chunks of cement in basket.

Ran in 6" bit and drill collars to 2788'. No evidence of tight spot was observed at 2733'. Pressure tested from surface to 2788' to 2000 psi (this was later tested to 2400 psi). Retrieved bridge plug from 2806'. Perforated four holes at 7225'.

Ran in full bore packer to 7112'.

9-27-72 Squeezed four holes at 7225' with 150 sacks (172 cu ft). Breakdown pressure was 3750 psi holes took 18 cu ft/min at 2650 psi, 10 cu ft/min at 1300 psi. Final cementing pressure was 3300 psi.

Drilled out cement; top of cement at 7137'. Calculated cement behind pipe was 154 cu ft.

9-28-72 Ran in full bore to 3613'.

Pressure tested annulus, 0-3613', w/2400 psi, held OK.

Pressure tested tubing, csg 3613'-7275', w/3000 psi, held OK.

Ran Johnston tester shot four holes at 7216', set packer at 7159' bottom of tool at 7164'. Opened tool for one hour. Medium blow for 3 min., light blow for remainder of test. No fluid loss in annulus. 17' rise of fluid in tool. Initial hydrostatic pressure 3196 psi, final hydrostatic 3182 psi, initial flowing pressure 33 psi, final flowing pressure 30 psi.

Test witnessed and approved by R. Dreeson, Jr. of DOG.

1972

9-29 Ran in Baker full bore to 7108'.
Squeezed four holes at 7215' with 50 sacks (57 cu ft).
Breakdown with 14 cu ft/min at 2250 psi. Final cementing pressure was 3550 psi.
Drilled out cement. Found top at 7141'. Calculated cement behind pipe was 42 cu ft.

9-30 Ran in full bore to 3613'. Pressure tested casing below 3613' with 3000 psi from surface, held OK.
Tore out working platform and hauled in new well head and jacks.

10-2 Removed BOP and old well head.
Casing slips would not come loose from casing bowl, even with 312,000 lb pull. Had welder cut old casing bowl to remove slips.
Casing dropped down about 12". Had to remove base plate from 13-3/8" surface casing to cut surface casing low enough in order to land 7" casing with slips and primary packing below weld in 7" casing.
Welded extension on 7" casing.

10-3 X-ray weld and found to be no good.
Cut off 7" casing extension, re-welded and X-rayed. Weld found to be no good. Had 6" internal undercut and 5" lack of penetration.
Defective parts were marked by X-ray lab. Welder reground defective parts and re-welded.

10-4 X-rayed weld and found defective. Found error in welding proceedure. On J-55 pipe, start first bead with E6010 or E7010 welding rods, then use low hydrogen rods for remainder of the weld.
Cut off 7" extention, re-welded, X-rayed OK.
Welded new casing head on surface pipe, X-rayed OK.
Rigged up casing jacks.

10-5 Jacked up 7" casing with spear. Landed 7" casing on slips at 250,000 lbs. Installed new tubing head and pressure tested seals. Held 4500 psi for 15 minutes each.
Installed BOP's.
Ran in full bore to 2000'. Pressure tested annulus to 2000' at 3200 psi, held OK. Pressure tested down tubing. Found casing had leak below 2000'.
Reset full bore at 2705'. Pressure tested down tubing, held 2400 psi OK. Pumped down casing - showed leak at rate of 6 cu ft/min at 2000 psi.
Reset full bore at 2698'. Tested casing - held 2400 psi OK. Pumped down tubing - showed leak. This indicated leak between 2698' and 2705'. Apparently the stretch in pipe in landing the 7" casing damaged the squeeze job at 2699'.

1972

10-6 Ran in hole with bridge plug and full bore. Set bridge plug 2828', tested with 2400 psi. Pulled full bore up to 2609' squeezed 50 sacks cement. Breakdown with 6 cu ft/min at 1300 psi. Final pumping pressure 1760 psi. Pumped 15 cu ft excess mud past holes. Calculated all 57 cu ft behind pipe. Shut-in four hours.
Mixed 50 sacks of additional cement. Breakdown with 8 cu ft/min at 1800 psi. Final pumping pressure was 2500 psi.
Ran in hole with bit, scraper and drill collars, found top of cement at 2623'. Cleaned out cement to 2707'. Calculated cement behind pipe was 35 cu ft.

10-7 Pressure tested casing. Perforated holes leaked with 2000 psi surface pressure.
Ran in full bore. Set at 2609'. Pumped 75 sacks (86 cu ft). Breakdown at 15 cu ft/min at 2300 psi. Final pumping pressure 2800 psi.
Found top of cement at 2632'. Calculated cement behind pipe was 74 cu ft.

10-9 Cleaned out cement to 2691' and circulated to 2764'. Pressure test broke down at 2000 psi at rate of 8 cu ft/min.
Ran in full bore cementer to 2480'. Squeezed four holes at 2699' with 125 sacks (144 cu ft) with 0.8% Hadlad-9 (low fluid loss). Breakdown pressure was 1300 psi at 10 cu ft/min. Final cementing pressure was 1850 psi. Had calculated 8 cu ft of cement in rat hole.
Shut-in for 24 hours.

10-10 Drilled out cement from 2658' - 2705'. Calculated cement behind pipe was 136 cu ft.

10-11 Pressure tested casing to 2500 psi for 30 minutes (3800 psi at 2700').
Pulled out bridge plugs from 2828' and 7272'.

10-12 Ran cement bond log 7477' to surface. Perforated with Dresser-Atlas 3-1/3" "Golden Jet" one hole per foot 7374' - 7364', four holes per foot 7336' - 7321', four holes per foot 7312' - 7309' four holes per foot 7302' - 7297', four holes per foot 7290' - 7281' and four holes per foot 7262' - 7236'.
Ran bit and scrapper to bottom.

7236 - 7374 @ int

10-13 Ran Baker Model D packer on wireline. Set at 7183' per wireline measurements.
Ran Baker Locator and seal assembly (including five seals) on bottom of tubing string. Measured 7189' of tubing to top of Model D packer with 10,000 lbs., set down weight. Tested casing to 2200 psi (5400 psi at 7183') for 15 minutes.
Ran in Go-International gage ring and junk basket to 2750'.
Unable to assemble casing patch due to stripped threads between patch body and end collars.

1972

10-14 Attempted to run Go-International casing patch. Patch was 12', setting assembly was 15'. Top of patch and assembly got stuck 3' below top of hydril. Top of tool appeared to be off center from casing.
Made up Midway Fishing tool and pulled out casing patch. Casing patch joint appeared to be crooked below setting sleeve of tool. It was decided that we would not make further attempts to run casing patch. Cement bond log showed 100% bonding at area of leak and pressure test held 3800 psi.

10-16 Ran tubing in hole with Baker Locator Sub and five seal nipples for Model D packer, Camco safety valve at 7178' - 7186', Camco mandrel with 1/4" BK valve 975 psi at 7140' - 7120', Camco sliding sleeve at 7101' - 7104', Camco mandrel with 1/4" BK valve 1000 psi at 6156' - 6163', Camco mandrel with 1/4" BK valve 1025 psi at 5173' - 5180', Camco mandrel with 1/4" BK valve 1050 psi at 3973' - 3981'. Ran in 1/4" steel tubing coated with copper strapped to tubing as control line for safety valve. Splices in 1/4" tubing were at 94' and 3030'. Tested 1/4" tubing with 5000 psi nitrogen pressure every 3000' and at all splices. Hydrotested 2-7/8" tubing.

10-17 Spaced out with 14' of tubing pups and landed donut with 12,000 lb., set down weight. Tested control line through donut with 5000 psi. Removed blow out preventer and installed new tree. Tested seals below donut to 4500 psi, tested seals above donut to 3000 psi. Lifted 4000' of fluid out of hole with nitrogen. Bled off pressure in tubing and casing to zero.
Tested control line to 4600 psi. Safety valve opened and immediate blow from tubing and casing was noted. Pressure on tubing at 10:00 pm was 600 psi.

10-18 Released rig and moved out.

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 172-1157

Mr. P. S. Magruder, Jr., Agent
PACIFIC LIGHTING SERVICE CO.
P.O. Box 54790, Terminal Annex
Los Angeles, CA 90054

Inglewood, Calif.
October 3, 1972

DEAR SIR:

Operations at well No. "SFZU" P-30 (037-00717), Sec. 27, T. 3N, R. 16W, S.B. B & M. Aliso Canyon Field, in Los Angeles County, were witnessed on Sept. 28, 1972. Mr. R. Dreessen, Jr., Engineer, representative of the supervisor was present from 2000 to 2100. There were also present M. Melton, Engineer.

Present condition of well: 13-3/8" cem. 565'; 7" cem. 7477', cp 2690' and 7225', perf. 7216' WSO, perf. 7220' WSO; perfs. 7350'-7400'. T.D. 7477'. Effec. depth 7467'.

The operations were performed for the purpose of testing the water shut-off with a formation tester.

Mr. ----- reported:

THE 7" SHUT-OFF AT 7216' IS APPROVED.

RD:dr

cc Company

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By W L Ingram Deputy

59471-705 1-72 20M ② OSP

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 172-1129

Mr. P. S. Magruder, Jr., Agent
PACIFIC LIGHTING SERVICE CO.
P. O. Box 54790, Terminal Annex
Los Angeles, CA 90054

Inglewood, Calif.
Sept. 21, 1972

DEAR SIR:

Operations at well No. "SFZU" P-30 (037-00717), Sec. 27, T. 3N, R. 16W, S.B. B & M. Aliso Canyon Field, in Los Angeles County, were witnessed on Sept. 19, 1972. Mr. W. Guerard, Engineer, representative of the supervisor was present from 1600 to 1715. There were also present M. Melton, Engineer and W. Chananaka, Drilling Foreman.

Present condition of well: 13-3/8" cem. 565'; 7" cem. 7477'; perf. 7220' WSO, perf. 7350'-7400'. T.D. 7477'. Effec. depth 7467'.

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

Mr. ---- reported:

THE BLOWOUT-PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

WG:dr

cc Company

RK/dp

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By W. K. Ingram by Deputy

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 172-1072

Mr. P. S. Magruder, Jr., Agent
PACIFIC LIGHTING SERVICE CO.
P.O. Box 54790, Terminal Annex
Los Angeles, CA 90054

Inglewood, Calif.
Sept. 19, 1972

DEAR SIR:

Your alter casing & convert proposal to to gas storage Well No. "SFZU" P-30 (037-00717), Section 27, T. 3N, R. 16W S.B. B. & M., Aliso Canyon Field, Los Angeles County, dated 9/8/72, received 9/13/72, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment with a minimum 3000 psi working pressure shall be installed and maintained in operating condition during all stages of perforating.

ADS:dr

cc Company

Blanket Bond

JOHN F. MATTHEWS, JR., State Oil and Gas Supervisor

By W. L. Ingram ay, Deputy

57625-705 11-71 35M ② OSP

FORM 107.

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
SEP 18 1972
INGLEWOOD, CALIFORNIA

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Los Angeles Calif. September 8, 19 72

DIVISION OF OIL AND GAS

Inglewood 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 deepening, redrilling, plugging or altering casing at Well No. "SFZU" P-30 (Porter 30)
(Cross out unnecessary words)

, Sec. 27, T. 3 N, R. 16W, SB B. & M.

Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 7477 Plug 7467"

2. Complete casing record.

13-3/8" 54.5# C. 565'
7" 23, 26 & 29# C. 7477
WSO 7220'
Gun Perforations 4 - 1/2" holes per foot 7350' to 7400'

3. Last produced. 1972 September (Date) | 38 Bbls. (Net Oil) | 26.0 (Gravity) | 30.9% (Cut)

The proposed work is as follows:

Jet Perforate 4 1/2" holes per foot 7234' to 7350' and Re-perforate 2 1/2" holes per foot 7350' to 7400' in gas productive intervals as required to convert well to a gas storage well.

Comment to Gas Storage

MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
		ARG	B	ARG	ARG

PACIFIC LIGHTING SERVICE COMPANY
(Name of Operator)

By R. S. Maguda Jr.

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

FORM 100.
CALIFORNIA STATE PRINTING OFFICE

SUBMIT LOG IN DUPLICATE

FILL THE BLANK IN WITH TYPEWRITER. WRITE ON ONE SIDE OF PAPER ONLY

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
SEP 28 1945
LOS ANGELES, CALIFORNIA

WELL SUMMARY REPORT

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30 Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

Location 2669.93' S & 111.23' W from Station #84 Elevation of derrick floor above sea level 1809.15 feet.

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 September 20, 1945 Signed R. A. Curl

G. G. Pfeifer (Engineer or Geologist) R A Curl (Superintendent) Title Agent (President, Secretary or Agent)

Commenced drilling 5/12/45 Completed drilling 8/3/45 Drilling tools Rotary

Total depth 7477' Plugged depth 7467

Junk

GEOLOGICAL MARKERS	DEPTH
Top of Sespe	7238

Commenced producing 8/17/45 (Date) Flowing/~~gas lift/pumping~~ (cross out)

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	166	22.6	5.0	603	800 #	0#
Production after (30 days)	393	22.7	0.1	166	1050#	1050#

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
13-3/8"	365	0	54.5#	New	Seamless	J-55	17½"	400	--
7"	7477	0	23,26,29	New	Seamless	J-55 & N-80	8½"	500	--

PERFORATIONS

Size of Casing	From	To	Size of Perforations	Number of Rows	Distance Between Centers	Method of Perforations
7"	7350 ft.	7400 ft.	Four 1/2" shots per foot			Gun
	ft.	ft.				
	ft.	ft.				
	ft.	ft.				

MAP | MAP BOOK | CARDS | BOND | FORMS 114 | 121

Electrical Log Depths 565'-7477' (Attach Copy of Log)

FORM 103. 44809 4-45 50M
CALIFORNIA STATE PRINTING OFFICE

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
SEP 28 1945
LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

Signed R O Cuff

Date September 20, 1945 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, 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.

LOCATION: 2889.99' south and 111.23' west from Station #34

ELEVATION: 1609.15'

Date	
1945	
1/2-6	Graded road.
1/7	Idle.
1/8-13	Graded road and rig site.
1/14-15	Idle.
1/16-20	Graded road and rig site.
1/21	Idle.
1/22-27	Graded road and rig site.
1/28	Idle.
1/29-2/1	Graded road and rig site.
2/2-2/3	Idle on account of storm.
2/4	Idle.
2/5-8	Graded road and rig site.
2/9-11	Idle.
2/12-17	Graded road and rig site.

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LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 N, R. 15 W, S.B. B. & M.

Signed R. A. Hunt

Date September 20, 1945 Title Agent

(President, Secretary or Agent)

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Date		
1945		
2/18		Idle.
2/19-20		Graded road.
2/21-24		Dug cellar.
2/25		Idle.
2/26-27		Built forms.
2/28		Rammed concrete.
3/1-27		Installed wood work.
3/30-4/1		Idle.
4/2-3		Built casing racks.
4/4-5/2		Idle.
5/3-4		Moved in equipment.
5/5-11		Rigged up rotary.
5/12	32	Spudded 12¼" hole at 4:00 PM. Drilled 12¼" hole from 0' to 32'.
5/13-18	521	Drilled 12¼" hole from 456' to 521'. While drilling at 521', lost circulation at approximately 25' to 30'. Drilling fluid broke out to surface beneath pipe rack. Pumped in 65 sacks construction cement at surface. Time 12:00 midnight.
5/19	592'	Cleaned out cement pumped in at surface and resumed drilling 12¼" hole from 521' to 592'. Circulation OK.
5/20	668'	Drilled 12¼" hole from 592' to 668'. Opened 12¼" hole to 17½" from surface to 27½'

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History of Oil or Gas Well

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

Signed R. A. Camp

Date September 20, 1945 Title Agent

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Date 1945	Depth	
5/21	668'	Opened 12¼" hole to 17½" from 274' to 565'. Cemented 13-3/8", 54.5# Grade J-55 Youngstown T & C casing at 565' with 50 sacks Riverside construction cement and 350 sacks Colton construction cement. Discontinued displacing cement with 60 cu.ft. to displace. Final pressure 300#. Time 11:48 PM. Had cement returns to surface after displacing approximately 200 cu.ft. Mixing time 16 minutes. Displacing time 40 minutes. Calculated displacing fluid 495 cu.ft. Actual displacing fluid 435 cu.ft. Attempted prior cement job. After pumping in approximately 50 sacks Colton construction cement universal joint on mixer failed. Circulated out cement and replaced truck. International Cementers, Inc.
5/22		Standing cemented. Landed 13-3/8" casing and installed cellar connections.
5/23	741'	Located top of cement at 475'. Cleaned out to 668'--bottom of cement 570'--resumed drilling 12¼" hole from 668' to 741'.
5/24-6/16	4067'	Drilled 12¼" hole from 741' to 4067'. Replaced one mud pump.
6/17-7/16	6809'	Drilled 12¼" hole from 4067' to 6809'.
7/17		Laid down 5-9/16" drill pipe. Made up 4½" drill pipe.
7/18-29	7203'	Drilled 11" hole from 6809' to 7203'. Ran Schlumberger electric log at 7203'.
7/30	7215'	Drilled 11" hole from 7203' to 7215'. Installed sand reel.
7/31-8/3	7477'	Reduced size of hole to 8½" at 7215'. Cored 8½" hole from 7215' to 7477'.
8/4		Ran Schlumberger electric log and Eastman directional survey at 7477'.
8/5		Opened 8½" hole to 9-5/8" from 7215' to 7477'. Conditioned mud.

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History of Oil or Gas Well

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

Signed R. M. Cant

Date September 20, 1945 Title Agent
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1945

8/6 T.D. 7477' Cemented 7" Youngstown Speedtite casing at 7477'. with 500 sacks Colton High Temperature cement in bulk. Pressure jumped from 500# to 1000# when plugs bumped. Time 3:01 PM. Mixing time 1 hour 33 minutes. Displacing time 61 minutes. Calculated displacement mud 1626 cu.ft. Actual displacing mud 1615 cu.ft. International Cementers, Inc. Detail of casing as follows:

0' - 3601.6 is 23# Grade J-55
3601.6' - 5283.6 is 23# Grade N-80
5283.6' - 6867.5 is 26# Grade N-80
6867.5' - 7477.0 is 29# Grade N-80

8/7 Standing cemented. Laid down drill pipe. Landed casing.

8/8 Stood cemented. Made up 2-7/8" tubing.

8/9 Located top of cement at 7347'. Cleaned out to 7375'.

8/10 Cleaned out cement and scraped casing to 7467'. Gun perforated 7" casing at 7220' with four 1/2" shots--McCullough. Ran Johnston tester on 2-7/8" tubing. Set packer at 7184'; bottom of tail pipe 7204'. Opened 3/8" bean at 10:55 PM. Had strong steady blow of air for 4 minutes; strong steady blow of gas for 6 minutes; medium heading blow of gas for 5 minutes. After 15 minutes well began flowing to sump at estimated rate of 2,500 B/D. Fluidinitially drilling mud changing in 3 minutes to oil. Allowed well to flow for 15 minutes. Closed valve at 11:25 PM after having been open a total of 30 minutes. Sample of fluid taken while flowing cut 4.5 mud and 0.5 emulsion; 20.5 wet gravity;.

8/11 Pulled tester. Recovered 1920' (11.1 bbls) fluid most of which came from drill pipe as same was pulled. Top 1560' (9.0 bbls) gassy oil; bottom 360 (2.1 bbls) oil, emulsion and fine sand--- mostly fine sand--- no free water. Sample of fluid taken 1920' above tester cut 0.3% mud; 930' above tester 0.2% mud; 460' above tester 0.2% mud. Used two pressure recorders. One recorder indicated flow pressure of 1000# increasing to 3050# with a shut-in pressure of 3650#. Second recorder indicated a flow pressure of 1000# increasing to 3350# and a shut-in pressure of 3800#. W.S.O.

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History of Oil or Gas Well

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SEP 28 1945
LOS ANGELES, CALIFORNIA

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 S, R. 16 W, S.B. B. & M.

Signed R. A. Cook

Date September 20, 1945 Title Agent
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Date	
1945	
8/11	approved by D.O.G. Cleaned out to 7467'.
8/12	Ran Baker cement retainer on 2-7/8" tubing and set same at 7193'. Formation took mud at rate of 10 cu.ft. per minute under 1250#. Pumped in 100 sacks Victor High Temperature cement. Displaced all cement below retainer with maximum pressure 2300# and final pressure 1600#. Time 9:18 AM. Mixing time 7 minutes. Displacing time 27 minutes. Used 237 cu.ft. displacing fluid International Cementers, Inc.
8/13	Drilled up cement and cement retainer from 7192' to 7194'.
8/14	Drilled up cement retainer and cleaned out from 7194' to 7467; bottom of cement 7232'.
8/15	Ran Johnston tester on 2-7/8" tubing. Set packer at 7184'; tail pipe 7204'. Opened 3/8" bean for 33 minutes. Had mild blow of air for 30 seconds; no blow for balance of test. Recovered 25' (0.1 bbls) drilling fluid. Two pressure recorders indicated valve open throughout test with 0# flow pressure. Gun perforated 7" casing from 7350' to 7400' with 6 ½" shots per foot--McCullough. Scraped casing from 7345' to 7400' with Baker scraper and cleaned out to 7367'.
8/16	Hung 2-7/8", 6.5# Grade J-55 Youngstown round thread upset tubing at 7360'. Installed Christmas tree. Circulated and thinned mud with water. Well began flowing to mud tanks at 1:00 AM 8/17. Turned to tanks at 3:30 AM 8/17. In 3 hours well flowed 204 bbls. gross fluid; 188 bbls. approximate net oil; (1504 B/D net rate); 22.8 dry gravity; 8.0% average cut; 24/64" bean; 800# tubing pressure; 0# casing pressure; 608 M/D gas rate.

FORM 103, 44809 4-45 50M
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OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 S, R. 16 W, S.B. B. & M.

Signed R. A. Long

Date September 20, 1945 Title Agent

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Date

1945

8/17 T.D. 7477' Pg. 7467' In 20 hours well flowed 927 bbls. gross fluid; 871 bbls. approximate net oil; 23.1 dry gravity; 6.0% cut; 24/64" to 14/64" bean; 950# tubing pressure; 1025# casing pressure; 399 MCF gas. Well was flowed thru casing to mud tanks for 4 hours-all mud and water.

C. PRODUCTION

8/18

	Gross Fluid	Approximate Net Oil	Dry Gravity	Cut	Bean	Tubing Pressure	Casing Pressure	Gas MCF	Hours On
8/18	377	376	22.5	0.2	14/64"	1025#	1125#	142	24
8/19	323	322	22.7	0.2	9/16"	1025#	1125#	134	24
8/20	322	321	22.7	0.2	9/16"	1025#	1150#	169	24
8/21	329	328	22.7	0.1	9/16"	1025#	1125#	164	24
8/22	80	79	22.7	0.2	9/16"	1125#	1200#	24	14
8/23-26	Shut-in					1125#	1200#		
8/27	273	272	22.7	0.3	10/16"	1075#	1125#	145	16
8/28	359	358	22.7	0.2	10/16"	1050#	1155#	191	24
8/29	381	380	22.7	0.2	10/64"	1050#	1125#	191	24
8/30	106	105	22.7	0.2	10/64"	1140#	1200#	51	20
8/31	360	359	22.7	0.1	10/64"	1050#	1150#	203	24
9/1	130	129	22.7	0.2	10/64"	1050#	1200#	82	24
9/2	74	73	22.7	0.1	10/64"	1025#	1200#	73	24
9/3	55	54	22.7	0.1	10/64"	925#	1175#	65	24
9/4	428	427	22.7	0.1	10/64"	1050#	1100#	237	24
9/5	372	371	22.7	0.2	10/64"	1025#	1100#	201	24
9/6	361	360	22.7	0.2	10/64"	1000#	1100#	181	24
9/7	347	346	22.7	0.1	10/64"	1000#	1050#	195	24
9/8	376	375	22.7	0.2	10/64"	1000#	1050#	196	24
9/9	370	369	22.7	0.1	10/64"	1000#	1050#	194	24
9/10	243	242	22.7	0.1	10/64"	1050#	1050#	135	24
9/11	381	380	22.7	0.2	10/64"	1000#	1050#	208	24
9/12	375	374	22.7	0.2	10/64"	1000#	1050#	183	24
9/13	337	336	22.7	0.1	10/64"	1050#	1100#	165	24
9/14	384	383	22.7	0.2	10/64"	1050#	1050#	187	24

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LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TID E WATER ASSOCIATED OIL COMPANY Field East Coyote

Well No. Porter #30 Sec. 37, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
0'	32'		Drilled		Surface sand and clay
32'	429'		"		Sand and shale
429'	479'		"		Shale
479'	973'		"		Sand and shale
973'	1001'		"		Shale
1001'	1020'		"		Hard shale
1020'	1431'		"		Sand and shale
1431'	1466'		"		Hard shale streaks sand
1466'	1543'		"		Sand and shale
1543'	1560'		"		Hard shale
1560'	3636'		"		Sand and shale
3636'	3664'		"		Hard sand and shale
3664'	4022'		"		Sand and shale
4022'	4032'		"		Hard sand
4032'	4067'		"		Sand
4067'	4232'		"		Sand and shale
4232'	4253'		"		Hard sand and shale
4253'	4264'		"		Hard sand
4264'	4443'		"		Sand and shale
4443'	4466'		"		Hard shale and sand
4466'	4914'		"		Sand and shale
4914'	4944'		"		Sand and shale hard streaks
4944'	5168'		"		Sand and shale
5168'	5188'		"		Sand and shale hard streaks
5188'	5393'		"		Sand and shale
5393'	5408'		"		Shale
5408'	5421'		"		Hard sand
5421'	5451'		"		Sand and sand
5451'	5462'		"		Hard sand
5462'	5466'		"		Hard shale
5466'	5558'		"		Sand and shale
5558'	5585'		"		Hard sand and shale
5585'	5726'		"		Sand and shale
5726'	5740'		"		Sand and shale hard streaks
5740'	5795'		"		Sand and shale
5795'	5806'		"		Hard sand and shale
5806'	6436'		"		Sand and shale
6436'	6460'		"		Shale
6460'	6505'		"		Sand and shale
6505'	6523'		"		Shale

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STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

DIVISION OF OIL AND GAS
RECEIVED
SEP 28 1945
LOS ANGELES, CALIFORNIA

OPERATOR TIDE WATER ASSOCIATED OIL COMPANY FIELD Aliso Canyon

Well No. Porter #30, Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

Signed R. A. Cargo

Date September 20, 1945 Title Agent
(President, Secretary or Agent)

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Date									
1945									
9/15	362	361	22.7	0.1	10/64"	1050#	1050#	158	24
9/16	394	393	22.7	0.1	10/64"	1050#	1050#	168	24

CASING RECORD

T.D. 7477', Pe. 7467
13-3/8", 54.5#, C 565
7", 23#, -26#, 29#, C 7477 — 0'-5284' is 23#; 5284'-6868' is 26#; 6868'-7477' is 29#. Pf. 7220'; 7350'-7400'

TUBING RECORD

2-7/8", 6.5# E 7360

Size of Hole:
0'- 565' is 17½"
565' - 6809' is 12¼"
6809' - 7215' is 11"
7215' - 7477' is 9-5/8"

MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121

JP

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DIVISION OF OIL AND GAS

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LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30 Sec. 27, T. 3 N, R 16 W, S. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
6523'	6538'		Drilled		Sand and shale
6538'	6555'		"		Sandy shale
6555'	6566'		"		Shale
6566'	6594'		"		Sand and shale
6594'	6637'		"		Sandy shale
6637'	6654'		"		Sand and shale
6654'	6679'		"		Hard sand and shale
6679'	6809'		"		Sand and shale
6809'	6839'		"		Sand and shale hard streaks
6839'	6846'		"		Sand and shale
6846'	6863'		"		Sand and shale hard streaks
6863'	6880'		"		Sand and shale
6880'	6890'		"		Shale
6890'	6912'		"		Sand and shale
6912'	7146'		"		Hard shale
7146'	7203'		"		Sand and shale
7203'	7209'		"		Sandy shale
7209'	7215'		"		Sand and shale
7215'	7225'		Cored	8'0"	Sandy siltstone. Firm to fairly hard; massive; gray to brownish-gray; foraminiferal; sandier phases oil stained; no to fair cut and odor. One 0'-4" streak liney siltstone shell 3'-6" below top of core.
7225'	7235'		"	4'00"	0'-2" Shell. Liney siltstone. 3'-10" Sandy siltstone as above. No to fair cut and odor.
7235'	7245'		"	3'0"	Silty oil sand grading locally to streaks to 0'-8" sandy siltstone as above. Oil sand is firm; fine; very silty; has fair to good cut and odor.
7245'	7255'		"	0'0"	No recovery. Inner bbl not seated.
7255'	7260'		"	0'0"	No recovery. Inner bbl not seated.

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LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30 Sec 7, T. 3 S., R. 16 W., S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
7260'	7265'		Cored	0'6"	Oil sand. Firm; fine; well sorted; good cut and odor. Core contaminated with drilling mud.
7265'	7271'		"	5'0"	2'-0" Silty oil sand. Firm; fine; very silty; fair to good cut andodor. Grades to: 1'-6" Sandy siltstone as above. Grades to: 1'-6" Silty oil sand as above.
7271'	7277'		"	4'0"	2'-0" Sandy siltstone as above. 2'-0" Silty oil sand as above. Fair to good cut and odor.
7277'	7287'		"	4'6"	Silty oil sand as above grading locally to 1'-0" streaks sandy siltstone as above. Slight to good cut and odor.
7287'	7297'		"	5'0"	Oil sand. Loosely consolidated; to firm; very fine to fine; well sorted; good cut and odor. Partially contaminated with drilling mud.
7297'	7307'		"	4'0"	Oil sand as above.
7307'	7317'		"	10"0"	Oil sand as above.
7317'8	7327'		"	8'0"	Oil sand. Soft to firm but generally consolidated; very fine to fine; well sorted; but occasional somewhat silty; good cut and odor. Top 2'-0" contaminated with drilling mud. Two 0'-2" streaks limey siltstone shell near bottom of core.
7327'	7337'		"	10'0"	Oil sand as last above. Grades locally to streaks to 0'-9" fine silty oil sand.
7337'	7347'		"	9'6"	Oil sand as last above. Grades locally to streaks to 1'-0" fine, silty oil sand.

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LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TID WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Poryer #30 Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
7347'	7357'		"	1'6"	Oil sand as last above.
7357'	7367'		"	7'0"	Oil sand as last above. One loose 0'-1½" fragment sandstone at bottom of core. Shell is fine to coarse, biotitic; limey; in part slightly oil stained.
7367'8	7377'		"	4'6"	Oil sand. Unconsolidated to firm; fine to medium; well sorted; good cut and odor. One 0'-2" streak limey siltstone shell 1"-0" from bottom.
7377'	7387'		"	3'0"	2'-0" Oil sand. Firm; fine; somewhat silty; becomes increasingly silty downward; good cut and odor. 0'-8" Sandy siltstone. Firm to fairly hard; gray; massive; foraminiferal; sandier phases oil stained. 0'-4" Shell. Limey siltstone.
7387'	7397'		"	6'0"	Oil sand as last above grading locally to very silty oil sand. One 0'-1" streaks fine grained sandstone shell 2'-10" from bottom of core and one 0'-4" streak sandy siltstone 2'-0" from bottom of core. Core badly broken and contaminated with drilling mud and water in extracting from core barrel.
7397'	7407'		"	4'6"	3'-6" Oil sand. Firm; very fine to fine; somewhat silty; good cut and odor. One 0'-1" streak limey siltstone shell 1'-3" from bottom. 0'-3" Sandy siltstone as above. 0'-4" Fragments oil sand and sandy siltstone. Oil sand is firm to hard; fine to medium; silty; sometimes biotitic; has good cut and odor. 0'-5" Sandy siltstone as above.

FORM 101.
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
SEP 28 1945
LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30 Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
7409'	7417'		Cored	3'0"	2'-0" Oil sand. Firm; very fine to fine; somewhat silty; good cut and odor. 1'-0" Shell. Limey siltstone and fine grained sandstone.
7417'	7427'		"	3'6"	0'-6" Shell. Limey siltstone and fine grained sandstone. 1'-0" Oil sand. Firm; fine to medium; generally well sorted, but locally silty; good cut and odor. 1'-0" Shell. Sandstone. Fine to medium; silty; lightly biotitic; difficulty friable. 1'-0" Mottled oil sand and gray sand. Firm; fine to coarse; silty; poorly sorted; has grayish cast and appears undersaturated. Slight to good cut and odor.
7427'	7437'		"	6'0"	3'-0" Oil sand. Firm; fine to coarse; silty; poorly sorted; has grayish cast and appears undersaturated; occasionally slightly mottled; has fair to good cut and odor. 3'-0" Shale. Fairly hard to hard; dark gray to bluish-gray; foraminiferal; occasional bit of carbonaceous material; minor fracturing and slickensiding. Dips 26° to 27°.
7437'	7447'		"	5'0"	Shale. As last above. Dip 27°. One 0'-1" streak sandstone shell, 2'-0" from bottom of core.
7447'	7457'		"	1'6"	0'-10" Shale as above. Minor fracturing and slickensiding. Dips 20° to 25°. 0'-6" Shell. Sandstone. Fine to medium; bluish-gray; lightly biotitic.
7457'	7467'		"	0'0"	No recovery.

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DIVISION OF OIL AND GAS

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RECEIVED
SEP 28 1945
LOS ANGELES, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator TIDE WATER ASSOCIATED OIL COMPANY Field Aliso Canyon

Well No. Porter #30 Sec. 27, T. 3 N, R. 16 W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Drilled or Cored	Recovery	DESCRIPTION
7467'	7477'		Cored	1'6"	Sandstone shell grading locally to occasional streak to 0'-3" mottled oil sand and gray sand. Sand is firm; fine to medium; silty; poorly sorted; has fair to good cut and odor. Core broken and contaminated with drilling mud.

MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
					✓

FORM 109-A

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

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

No. T 1-44296

Los Angeles 14, Calif. August 20, 1945

Mr. R. S. Curl
Los Nietos Calif.
Agent for TIDE WATER ASSOCIATED OIL COMPANY

DEAR SIR:

Your well No. "Porter" 30, Sec. 27, T. 3 N., R. 16 W., S. B. B. & M. Aliso Canyon Field, in Los Angeles County, was tested for water shut-off on August 11, 1945. Mr. J. L. White, Inspector, designated by the supervisor, was present as prescribed in Sec. 3222 and 3223, Ch. 93, Stat. 1939; there were also present John T. Sinclair, Jr., Engineer, A. P. Isenor, Drilling Foreman

Shut-off data: 7 in. 23, 26 & 29 lb. casing was cemented at 7477 ft. on August 6, 1945 in 9-5/8" hole with 500 sacks of cement of which 24 sacks was left in casing. Casing record of well: 13-3/8" cem. 565'; 7" cem. 7477', 4, 1/2" holes 7220', W.S.O.

Reported total depth 7477 ft. Bridged with cement from 7477 ft. to 7467 ft. Cleaned out to 7467 ft. for this test. A pressure of xxx lb. was applied to the inside of casing for xxx min. without loss after cleaning out to xxx ft. A Johnston tester was run into the hole on 2-7/8 in. tubing, with xxx ft. of water cushion, 8-10-45 and packer set at 7184 ft. with tailpiece to 7203 ft. Tester valve, with 3/8" bean, was opened at 10:55 p.m./ and remained open for xxx hr. and 30 min. During this interval there was a strong steady blow for 10 minutes and a medium heading blow for 5 minutes. Gas reached the surface in 4 minutes and fluid in 15 minutes. The first 3 minutes flow was drilling fluid and the last 12 minutes was oil.

THE INSPECTOR ARRIVED AT THE WELL AT 8:30 A.M. AND MR. SINCLAIR REPORTED THE FOLLOWING:

1. A 12-1/4" rotary hole was drilled from 565' to 6809'; an 11" rotary hole from 6809' to 7215' and an 8-1/2" rotary hole from 7215' to 7477' (opened to 9-5/8" 7215'-7477')
2. Electrical core readings showed the top of Sesnon zone 7238'.
3. The 7" casing was shot-perforated with 4, 1/2" holes at 7220' for this test.
4. A Johnston tester was run as noted above.
5. The well flowed through the tester at the rate of 2500 B/D and tested 20.5° gravity cutting 5.0% mud and emulsion.

THE INSPECTOR NOTED THE FOLLOWING:

1. When the tubing was removed, 1920' of gassy oil was found in the tubing above the tester.
2. The recording pressure bomb chart showed that the tester valve was open 30 minutes.

The test was completed at 11:15 a.m.

THE WATER SHUT-OFF ABOVE THE PERFORATIONS AT 7220' IS APPROVED.

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

JLW:ES

R. D. BUSH, State Oil and Gas Supervisor

By E. H. Meesser, Deputy

43393 3-45 10M
STATE PRINTING OFFICE

FORM 111.
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P 1-41012

Los Angeles 14, Calif. August 8, 1945

MR. R. S. Curl

Los Nietos, Calif.

Agent for TIDE WATER ASSOCIATED OIL COMPANY

DEAR SIR:

Your supplementary proposal to drill Well No. "Porter" 30, Section 27, T. 3 N., R. 16 W, S.B. B. & M., Aliso Canyon Field, Los Angeles County, dated August 6, 1945, received August 7, 1945, has been examined in conjunction with records filed in this office.

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

THE NOTICE STATES:

"The new conditions are as follows:
The well has been drilled and cored to 7477'. The S_4 electric log marker is at 7238'."

PROPOSAL:

"We now propose
1. To cement 7" casing at 7477'.
2. To gun perforate the 7" casing at 7220' with four ½" shots and make test of W.S.O.
3. If necessary, to recement and retest until W.S.O. is secured.
4. To gun perforate the 7" casing from 7350' to 7400'.
5. To place well on production."

DECISION:

THE PROPOSAL IS APPROVED.

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

Records Filed
100
101
103
E. Log

CLB:ES

R. D. BUSH
State Oil and Gas Supervisor

By C. A. Musser Deputy

Blanket bond #43486

FORM 123. 36347 7-44 7500
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Supplementary Notice

Los Nietos, Calif. August 6 1945

DIVISION OF OIL AND GAS

Los Angeles Calif.

Our notice to you dated May 10, 19 45, stating our intention to

drill (Drill, deepen, redrill, abandon) well No. Porter #30,

Sec. 27, T. 3 N, R. 16 W, S.B. B. & M. Aliso Canyon Field,

Los Angeles County, must be amended on account of changed or recently discovered conditions.

The new conditions are as follows:

The well has been drilled and cored to 7477'. The S_4 electric log marker is at 7238'.

We now propose

1. To cement 7" casing at 7477'.
2. To gun perforate the 7" casing at 7220' with four ½" shots and make test of W.S.O.
3. If necessary, to recement and retest until W.S.O. is secured.
4. To gun perforate the 7" casing from 7350' to 7400'.
5. To place well on production.

MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
			Blanket 43486		

TIDE WATER ASSOCIATED OIL COMPANY
(Name of Operator)

By R. A. Clark

FORM 109-D

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T 1-44136

Los Angeles 14, Calif. July 6, 1945

Mr. R. S. Curl
Los Nietos, Calif.
Agent for TIDE WATER ASSOCIATED OIL COMPANY

DEAR SIR:

Operations at your well No. "Porter" 30 Sec. 27, T. 3 N., R. 16 W., S.B. B. & M., Aliso Canyon Field, in Los Angeles County, were witnessed by J. L. White, Inspector, representative of the supervisor, on June 24, 1945. There was also present S. M. Peek, Driller, and J. Leper, Derrickman.

Casing Record	Junk
13-3/8" cem. 565'. T.D. 4795'.	None

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

The inspector arrived at the well at 11:40 a.m. and Mr. Peek reported:
On May 21, 1945, 13-3/8", 54.5 lb. casing was cemented at 565' with 400 sacks of cement.

THE INSPECTOR NOTED THAT THE WELL WAS EQUIPPED WITH THE FOLLOWING BLOWOUT PREVENTION EQUIPMENT:

1. A Shaffer double cellar control gate for closing in the well with the drill pipe out of the hole, and for closing around the 5" drill pipe.
2. A 3" mud fill-up line with a 3" high pressure stopcock into the 13-3/8" casing below the above equipment.
3. An 8" shut-off gate on the mud discharge line.

The inspection was completed at 11:55 a.m.

Mr. G. C. Pfeffer, District Engineer for Tide Water Associated Oil Company, reported on June 29, 1945, that the remote control handles for the Shaffer gate had been installed.

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

JLW:OH

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

R. D. BUSH
State Oil and Gas Supervisor

By E. H. Musser Deputy

43395 3-45 15M
STATE PRINTING OFFICE

FORM 111.
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P 1-40713

Los Angeles 14, Calif. May 16, 1945

MR. R. S. Curl
Los Nietos, Calif.
Agent for TIDE WATER ASSOCIATED OIL COMPANY

DEAR SIR:

Your proposal to drill Well No. "Porter" 30,
Section 27, T. 3 N., R. 16 W., S.B. B. & M., Aliso Canyon Field, Los Angeles County,
dated May 10, 1945, received May 14, 1945, has been examined in conjunction with records filed in this office.

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

THE NOTICE STATES:

"The well is 2690 feet S. and 111 feet W. from Station #84
The elevation of the derrick floor above sea level is 1809 feet.
We estimate that the first productive oil or gas sand should be encountered at a depth of about 7250 feet."

PROPOSAL:

"We propose to use the following strings of casing, either cementing or landing them as here indicated:

Size of Casing	Weight	Grade and Type	Depth	Landed or Cemented
13-3/8"	54.5	J-55 T & C J-55 & N-80	500	Cemented
7"	23, 26 & 29	Speedtite	7250	Cemented
5" (Pf lnr)	17.93	N-80 F J	7500	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 or gas zone shall be filled with cement, if possible
4. THIS DIVISION SHALL BE NOTIFIED AS FOLLOWS:
   (a) To inspect the installed blowout prevention equipment before drilling below 1500'.
   (b) To witness a test of the effectiveness of the 7" shut-off.

FCH:OH

Records Filed
100
101
103
E. Log

- P. A. W.
L. C. Decius
Jos. Jensen
G. O. Pfeffer (2)

w/all

R. D. BUSH
State Oil and Gas Supervisor

By E. H. Meesser Deputy

et bond No. 43486

FORM 105
CALIFORNIA STATE PRINTING OFFICE

14

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

037-00717

Notice of Intention to Drill New Well

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

Los Nietos Calif. May 10 19 45

DIVISION OF OIL AND GAS

Los Angeles Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of drilling well No. "Porter" #30, Sec. 27, T. 3 N R. 16 W, SB B. & M., Aliso Canyon Field, Los Angeles County.

Lease consists of Porter Lease

The well is 2890 feet N. or S., and 111 feet E. or W. from Station #84
(Give location in distance from section corners or other corners of legal subdivision)

The elevation of the derrick floor above sea level is 1809 feet.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 7250 feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	Grade and Type	Depth	Landed or Cemented
13-3/8"	54.5	J-55 T & C	500	Cemented
7"	23,26 & 29	J-55 & N-80 Speedtite	7250	Cemented
5" (Pf lnr)	17.93	N-80 F J	7500	Landed

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 Box "Y" Los Nietos, Calif.

TIDE WATER ASSOCIATED OIL COMPANY
(Name of Operator)

Telephone number Whittier 42-043

By R. A. Long
Agent

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

IBA 5-14-45 JCW JCW

Blanket
43486