

API No. 03724225

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

T 216-0354

BLOWOUT PREVENTION EQUIPMENT MEMO

12,1

Operator So Cal Gas Well Porter 69G Sec. 27 T. 3N R. 16W
Field Also Canyon County Los Angeles Spud Date _____

VISITS: Date Engineer Time Operator's Rep. Title
1st 08/12/16 Nigatu Workneh (16:30 to 19:30) Jason Fike Well S. Manager

2nd _____ (_____ to _____) _____
Contractor Rival Rig # 6 Contractor's Rep. & Title _____

Casing record of well: _____

OPERATION: **Inspecting** the blowout prevention equipment and installation. Critical well? Y N
DECISION: The blowout prevention equipment and its installation on the 9 5/8 " casing are approved.

Proposed Well Opns: Rework . MACP: _____ psi
Hole size: _____ " fr. _____ ' to _____ ' & _____ " to _____ ' **REQUIRED BOPE CLASS: Class III 5M**

CASING RECORD OF BOPE ANCHOR STRING					Cement Details		Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at			Casing	Annulus

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		Hydril	GK	11	5000								
Rd	2 7/8	LOV LXT	LWS	11	5000								
Rd	CSO	LOV LXT	LWS	11	5000								

ACTUATING SYSTEM				TOTAL:	AUXILIARY EQUIPMENT						
Accumulator Unit(s) Working Pressure <u>3000</u> psi					No.	Size (in.)	Rated Press.	Connections			Test Press.
Total Rated Pump Output <u>5</u> gpm		Fluid Level						Weld	Flange	Thread	
Distance from Well Bore <u>50+</u> ft.		<u>3/4</u>									

Accum. Manufacturer	Capacity	Precharge	<input type="checkbox"/>	Fill-up Line					
1 Koomey	80 gal.	1000 psi	<input checked="" type="checkbox"/>	Kill Line	2	5M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	gal.	psi	<input checked="" type="checkbox"/>	Control Valve(s)	4	5M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CONTROL STATIONS				Elec.	Hyd.	Pneu.	<input checked="" type="checkbox"/>	Check Valve(s)	2	5M	<input type="checkbox"/> <th><input checked="" type="checkbox"/> <th><input type="checkbox"/> </th></th>	<input checked="" type="checkbox"/> <th><input type="checkbox"/> </th>	<input type="checkbox"/>
<input type="checkbox"/>	Manifold at accumulator unit			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Aux. Pump Connect.			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Remote at Driller's station			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Choke Line	6	5M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Other:			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Control Valve(s)	6	5M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EMERG. BACKUP SYSTEM				Press.	Wkg. Fluid	<input checked="" type="checkbox"/>	Pressure Gauge			<input type="checkbox"/> <th><input checked="" type="checkbox"/> <th><input type="checkbox"/> </th></th>	<input checked="" type="checkbox"/> <th><input type="checkbox"/> </th>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	N ₂ Cylinders	1	L= 55 "	2600	9.5 gal.	<input checked="" type="checkbox"/>	Adjustable Choke(s)	2	2	5M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Other:	2	L= 55 "	2700	9.8 gal.	<input checked="" type="checkbox"/>	Bleed Line				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		3	L= 55 "	2700	9.8 gal.	<input type="checkbox"/>	Upper Kelly Cock						
		4	L= 55 "	2700	9.8 gal.	<input type="checkbox"/>	Lower Kelly Cock						
		5	L= 55 "	2700	9.8 gal.	<input checked="" type="checkbox"/>	Standpipe Valve						
		6	L= 55 "	2800	10.2 gal.	<input type="checkbox"/>	Standpipe Press. Gau.						
TOTAL					58.9 gal.	<input checked="" type="checkbox"/>	Pipe Safety Valve	2	5M				
						<input checked="" type="checkbox"/>	Internal Preventer	2	5M				

HOLE FLUID MONITORING EQUIPMENT				Alarm Type		Class	Hole Fluid Type	Weight	Storage Pits (Type & Size)	
<input type="checkbox"/>	Calibrated Mud Pit	<input type="checkbox"/>	<input type="checkbox"/>	Audible	Visual	A	polymer	8.7	500 bbl Baker Tank	
<input type="checkbox"/>	Pit Level Indicator	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	Pump Stroke Counter	<input type="checkbox"/>	<input checked="" type="checkbox"/>			B				
<input type="checkbox"/>	Pit Level Recorder	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	Flow Sensor	<input type="checkbox"/>	<input type="checkbox"/>			C				
<input type="checkbox"/>	Mud Totalizer	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	Calibrated Trip Tank	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>	Other:	<input type="checkbox"/>	<input type="checkbox"/>							

REMARKS AND DEFICIENCIES:



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

No. T 216-0376

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
September 21, 2016

Your operations at well "**Porter**" **69G**, A.P.I. No. **037-24225**, Sec. **27**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/19/2016**, by **Curtis M. Welty**, a representative of the supervisor.

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

DECISION:

APPROVED

CMW/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By 

Patricia A. Abel, District Deputy

MD826

BLOWOUT PREVENTION EQUIPMENT MEMO

12, 1

Operator Southern California Gas Co. Well "Porter" 69G Sec. 27 T. 3N R. 16W

Field Aliso Canyon County Los Angeles Spud Date

VISITS: Date Engineer Time Operator's Rep. Title
 1st 8/19/2016 Curt Welty (1500 to 1515) Jason Fike DSM

2nd (to)

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

Casing record of well:

OPERATION: 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: Workover . MACP: psi **REQUIRED BOPE CLASS: IIIB5M**
 Hole size: " fr. ' to ' , " to ' & " to ' ,

CASING RECORD OF BOPE ANCHOR STRING					Cement Details		Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at			Casing	Annulus

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	Hydril	GK	11	5M		10						
Rd	2 7/8	Shaffer	LXT	11	5M		3						
Rd	cso	Shaffer	LXT	11	5M		3						

ACTUATING SYSTEM				TOTAL: 16		AUXILIARY EQUIPMENT						
Accumulator Unit(s) Working Pressure 3000 psi						Connections						
Total Rated Pump Output gpm Fluid Level						No.	Size (in.)	Rated Press.	Weld	Flange	Thread	Test Press.
Distance from Well Bore >25 ft. OK												
Accum. Manufacturer		Capacity	Precharge	Fill-up Line								
1	Koomey-style	80 gal.	1000 psi	x	Kill Line	3	2	5M	x			
2		gal.	psi	x	Control Valve(s)	3		5M	x			

CONTROL STATIONS				AUXILIARY EQUIPMENT									
Manifold at accumulator unit				Elec.	Hyd.	Pneu	Connections						
Remote at Driller's station							No.	Size (in.)	Rated Press.	Weld	Flange	Thread	Test Press.
Other:													
				x	Check Valve(s)	1		5M	x				
					Aux. Pump Connect.	1			x				
				x	Choke Line		3	5M	x				
				x	Control Valve(s)	7		5M	x				

EMERG. BACKUP SYSTEM				AUXILIARY EQUIPMENT								
N ₂ Cylinders				Press.	Wkg.	Connections						
Other:						No.	Size (in.)	Rated Press.	Weld	Flange	Thread	Test Press.
1	L=55	"	2700	10gal.	x	Pressure Gauge					x	
2	L=55	"	2750	10gal.	x	Adjustable Choke(s)	2	2	5M	x		
3	L=55	"	2800	10gal.		Bleed Line						
4	L=55	"	2700	10gal.		Upper Kelly Cock						
5	L=55	"	2700	10gal.		Lower Kelly Cock						
6	L=55	"	2700	10gal.		Standpipe Valve						
TOTAL: 60 gal					x	Standpipe Press.						
					x	Pipe Safety Valve		2-7/8	5M			
						Internal Preventer						

HOLE FLUID MONITORING EQUIPMENT			Alarm Type		Hole Fluid Type			Weight		Storage Pits (Type & Size)	
	Audible	Visual	Class								
Calibrated Mud Pit			A		Polymer		8.5	850 bbl			
Pit Level Indicator											
Pump Stroke Counter			B								
Pit Level Recorder											
Flow Sensor			C								
Mud Totalizer											
Calibrated Trip Tank											
Other:											

REMARKS AND DEFICIENCIES:

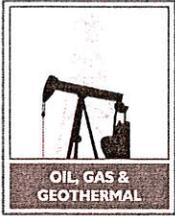
DOGGR Dist2@DOC

From: Vlasko, Brian C <BVlasko@semprautilities.com>
Sent: Tuesday, September 27, 2016 3:55 PM
To: DOGGR Dist2@DOC; Gustafson, Kris@DOC
Cc: Iguaz, Jose; McMahon, Thomas D.; Lefler, Roger D (Krummrich); Volkmar, Mike
Subject: 03724225, REWORK, Porter 69G
Attachments: 03724225_REWORK_09272016.pdf

Kris,

Please see attached NOI for the Porter 69G. We will un-land tubing, space out and re-land tubing. Thank you for the quick turn around on this one.

Thank You,
Brian Vlasko
Sr. Storage Engineer
SoCal Gas Company
Office : 818-700-3897
Mobile : 714-655-9506



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

No. P 216-0244

<u>Old</u>	<u>New</u>
010	010
FIELD CODE	
00	00
AREA CODE	
30	30
POOL CODE	

PERMIT TO CONDUCT WELL OPERATIONS

Gas Storage
 "Sesnon-Frew" - Modelo (Miocene-Eocene) Formation

Ventura, California
 September 29, 2016

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

Your proposal to **Rework** well "**Porter**" **69G**, A.P.I. No. **037-24225**, Section **27**, T. **03N**, R. **16W**, **SB B. & M.**, **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **9/27/2016**, received **9/28/2016** has been examined in conjunction with records filed in this office. (Lat: **34.314850** Long: **-118.557601** 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 III **5M** on the **9 5/8"** casing.
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 **9 5/8"** casing and the injection tubing.
4. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.
5. **THIS DIVISION SHALL BE NOTIFIED TO:**
 - a. Inspect the blowout prevention equipment prior to commencing **downhole** operations.
 - b. Witness a pressure test of the **9 5/8"** casing and the production tubing.

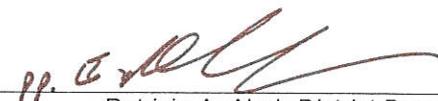
NOTE:

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

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

Kenneth A. Harris Jr.
 State Oil and Gas Supervisor

Engineer Kris Gustafson
 Office (805) 654-4761

By 
 Patricia A. Abel, District Deputy

KG/kg

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.

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

REQUIRED TESTS IF A WELL IS INTENDED TO RESUME OPERATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

REQUIREMENTS FOR WELLS RESUMING OPERATIONS IN ALISO CANYON

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



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

Rec'd 09-28-16 DOGGR Ventura.
FOR DIVISION USE ONLY

	Forms	
Bond	OGD114	OGD121
	CAL WIMS	Q15V

P216-0247

NOTICE OF INTENTION TO REWORK / REDRILL WELL

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework / redrill well Porter 69G, API No. 037-24225,
(Check one)

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: 8500 feet.

The effective depth is: 8407 feet.

Present completion zone(s): Sesnon, Frew
(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.)

- 1) Top fill annulus with 8.5ppg completion fluid. MIRU.
- 2) Unland tubing and pull tubing in slight tension.
- 3) Open sliding sleeve, circulate tubing and annulus. Pull XN plug.
- 4) Release completion packer, reset packer and land tubing in neutral weight.
- 5) Test tubing and annulus as per Step 7a of Order 1109. Install tubing plug and test tubing to 3200psi for 1 hour. Test annulus to 1000psi for 1 hour. RDMO.

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

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

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

Name of Operator Southern California Gas Company		
Address P. O. Box 2300		City/State Chatsworth
		Zip Code 91313-2300
Name of Person Filing Notice Brian Vlasko	Telephone Number: 818-700-3897	Signature
		Date 09/27/16
Individual to contact for technical questions: Brian Vlasko	Telephone Number: 818-700-3897	E-Mail Address: bvlasko@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.

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, re-drilling, 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/

Well Porter 69G

API #: 04-037-24225-00
Sec 27, T3N, R16W

PROPOSED

Operator: So. California Gas Co.

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

Ground Elevation: 2366' asl
Datum to Ground: 29' KB

Spud Date: 10/29/2001
Completion Date: 5/18/2002
Last Rework Date: 8/18/2016

Junk: None

Notes
*Perfs @ 7820' - 7900' orig. shot 5/18/2002, these and perfs @ 8190' - 8193' CMT SQZ'D on 3/21/2003
**102,000 lbs of 20/40 sand to Perfs.

13-3/8" TOC Surface
9-5/8" TOC Surface

17-1/2" Hole
(to 853')

Surface Casing
13-3/8", 54.5#, K-55
0' - 848'

CMT'D w/ 835 CF / 729 SKS (34% excess), 14 BBL CMT Returns to Surface

848'

Tubing
0' - 7275' 2-7/8", 6.5#, L-80
7381' (Stub) - 7443' 2-7/8", 6.5#, N-80
7443' - 7797' 2-3/8", N-80
7797' - 7799' 2-7/8", N-80

(12/8/2005)

12-1/4" Hole
(853' - 8500')

Production Casing
9-5/8", 47#, N-80
0' - 8500'

CMT'D w/ 2665 CF,
70 BBL CMT Returns to Surface

7469'

7275' "XD" Sliding Sleeve (Opens Down)

7309' "X" Nipple

7346' PCKR (COE) (8/18/2016)

7379' Wire-line Shoe

7401' On/Off Overshot w/ 2.31" "X" Profile

7411' G-77 PCKR (Top) (12/8/2005)

7429' "XD" Sliding Sleeve (Opens Down)

7443' 2-7/8" x 2-3/8" X-Over

7480' - 7484' Twelve (12) 1/2" Holes (SQZ'D w/ CMT, 10/30/2002)

7505' - 7528' 9-5/8" ECP

5" Inner Liners

5", 15.5#
7469' - 7488' & 7488' - 7791'

5" Liner Perfs:

7592' - 7684' 0.012" ga. WWS, Frac Packed

7694' - 7786' 0.012" ga. WWS, Frac Packed

9-5/8" x 5" Bottom Hole PCKR

7600'

7680'

7688'

7701'

7781'

7760' "XD" Sliding Sleeve (Opens Down)

7787' - 7792' 7-1/4" x 6" PBR

7795' "XN" No-Go Nipple (w/ 1.792" No-Go)

7798' 4" Seal Assembly

7799' Tail

4-1/2" Liner Perfs:

7814' - 8130' 0.016" WWS

Gravel Packed w/
100 CF (102 CF Calc'd) 16-30

8164' - 8223' CMT Plug

8190' - 8193' Four (4) 1/2" HPF (3/21/2003, SQZ'D*)

8223' - 8226' 9-5/8" CMT Retainer

SQZ'D 24 BBL CMT Below (3/26/2003)

8404' Tagged (3/20/2003)

9-5/8" Perfs:

7600' - 7620', 7640' - 7680'

Twelve (12) HPF (11/15/2005)

7701' - 7781'

Twelve (12) HPF (11/3/2005)

7820' - 7900' (Frac Packed**)

Six (6) 5/8" HPF (Re-perf'd 4/3/2003*)

7902' - 8116' (Frac Packed**)

Four (4) 1/2" HPF (3/28/2003)

8292' - 8322'

Four (4) 1/2" HPF (3/24/2003, ineffective)

4-1/2" Inner Liner

4-1/2", 11.6", L-80

7787' - 8131'

PBTD 8407'

TD 8500'

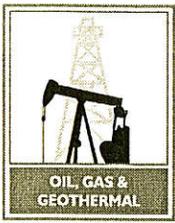
TVD (8128')

Directionally Drilled: Yes (TD is 1382' E, 1373' N of Surf)

8500'

Top of Zone Markers	md	(tvd)
MP	7074'	(6809')
S1	7472'	(7175')
S4	7538'	(7236')
S8	7610'	(7303')
S12	7710'	(7396')
FREW	7819'	(7497')
CR	8136'	(7791')
K1	8290'	(7933')

Prepared by: LD (7/13/2016)
Updated by: BV (9/27/2016)



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

No. T 216-0354

REPORT ON OPERATIONS

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

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

Ventura, California
August 26, 2016

Your operations at well "**Porter**" **69G**, A.P.I. No. **037-24225**, Sec. **27**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/12/2016**, by **Nigatu Workneh**, a representative of the supervisor.

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

DECISION:

APPROVED

NW/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By 

Patricia A. Abel, District Deputy

API No. 03724225

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

T 216-0354
12,1

BLOWOUT PREVENTION EQUIPMENT MEMO

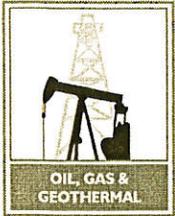
Operator So Cal Gas Well Porter 69G Sec. 27 T. 3N R. 16W
 Field Also Canyon County Los Angeles Spud Date _____

VISITS: Date 08/12/16 Engineer Nigatu Workneh Time (16:30 to 19:30) Operator's Rep. Jason Fike Title Well S. Manager
 1st _____ (_____ to _____) _____
 2nd _____ (_____ to _____) _____
 Contractor Rival Rig # 6 Contractor's Rep. & Title _____
 Casing record of well: _____

OPERATION: **Inspecting** the blowout prevention equipment and installation. Critical well? Y N
 DECISION: The blowout prevention equipment and its installation on the 9 5/8 " casing are approved.

Proposed Well Opns: Rework . MACP: _____ psi
 Hole size: _____ " fr. _____ ' to _____ ' & _____ " to _____ ' **REQUIRED BOPE CLASS: Class III 5M**

CASING RECORD OF BOPE ANCHOR STRING					Cement Details				Top of Cement				
Size	Weight(s)	Grade(s)	Shoe at	CP at					Casing	Annulus			
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		Hydril	GK	11	5000		<u>18.2</u>						
Rd	2 7/8	LOV LXT	LWS	11	5000		<u>3.5</u>						
Rd	CSO	LOV LXT	LWS	11	5000		<u>3.5</u>						
ACTUATING SYSTEM					TOTAL: <u>25.2</u>		AUXILIARY EQUIPMENT						
Accumulator Unit(s) Working Pressure <u>3000</u> psi													
Total Rated Pump Output <u>5</u> gpm					Fluid Level								
Distance from Well Bore <u>50+</u> ft.					Precharge								
Accum. Manufacturer					Capacity								
1	Koomey			<u>80</u> gal.	<u>1000</u> psi								
2				gal.	psi								
CONTROL STATIONS					Elec.	Hyd.	Pneu.						
<input type="checkbox"/> Manifold at accumulator unit					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> Remote at Driller's station					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<input type="checkbox"/> Other:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
EMERG. BACKUP SYSTEM					Press.	Wkg. Fluid							
<input checked="" type="checkbox"/> N ₂ Cylinders					1 L= <u>55</u> "	<u>2600</u>	<u>9.5</u> gal.						
<input type="checkbox"/> Other:					2 L= <u>55</u> "	<u>2700</u>	<u>9.8</u> gal.						
					3 L= <u>55</u> "	<u>2700</u>	<u>9.8</u> gal.						
					4 L= <u>55</u> "	<u>2700</u>	<u>9.8</u> gal.						
					5 L= <u>55</u> "	<u>2700</u>	<u>9.8</u> gal.						
					6 L= <u>55</u> "	<u>2800</u>	<u>10.2</u> gal.						
					TOTAL		<u>58.9</u> gal.						
HOLE FLUID MONITORING EQUIPMENT					Alarm Type								
					Audible	Visual	Class	Hole Fluid Type		Weight	Storage Pits (Type & Size)		
<input type="checkbox"/> Calibrated Mud Pit					<input type="checkbox"/>	<input type="checkbox"/>	A	<u>polymer</u>		<u>8.7</u>	<u>500 bbl Baker Tank</u>		
<input type="checkbox"/> Pit Level Indicator					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Pump Stroke Counter					<input type="checkbox"/>	<input checked="" type="checkbox"/>	B						
<input type="checkbox"/> Pit Level Recorder					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Flow Sensor					<input type="checkbox"/>	<input type="checkbox"/>	C						
<input type="checkbox"/> Mud Totalizer					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Calibrated Trip Tank					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Other:					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>							
REMARKS AND DEFICIENCIES:													



JRAL RESOURCES AGENCY OF CALIFORNIA
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DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
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Phone:(805) 654-4761 Fax:(805) 654-4765

No. T 216-0347

REPORT ON OPERATIONS

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

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

Ventura, California
August 18, 2016

Your operations at well "**Porter**" **69G**, A.P.I. No. **037-24225**, Sec. **27**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/18/2016**, by **Jay N. Huff**, a representative of the supervisor.

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

DECISION:

APPROVED

JNH/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By 

Patricia A. Abel, District Deputy

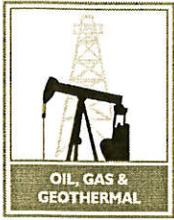
CK818.

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

No. T 216 0347
16,1

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

Operator: SoCal Gas				Well: Porter 69G	
Sec. 27	T. 3N	R. 16W	B.&M. SB	API No.:037-24225	Field: Aliso Canyon
County: Los Angeles				Witnessed/Reviewed on: 8/18/2016	
Jay Huff			700		1015
, representative of the supervisor, was present from to					
Also present were: Jason Fike					
Casing record of the well: 13-3/8" 54.5# K55 @ 848'. Cemented 9-5/8" 47# N80 @ 8,500. Cemented. Production tubing with production packer at 7,350' and plug set at 7,378'.					
The Internal MIT was performed for the purpose of pressure testing the 9-5/8" casing above Packer at 7,350' (2) (prior to injecting fluid). Tubing was also tested with a tubing plug set at 7,378'					
<input checked="" type="checkbox"/> The Internal MIT is approved since it indicates that the 9-5/8" casing has mechanical integrity above <u>7,350'</u> at this time.					
<input type="checkbox"/> The Internal MIT is not approved due to the following reasons: (specify)					
INDICATE WHERE PACKER WAS SET AND HOW LONG PRESSURE WAS HELD ALONG WITH ANY BLEEDOFF DATA.					
Final Well Certification - 115% MAOP on tubing & 1000 psi on annulus separately for 1 hr each.					
Casing/Packer (7,350') Pi = 1,111 psi @ 7:12; Pf = 1,113 psi @ 8:12.					
Tubing (Plug @ 7,378') Pi=3,816 psi @ 9:07. Pf=3,811 psi @ 10:07					



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No. T 216-0341

REPORT ON OPERATIONS

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

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

Ventura, California
August 18, 2016

Your operations at well "**Porter**" **69G**, A.P.I. No. **037-24225**, Sec. **27**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/5/2016**, by **Chris Phillips**, a representative of the supervisor.

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

DECISION:

APPROVED

CPH/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By 

Patricia A. Abel, District Deputy

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

T 216-0341
#16, #1

Casing and Tubing Pressure Test

Operator: So. Cal. Gas Co. Well Designation: Porter 69G

Sec. 27, T. 03N, R. 16W, S. B. B.M. API No. 037-24225 Field: Aliso Canyon

County: Los Angeles Witnessed on: 05-Aug-2016 Chris Phillips, representative
of the supervisor, was present from 0730 to 1155.

Also Present were Jason Fike

Casing Record of the Well:

See casing record on NOI

The operations were performed for the purpose of Pressure testing 9-5/8" casing

Pressure Test of the Casing

Packer/ Bridge Plug at <u>packer at 3500'</u>	Well Type <u>Gas Storage</u>
Casing Pressured with <u>3% KCl, 8.5 #/gal</u>	Volume _____
Casing Pressure Start PSI: <u>3673</u>	Start Time: <u>0741</u>
Casing Pressure End PSI: <u>3657</u>	End Time: <u>0841</u>
Pressure Held <u>60</u> Min. Total drop in Pressure _____	<u>16</u> psi <u>0.44</u> %.

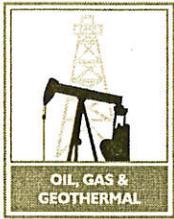
Test Result: Good Not Good

Pressure Test of the Tubing

Packer/ Bridge Plug at <u>Packer at 7365'</u>	Well Type <u>Gas Storage</u>
Tubing Pressured with <u>3% KCl, 8.5 #/gal</u>	Volume _____
Tubing Pressure Start PSI: <u>2557</u>	Start Time: <u>1053</u>
Tubing Pressure End PSI: <u>2535</u>	End Time: <u>1153</u>
Pressure Held <u>60</u> Min. Total drop in Pressure _____	<u>22</u> psi <u>0.87</u> %.

Test Result: Good Not Good

Remarks: 2-7/8", 6.5#, N-80 tubing



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No. T 216-0297

REPORT ON OPERATIONS

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

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

Ventura, California
August 16, 2016

Your operations at well "**Porter**" **69G**, A.P.I. No. **037-24225**, Sec. **27**, T. **03N**, R. **16W**, **SB B.&M.**, **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **7/28/2016**, by **Clifford R. Knight**, a representative of the supervisor.

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

DECISION:

APPROVED

CRK/TKC

Kenneth A. Harris Jr.

State Oil and Gas Supervisor

By _____
Patricia A. Abel, *District Deputy*

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: Southern California Gas Company WELL DESIGNATION "Porter"69G

API No. 03724225 SE 27 T: 3n R.: 16W , SB B. and M.

County: Los Angeles FIELD: Aliso Canyon

Type of Notice: Rework Date 7/18/2016 Report Number: P216-0147

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

NEW STATUS

	Date	OK	NEED	Remarks
Well Summary (OG100)				
History (OG103)				
E-Log				
Mud Log				
Dipmeter				
Directional				
Core and/or SWS				
<i>BOPE Ins.</i>	<i>7/28/16</i>	<input checked="" type="checkbox"/>		
<i>Press. Test</i>	<i>8/5/16</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Need data from SCB</i>

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) _____

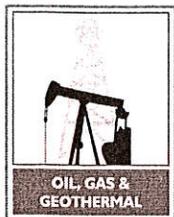
REMARKS

RECORDS SCANNED: _____

(Date)

RECORDS APPROVED: _____

(Date and Engineer)



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

No. P 216-0147

PERMIT TO CONDUCT WELL OPERATIONS

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

Gas Storage
 SIMP and Order 1109
 "Sesnon-Frew" - Modelo (Miocene-Eocene) Formation

Ventura, California
 July 22, 2016

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

Your proposal to **Rework** well "**Porter**" **69G**, A.P.I. No. **037-24225**, Section **27**, T. **03N**, R. **16W**, **SB B. & M.**, **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **7/18/2016**, received **7/20/2016** has been examined in conjunction with records filed in this office. (Lat: **34.314850** Long: **-118.557601** 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 III **5M** on the **9 5/8"** casing.
2. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
4. A Temperature and Noise log are run on the well from the packer to surface.
5. **A Casing Wall Thickness Inspection, Cement Bond Log, Ultrasonic Imaging Log, and a Multi-Arm Caliper Inspection** shall be performed to demonstrate that the **9 5/8"** casing has integrity.
6. Prior to commencing injection, a pressure test is conducted to demonstrate the mechanical integrity of the **9 5/8"** casing.
7. Injection shall be through tubing and packer only. Injection or withdrawal through the casing is not permitted.
8. In all other respects, the provisions of Division Order #1109 and its amendments shall remain in effect.
9. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.

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 tubing and **9 5/8"** casing prior to commencing injection.

Continued on Next Page

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

Kenneth A. Harris Jr.
 State Oil and Gas Supervisor

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

By 
 Patricia A. Abel, District Deputy

CRK/crk

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.

Page 2
Well #: "Porter" 69G
API #: 037-24225
Permit : P 216-0147
Date: July 22, 2016

NOTE:

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

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

**ATTACHMENT 1
TO DOGGR ORDER 1109**

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

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

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

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

REQUIRED TESTS FOR EACH WELL IN THE FACILITY

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

- Step 2:** The results of the Temperature Logs and Noise Logs will be independently reviewed by Division engineers. Any unexplained abnormal findings in this set of tests shall be addressed by the Operator in one of the following ways:
- a. Conduct further investigation and demonstrate to the Division's satisfaction that the abnormal finding is not an indicator of a lack mechanical integrity;
 - b. Remediate the well to the Division's satisfaction; or
 - c. With Division review and approval, remove the well from operation and isolate the well from the underground gas storage reservoir in accordance with Steps 4b through 7b below.

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

- Step 3:** After these tests are completed on the well, and all required action has been completed, the operator shall either:
- a. Conduct the additional tests and evaluations on the well, outlined in Steps 4a through 7a below, in order to gain approval for injecting gas through that well; or
 - b. Remove the well from operation and isolate the well from the underground gas storage reservoir in accordance with Steps 4b through 7b below.

REQUIRED TESTS IF A WELL IS INTENDED TO RESUME OPERATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

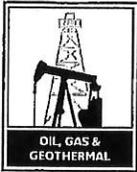
- a. Conduct daily gas monitoring at the surface of the non-operational well, including monitoring the area around the well perimeter and in the annular space between the plugged casing string and the outmost casing;
- b. Conduct noise log, temperature log and positive pressure test every six months;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

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

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

REQUIREMENTS FOR WELLS RESUMING OPERATIONS IN ALISO CANYON

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



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

FOR DIVISION USE ONLY		
Bond	Forms	
		OGD444
	Cal Wins	115L

P216-0147

NOTICE OF INTENTION TO REWORK / REDRILL WELL

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework / redrill well Porter 69G, API No. 037-24225
 (Check one)

Sec. 34, 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: 8500 feet.

The effective depth is: 8130 feet.

Present completion zone(s): Sesnon, Frew, Cretaceous
 (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 and _____ feet Estimated true vertical depth: _____
 (Direction) (Direction)

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

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

Name of Operator Southern California Gas Company			
Address P. O. Box 2300		City/State Chatsworth	Zip Code 91313-2300
Name of Person Filing Notice Mark Ghann-Amoah	Telephone Number: (806) 401-2979	Signature 	Date 07/18/16
Individual to contact for technical questions: Mark Ghann-Amoah	Telephone Number: (806) 401-2979	E-Mail Address: mghann-amoah@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.

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, re-drilling, 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/

Well Porter 69G

API #: 04-037-24225-00
Sec 27, T3N, R16W

Operator: So. California Gas Co.

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

Ground Elevation: 2366' asl
Datum to Ground: 29' KB

Spud Date: 10/29/2001
Completion Date: 5/18/2002

Junk: None

Notes

*Perfs @ 7820' - 7900' orig. shot 5/18/2002, these and perfs @ 8190' - 8193' CMT SQZ'D on 3/21/2003

**102,000 lbs of 20/40 sand to Perfs.

13-3/8" TOC Surface
9-5/8" TOC Surface

17-1/2" Hole
(to 853')

Surface Casing
13-3/8", 54.5#, K-55
0' - 848'

CMT'D w/ 835 CF / 729 SKS (34% excess), 14 BBL CMT Returns to Surface

848'

12-1/4" Hole
(853' - 8500')

Production Casing
9-5/8", 47#, N-80
0' - 8500'

CMT'D w/ 2665 CF,
70 BBL CMT Returns to Surface

7469'

5" Inner Liners
5", 15.5#
7469' - 7488' & 7488' - 7791'

9-5/8" x 5" Bottom Hole PCKR 7688'

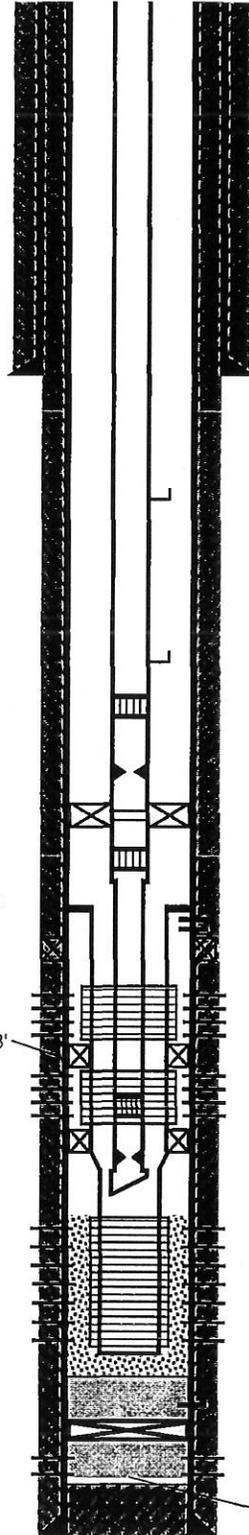
9-5/8" Perfs:
7600' - 7620', 7640' - 7680'
Twelve (12) HPF (11/15/2005)
7701' - 7781'
Twelve (12) HPF (11/3/2005)
7820' - 7900' (Frac Packed**)
Six (6) 5/8" HPF (Re-perf'd 4/3/2003*)
7902' - 8116' (Frac Packed**)
Four (4) 1/2" HPF (3/28/2003)
8292' - 8322'
Four (4) 1/2" HPF (3/24/2003, ineffective)

4-1/2" Inner Liner
4-1/2", 11.6", L-80
7787' - 8131'

PBTD 8407'

8500'

TD 8500'
TVD (8128')



Tubing

0' - 7444' 2-7/8", 6.5#, N-80
7444' - 7797' 2-3/8", N-80
7797' - 7799' 2-7/8", N-80

2997' GLMA w/ Dummy Valve

7327' GLMA w/ Dummy Valve

7366' "XD" Sliding Sleeve (Opens Down)

7402' On/Off Tool (LH Release)

7411' - 7418' G-77 PCKR

7429' "XD" Sliding Sleeve (Opens Down)

7480' - 7484' Twelve (12) 1/2" Holes (SQZ'D w/ CMT, 10/30/2002)

7505' - 7528' 9-5/8" ECP

5" Liner Perfs:

7592' - 7684' 0.012" ga. WWS, Frac Packed

7694' - 7786' 0.012" ga. WWS, Frac Packed

7760' "XD" Sliding Sleeve (Opens Down)

7787' - 7792' 7-1/4" x 6" PBR

7795' "XN" No-Go Nipple

7799' Tail

4-1/2" Liner Perfs:

7814' - 8130' 0.016" WWS

Gravel Packed w/
100 CF (102 CF Calc'd) 16-30

8164' - 8223' CMT Plug

8190' - 8193' Four (4) 1/2" HPF (3/21/2003, SQZ'D*)

8223' - 8226' 9-5/8" CMT Retainer
SQZ'D 24 BBL CMT Below (3/26/2003)

8404' Tagged (3/20/2003)

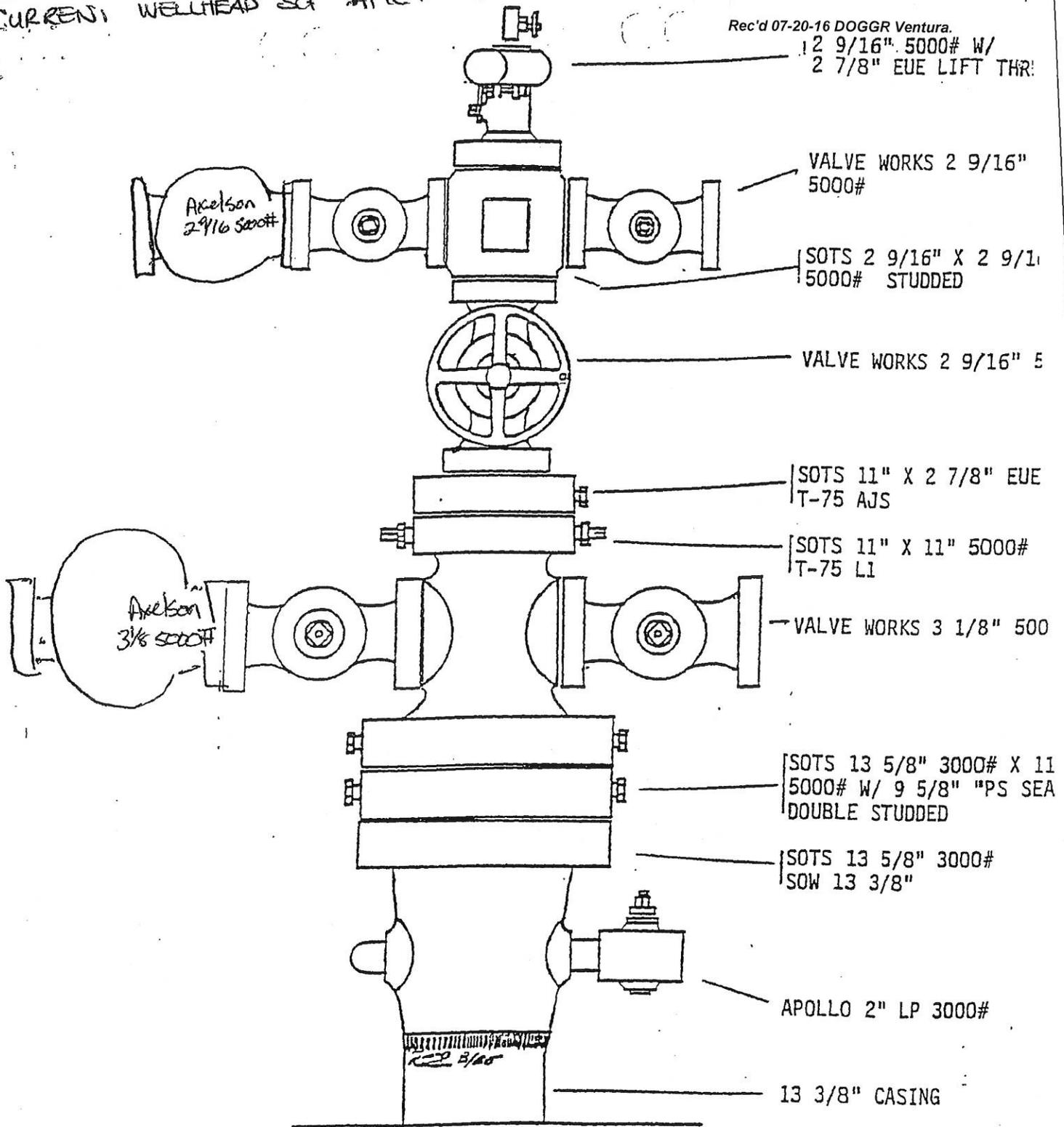
Top of Zone Markers md (tvd)		
MP	7074'	(6809')
S1	7472'	(7175')
S4	7538'	(7236')
S8	7610'	(7303')
S12	7710'	(7396')
FREW	7819'	(7497')
CR	8136'	(7791')
K1	8290'	(7933')

Prepared by: LD (7/13/2016)

CURRENT WELLHEAD SCHEMATIC

Rec'd 07-20-16 DOGGR Ventura.

2 9/16" 5000# W/
2 7/8" EUE LIFT THR:



WELL NAME PORTER 69 G

MFGR. SHAFFER OIL TOOL SERVICES

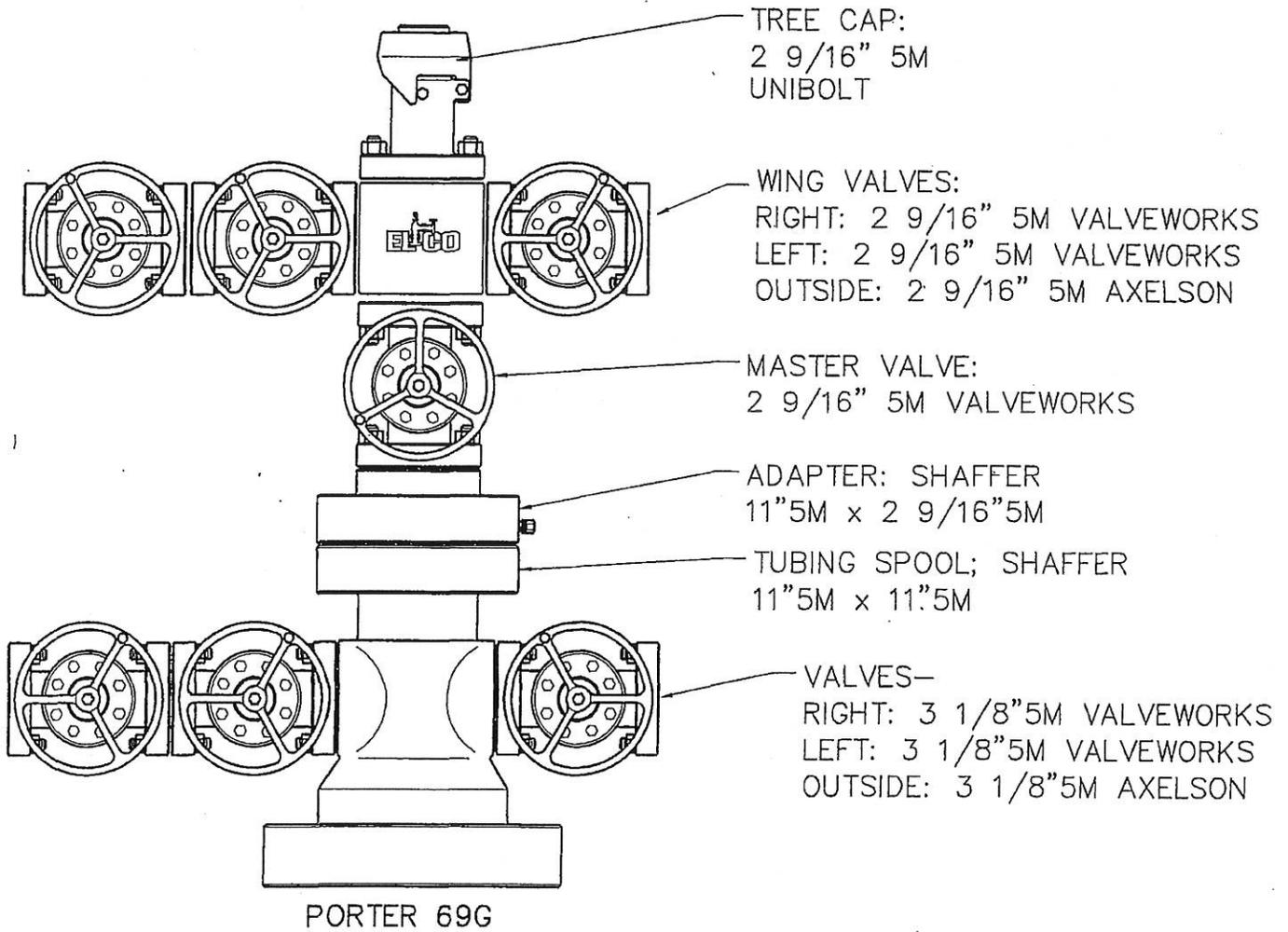
DATE PREPARED 10/30/01

10/31/01 6 1 C

3

CURRENT WELLHEAD SCHEMATIC.

Rec'd 07-20-16 DOGGR Ventura.



Well No. PORTER

Date Prepared 10/30/01

Field ALISO CANYON

Prepared By _____

Wellhead Mfr. SHAFFER OIL TOOL SERVICES

1. Casing Head SOTS Size 13 5/8" 3000# SOW 13 3/8 Type C-22
 Slips & Pack-off 13 5/8" X 9 5/8" T-C-22
 A. Surface Csg. Size 13 3/8" Wt _____ Grade _____
 B. Casing Head Valve APOLLO 3000# Size 2" L.P. Fig No. _____
2. Seal Flange SOTS Size 13 5/8" 3000# X 11" 5000# D.S.
 A. Type Seal 9 5/8" "PS" Ring BOTTOM RX-57 & TOP RX-54
3. Tubing Head SOTS Size 11" X 11" 5000# Type 75 L1
 Ring BOTTOM RX-54 & TOP RX-54
 Outlets 3 1/8" 5000# STUDED Sec. Seal 9 5/8" "PS"
 Valve Removal Thrd 2 1/2" L.P.
 A. Tubing Hanger SOTS Size 11" X 2 7/8" Type "AJS"
 B.P.V. Size SHAFFER 2 7/8" Thrd _____
 B. Tubing Head Valves VALVE WORKS Size 3 1/8" 5000# Fig.No. _____
 C. Automatic Csg. Valve ^{Axelson}~~N/A~~ Size 3/8 Fig.No. _____
4. Adapter Seal Flange SOTS Size 11" X 2 9/16" 5000# Type _____
 A. Ring Size BOTTOM RX-54 & TOP RX-27
5. Master Valve VALVE WORKS size 2 9/16" 5000# Fig.No. _____
6. Xmas Tree Cross SOTS Size 2 9/16" X 2 9/16" 5000# STUDED
 Bore: Thru 2 9/16" Across 2 9/16"
7. Tubing Wing Valves VALVE WORKS Size 2 9/16" 5000# Fig.No. _____
 A. Automatic Tbg. Valve ^{Axelson} Size 2 9/16 Fig.No. _____
8. Unibolt Size 2 9/16" 5000# Inside Thrds 2 7/8" EUE
9. Size Landed in Csg. Head 9 5/8" Wt _____ Grade _____
10. Size Landed on Doughnut 2 7/8" EUE Wt _____ Grade _____
11. Tubing Head to Ground Level _____

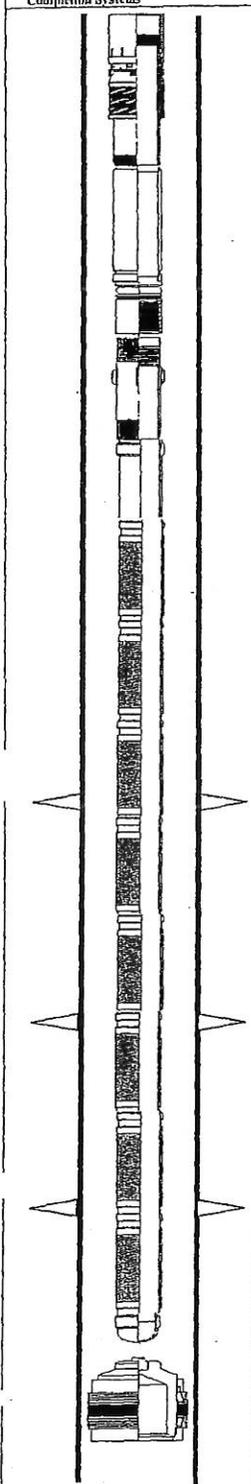
4.5" LIN

WELL 6-12 VIRE WNTI SCR J

Rec'd 07-20-16 DOGGR Ventura.



Weatherford Completion Systems
805-643-1279



OPERATOR NAME	DATE	OPERATOR REPRESENTATIVE
So Cal Gas	11/18/2003	Mike Volkmar
FIELD NAME	WELL NO.	Frew Zone
Porter	69 G	

	O.D.	Wt.	I.D.	TOP-ft	BOTTOM-ft
CASING	9-5/8"	-17#	8.861	0.00	8,160.00
LINER	4 1/2"	11.60#	4.000	8,073.00	8,275.00
PERFORATIONS				7.820	8,116
CIBP				8,160	

#1 of 4 Sections					
TOOL DESCRIPTION	LENGTH	O.D.	I.D.	TOP-ft	BOTTOM-ft
9 5/8" HPH Hyd Set Liner Packer	4.22	8.438	6.37	7,787.00	7,791.22
7" L80 LT&C Coupling	0.75	7.656		7,791.22	7,791.97
7 1/4" x 6" Polish Bore Receptacle	12.73	8.375	6.00	7,791.97	7,804.70
8 1/2" x 4 1/2" Drive Over Box	1.12	4.500	4.00	7,804.70	7,805.82
4 1/2" Landing Nipple	2.85	4.500	4.00	7,805.82	7,808.67
4 1/2" 11.60 L80 Pup	5.00	6.120	4.00	7,808.67	7,813.67
Wire Wrap Screen	40.15	6.120	4.00	7,813.67	7,853.82
Wire Wrap Screen	35.18	6.120	4.00	7,853.82	7,889.00
Wire Wrap Screen	40.15	6.120	4.00	7,889.00	7,929.15
Wire Wrap Screen	40.16	6.120	4.00	7,929.15	7,969.31
Wire Wrap Screen	40.14	6.120	4.00	7,969.31	8,009.45
Wire Wrap Screen	40.15	6.120	4.00	8,009.45	8,049.60
Wire Wrap Screen	40.13	6.120	4.00	8,049.60	8,089.73
Wire Wrap Screen	40.18	6.120	4.00	8,089.73	8,129.91
Bull Plug w/ spade and bailing plate	0.90	5.00		8,129.91	8,130.81
CIBP				8160.00	

Comments

Duragrip 16 ga. Liner has an o.d. of 4.85". We installed a loose fit shroud over the screen. The o.d. of the shroud is 6.12"

Each screen joint has 1 3/4" centralizer blades one foot above each pin and in the middle of each joint.

Gravel Pack with 100 sacks of #16-30 gravel. Theoretical Volume was 102 sacks.

SoCal Gas Company



Well Operations Procedure

Porter 69 G

Aliso Canyon

Storage Integrity Management Program

7/12/2016 Version 1

Primary Engineer: Mark Ghann-Amoah 818 700-3888 (ofc)/806 401-2979 (mobile)
Alternate Engineer: Brian Vlasko 818 700-3897 (ofc)/714 655-9506 (mobile)
Engineering Supervisor: Jose Iguaz 818 700-3889 (ofc)/661 384-5337 (mobile)
Well Site Supervisor: Jason Fike 949 689-3725 (mobile)
Well Work Superintendent: Mike Volkmar 562 685-3810 (mobile)

Well Data:

API #: 037-24225
KB to GL: 29'
MD: 8500'
TVD: 8127'
Effective Depth: 8130'
PBMD: 7692'

Nature of Plug Back: 438' of fill – sand fill

Objective:

The intent of this program is to inspect the well integrity and remediate identified conditions as part of the Storage Integrity Management Program (SIMP). This project will include pulling completion string, running casing inspection logs, pressure testing casing and well laterals, installing a new completion string, converting well to tubing flow injection only.

Geologic Markers:

Zone Top (Formation)	MD (Feet)	TVD (Feet)
MP	7074	6809
S1	7472	7175
S2	7503	7204
S4	7538	7236
S6	7572	7268
S8	7610	7303
S10	7648	7338
S12	7710	7396
S14	7757	7439
FREW	7819	7497
CR	8136	7791

SoCal Gas Company



Well Operations Procedure

Casing Data:

- Surface Casing: 13 - 3 / 8", 54.5 #, K - 55, Cemented @ 848'
- Production Casing: 9 - 5 / 8", 47 #, N - 80, 0' / 8500'
- Perforations : 7410'/7484' (cement squeezed)
 - External Casing Packer (ECP) – 7505' / 7528'
 - Perforations : 7600'/7680'(48 HFP)
 - Perforations : 7701'/7781'
 - Perforations : 7820'/7900'(6 HFP)
- Production Liner: 5", 15.5#, 0.012 wire wrapped screen with 6-5/8" shroud
- 7469' / 7688', 7688' / 7791'
 - Liners are gravel packed with versa-pro proppant
 - (See well bore schematic attached for details)
- Production Liner: 4.5", 11.6#, L-80, .018 wire wrapped screen 6.12" shroud
- 7791'(PBR) / 8129'(Bull Plug), CIBP – 8160'
 - Liners are gravel packed with 100 sacks of 16-30 gravel
 - (See well bore schematic attached for details)

Tubing Data:

See attached Halliburton completion guide for details

Wellhead:

8" 5M (2 – 9 / 16" Master)
 11" x 11" 5M Shaffer Tubing Head (T-AJO) / 2-7/8" EUE Hanger
 11" Casing Spool 5M
 13-5/8" 3M x 11" 5M DSA
 13-5/8" 3M x 13-3/8" casing head SOW

Current Status:

Idle for inspection

Permit Status:

Pending

SoCal Gas Company



Well Operations Procedure

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.

PRE-RIG WORK

1. De-energize and remove all laterals. Install companion flanges for circulating the well.
 - Install companion flanges for circulating the well.
 - LOTO (lock-out/Tag-out) where required.
2. Ensure there are rig anchors and prepare surface location as required.
3. Ensure correlation log on file or plan for CCL.
4. MIRU slick line, RIH w/shifting tool and shift sliding sleeve closed.
5. MIRU Haliburton CTU and cleanout well to +/-8130'.
 - a) Ensure well is on a suck prior to rigging off.
 - b) Send fill samples to engineer.
6. Rig-up slick line unit and lubricator. Set "X" plug in the 2-7/8" on/off tool at +/- 7402'.
 - a) Shift sliding sleeve at +/- 7366' open.
 - b) Fill well and Pressure test to a 1000psi to ensure packer is holding.

SoCal Gas Company



Well Operations Procedure

WELL WORK PROGRAM

1. MIRU Ensign double w/o rig w/all equipment – pump, Baker tank, Shaker and mixer.
 - a) Perform JSA, JSP, CW. Safety Review: Talk about possible things that can hurt y'all.
2. Spot 500 bbl Baker tanks and HEC polymer.

NOTE: Well will have a “X” plug in the 2-7/8” on/off tool at +/- 7402’.

 - a) Connect pump to the tubing and vent the casing through the choke manifold to the SoCalGas withdrawal system.
 - b) Treat all brine with Biocide, 5 gals/100 bbls
 - c) The tubing volume is ~ 45 bbls
 - d) The tubing/casing annulus is ~ 487 bbls.
3. Install 2-7/8” Shaffer backpressure valve in tubing hanger. ND tree and NU BOPE.
 - a) Send-in tree components to Cameron for inspection.
4. Install 11” 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.
 - a) 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.
 - b) Pressure test the Class III 5M annular preventer to 3500 psig for 20 minutes. Test blind rams and the 2-7/8” pipe rams to 5000 psig for 20 minutes. Test all lines and connections to 5000 psig.
 - c) All tests are to be charted and witnessed by a DOGGR representative.
 - d) Pull back pressure valve from tubing hanger.
5. Release tubing from Halliburton’s LH release on/off tool at +/- 7402’, POOH w/injection string
 - a) Send tubing hanger to Cameron for inspection
6. RIH w/ 9-5/8”, 47# positive scraper on 2-7/8” injection string to on/off tool at 7390’, POOH.

NOTE: Caution with “X” prong in on/off at 7402’
7. MU and RIH with 9-5/8”, 47# test packer and run a pressure integrity test on the 9-5/8” casing to a minimum of 115% of the wells MAOP(3625psi) as per attached pressure test schedule , POOH w/test packer.
 - b) Follow Pressure Test schedule to avoid over pressuring.
8. MU and RIH w/ 9-5/8”, 47# RBP on work string. Set at +/- 7390’
 - a) Fill hole w/ clean w/o fluid and Pressure Test -1000psi. Sand off – tag to confirm depth.
 - b) POOH and lay down RBP retrieving head.
9. Rig-up wireline unit(s), necessary connections as required to run the following logs:
 - a) Magnetic flux leakage / vertilog from top of sand cap to surface (Baker)
 - b) Ultrasonic imager from sand cap to surface (SLB)

SoCal Gas Company



Well Operations Procedure

- c) Cement bond log from sand cap to top of cement (SLB)
 - a) Multi-arm caliper log from top of sand cap to surface
NOTE: Run multi-arm caliper and gyro in tandem if possible
10. Nipple down 11" Class III 5 M BOPE, tubing spool, and primary pack-off.
- a) Send wellhead equipment to Cameron for refurbishment
11. Reinstall tubing spool and the 11" Class III BOPE and function test. Inspect and retest all connection broken in process.
- a) NU refurbished well head from Cameron and install BOPE.
 - b) Pressure test BOPE and refurbished wellhead.
 - c) All tests are to be charted and witnessed by a DOGGR representative.
12. PU retrieving head for BP and RIH to retrieve RBP.
- a) Circulate out sand. Retrieve RBP at +/- 7390'.
 - b) POOH and lay down work string and RBP.
13. RIH w/ same completion string and latch back into on/off tool at +/-7402'
14. Land tubing on tubing hanger as per vendor specification.
NOTE: Utilize Force Analysis / Tube Move Calculations for packer setting as per HES engineer.
15. Notify DOGGR to witness pressure tests of annulus to 1000 psi and tubing to 3700 psi. Both tests to be an hour in duration and recorded digitally.
16. RIH and recover plug from on/off tool. RIH and shift the sliding sleeve open.
17. Install BPV in tubing hanger. Nipple down the Class III 5M BOPE and install the production tree and test to 5000 psig. Remove BPV.
18. RDMO

SoCal Gas Company



Well Operations Procedure

PRESSURE TEST SCHEDULE

Depth (TVD)	85% of Burst Strength	External Casing Backup Pressure			Pressure Test				Tubing Leak Net Burst Pressure @	Test Pressure > 85% of Burst	Test Pressure < Tubing Leak - Net Burst (Gas-filled annulus)
		Fluid / Formation Pressure Gradient	External Casing Backup Pressure	Internal Water Hydrostatic	Net Burst Pressure @ Depth						
					1	2	3	Final			
Surface Test Pressure					3625			2500	3625		
Test Packer Depth					3500			7390			
Test Down Casing or Tubing								Casing			
Bridge Plug Depth											
0	5840	0.00	0	0	3625			2500	3625		
500	5840	0.00	0	221	3846			2721	3670		
1000	5840	0.00	0	442	4067			2942	3716		
1500	5840	0.00	0	663	4288			3163	3761		
2000	5840	0.00	0	884	4509			3384	3806		
2500	5840	0.00	0	1105	4730			3605	3852		
3000	5840	0.00	0	1326	4951			3826	3897		
3500	5840	0.00	0	1547	5172			4047	3942		
4000	5840	0.00	0	1768	-			4268	3988		
4500	5840	0.00	0	1989	-			4489	4033		
5000	5840	0.00	0	2210	-			4710	4078		
5500	5840	0.00	0	2431	-			4931	4123		
6000	5840	0.00	0	2652	-			5152	4169		
6500	5840	0.00	0	2873	-			5373	4214		
7390	5840	0.00	0	3266	-			5766	4295		

0.442
psi/ft
int. grad.

0.091
psi/ft
int. grad.

Well Porter 69G

API #: 04-037-24225-00
Sec 27, T3N, R16W

Production Casing Pressure Test - Program

Operator: So. California Gas Co.

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

Ground Elevation: 2366' asl
Datum to Ground: 29' KB

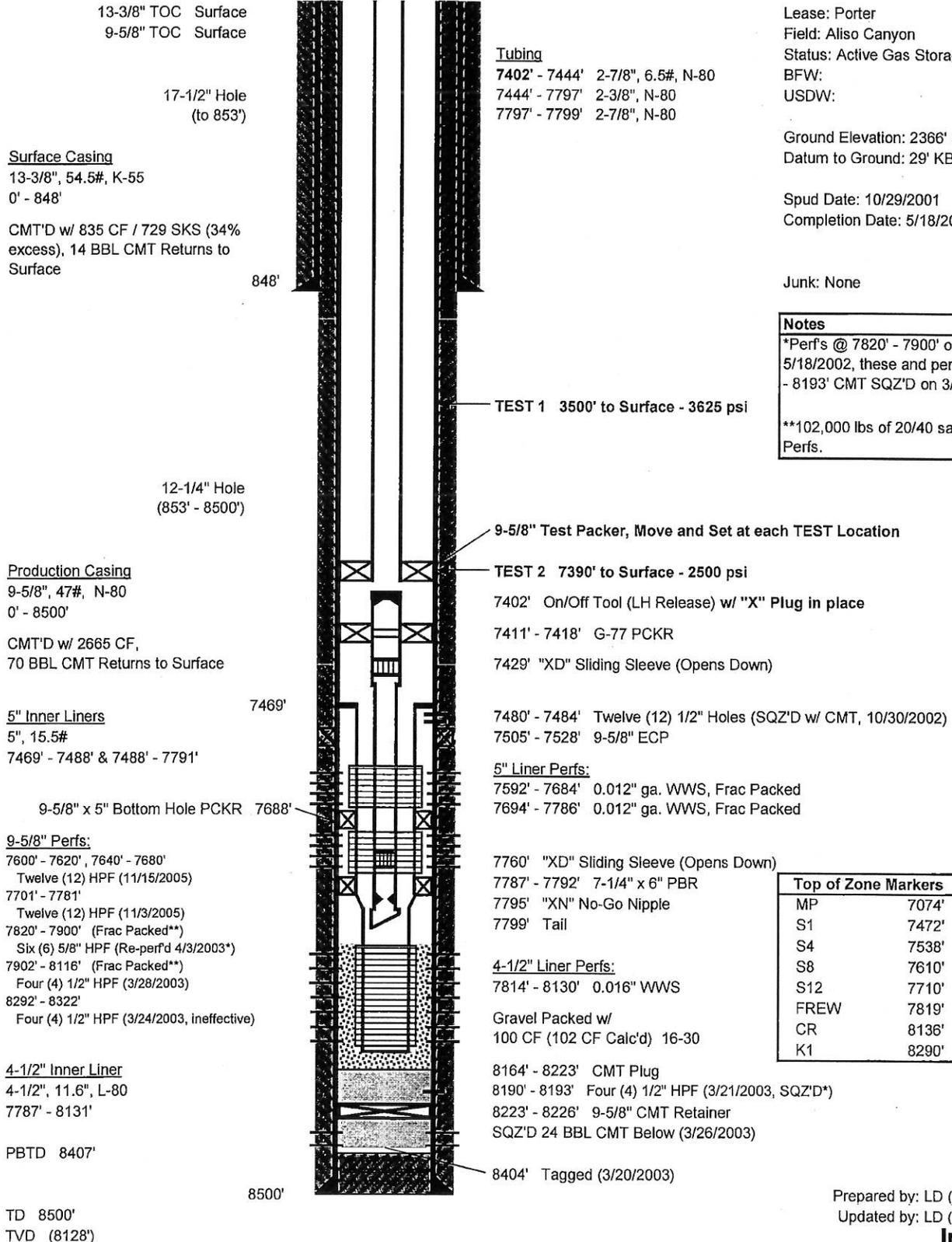
Spud Date: 10/29/2001
Completion Date: 5/18/2002

Junk: None

Notes

*Perfs @ 7820' - 7900' orig. shot 5/18/2002, these and perfs @ 8190' - 8193' CMT SQZ'D on 3/21/2003

**102,000 lbs of 20/40 sand to Perfs.



Top of Zone Markers		
Marker	md	(tvd)
MP	7074'	(6809')
S1	7472'	(7175')
S4	7536'	(7236')
S8	7610'	(7303')
S12	7710'	(7396')
FREW	7819'	(7497')
CR	8136'	(7791')
K1	8290'	(7933')

TD 8500'
TVD (8128')

Prepared by: LD (7/13/2016)
Updated by: LD (7/20/2016)

**Well
Porter 69G**

API #: 04-037-24225-00
Sec 27, T3N, R16W

Proposed

Operator: So. California Gas Co.

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

Ground Elevation: 2366' asl
Datum to Ground: 29' KB

Spud Date: 10/29/2001
Completion Date: 5/18/2002

Junk: None

Notes

*Perfs @ 7820' - 7900' orig. shot 5/18/2002, these and perfs @ 8190' - 8193' CMT SQZ'D on 3/21/2003

**102,000 lbs of 20/40 sand to Perfs.

13-3/8" TOC Surface
9-5/8" TOC Surface

17-1/2" Hole
(to 853')

Surface Casing
13-3/8", 54.5#, K-55
0' - 848'

CMT'D w/ 835 CF / 729 SKS (34% excess), 14 BBL CMT Returns to Surface

848'

12-1/4" Hole
(853' - 8500')

Production Casing
9-5/8", 47#, N-80
0' - 8500'

CMT'D w/ 2665 CF,
70 BBL CMT Returns to Surface

7469'

5" Inner Liners
5", 15.5#
7469' - 7488' & 7488' - 7791'

9-5/8" x 5" Bottom Hole PCKR 7688'

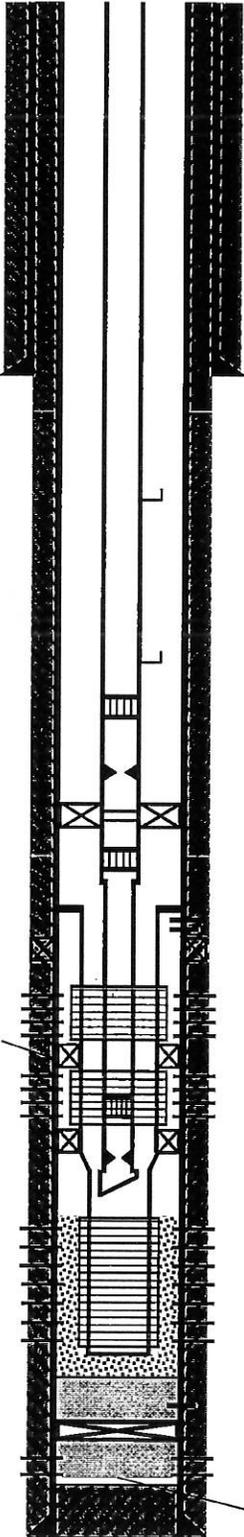
9-5/8" Perfs:
7600' - 7620', 7640' - 7680'
Twelve (12) HPF (11/15/2005)
7701' - 7781'
Twelve (12) HPF (11/3/2005)
7820' - 7900' (Frac Packed**)
Six (6) 5/8" HPF (Re-perfd 4/3/2003*)
7902' - 8116' (Frac Packed**)
Four (4) 1/2" HPF (3/28/2003)
8292' - 8322'
Four (4) 1/2" HPF (3/24/2003, ineffective)

4-1/2" Inner Liner
4-1/2", 11.6", L-80
7787' - 8131'

PBTD 8407'

8500'

TD 8500'
TVD (8128')



Tubing
0' - 7444' 2-7/8", 6.5#, N-80
7444' - 7797' 2-3/8", N-80
7797' - 7799' 2-7/8", N-80

2997' GLMA w/ Dummy Valve

7327' GLMA w/ Dummy Valve

7366' "XD" Sliding Sleeve (Opens Down)

7402' On/Off Tool (LH Release)

7411' - 7418' G-77 PCKR

7429' "XD" Sliding Sleeve (Opens Down)

7480' - 7484' Twelve (12) 1/2" Holes (SQZ'D w/ CMT, 10/30/2002)

7505' - 7528' 9-5/8" ECP

5" Liner Perfs:

7592' - 7684' 0.012" ga. WWS, Frac Packed

7694' - 7786' 0.012" ga. WWS, Frac Packed

7760' "XD" Sliding Sleeve (Opens Down)

7787' - 7792' 7-1/4" x 6" PBR

7795' "XN" No-Go Nipple

7799' Tail

4-1/2" Liner Perfs:

7814' - 8130' 0.016" WWS

Gravel Packed w/
100 CF (102 CF Calc'd) 16-30

8164' - 8223' CMT Plug

8190' - 8193' Four (4) 1/2" HPF (3/21/2003, SQZ'D*)

8223' - 8226' 9-5/8" CMT Retainer

SQZ'D 24 BBL CMT Below (3/26/2003)

8404' Tagged (3/20/2003)

Top of Zone Markers		
Marker	md	(tvd)
MP	7074'	(6809')
S1	7472'	(7175')
S4	7538'	(7236')
S8	7610'	(7303')
S12	7710'	(7396')
FREW	7819'	(7497')
CR	8136'	(7791')
K1	8290'	(7933')

Prepared by: LD (7/13/2016)
Updated by: LD (7/19/2016)

OPERATOR So. Gas Co.
 WELL NO. "Porter" 696
 MAP 254

A.P.I. 037-24225
 SECTION 27, T. 3 N. R. 112 W

INTENTION	Dr. 11	REPAIR	REWORK :	SUPP REWORK	PERFORATE	
NOTICE DATED	6-28-01	10/22/2002	03/14/2003	03/21/2003	10/26/2005	
P-REPORT NUMBER	201-104	P202-192	P203-64	P203-67	P209-191	
CHECKED BY/DATE						
MAP LETTER DATED	7-6-01					
SYMBOL					NC	

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	6-28-01		10/22/02		03/14/03		03/21/03		10/26/05	
HISTORY	7-12-02						9-9-04		2-7-06	✓
SUMMARY	7-25-02									
TO BORE E-LOG PLAT. EXP.	2-11-02									
MUD LOG										
DIPMETER	2-11-02									
DIRECTIONAL	7-25-02									
CORE/SWS										
EBL							3-27-03			
PERT. MEMO	6-4-02									
6800- PLATFORM EXP. 2490'	2-11-02									
CALIPER	2-11-02									

ENGINEERING CHECK

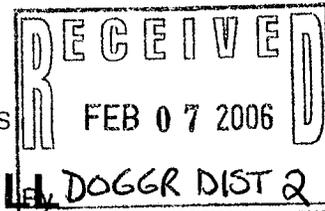
T-REPORTS						
OPERATOR'S NAME						
WELL NO.						
LOC & ELEV						
SIGNATURE						
SURFACE INSP.						
DRILL CARD						

RECORD'S COMPLETE 9-13-02 *A. Mendell*

9-21-04
A. Mendell

MD 27-06
 FINAL LETTER OK
 MAILED
 RELEASED BOND

INJECTION BOOK _____ REMARKS: _____
 IDLE WELL LIST _____
 SURFACE INSP. CARD _____
 OK TO RELEASE FROM CONFIDENTIAL _____
 ABANDONED-REMOVED FROM E.D.P. _____

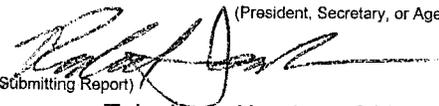


HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Porter 69 G
A.P.I. No. 037-24225

Field: Aliso Canyon County: Los Angeles
Surface Location: Sec 28, T3N, R16W, SBB&M
Richard Jackson Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 2/6/2006

Signature: 
(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: 818-701-3251

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

Start Date	Ops. DOGGR Rpt
10/25/2005	MIRU. Off-loaded Key Rig #447 @ P69G well site. Spotted Baker tanks, mud pump, accumulator and choke manifold.
10/26/2005	Continued unloading equipment. RU and tied down mast. RU mud pump and installed protective cages on adjacent wells. Removed well lateral piping and installed blind flanges.
10/27/2005	Off-loaded BOPE and removed lateral piping on well P26C.
10/31/2005	Checked well, 2795 psig and 2700 psig on tbg and csg, respectively. Killed well by pumping 70 bbl hi-visc polymer pill followed by 45 bbls of 10 ppg NaCl. Broke off a nipple at the pump discharge and repaired same. Cont. killing well per schedule. Pumped at total of 690 bbls to get circulation. Circulated out a gas bubble on the backside pumping 744 bbls. Unable to get circ fully. Closed well in and secured rig.
11/1/2005	0 psi on tbg and csg. Filled well w/ 44 bbls of 10 ppg NaCl. Installed BPV and ND prod tree. NU Class III BOPE. RU work floor and tbg handling equipment. Tested BOPE. Damaged 3' choke line while testing the BOP and were unable to continue test on this day. Removed the BPV and MU a pup jt and safety valve. Closed well in and secured rig.
11/2/2005	0 psi on tbg & csg. Filled well w/ 44 bbls NaCl. Replaced 3" armored hose and cont testing BOPE - unable to test 3" valve. Tested Hydрил @ 3500 psi for 20 minutes and the pipe rams and blind rams @ 5000 psi. RD test unit and removed BPV and backed-out donut hold down studs. Unlanded the tbg hanger @ 45,000# and released G-6 pkr. POOH w/ 75 stands of 2 7/8" tbg leaving 50 stands (3100') in the hole for a kill string. Closed well in and secured rig.
11/3/2005	0 psi on tbg & csg. Filled well w/ 28 bbls of 10 ppg NaCl. POOH and LD 9 7/8" pkr. NU shooting flange. RU Schlumberger W/L unit w/ fullbore-lubricator. RIH w/ 4.5" HSD guns loaded w/ 12 SPF (960 holes total) and perforated 9 5/8" csg from 7701' to 7781'. RD W/L and ND shooting flange. PU 9 5/8" csg scraper and BS and 6" brass mill on 2 7/8" tbg. RIH to 3200'. Made up bumper sub 9-5/8" casing scraper with 18' 2-7/8" tubing tail and 6" brass mill (17.45' tbg tail to brass mill). MIH to 3200'. Closed well in and secured rig.
11/4/2005	Open well 0 psi filled well with 28 bbls. Ran in well to packer at 7791' reamed PBR to 7808' reversed circulated 90 bbls. Pulled out of well to 3400' Secured well.
11/7/2005	Open well 0 psi filled well with 56 bbls. Pulled out of well layed down casing scraper and mill. Made up 9-5/8" pin point injection tool ran in well to 7653' secured well.
11/8/2005	Open well 0 psi filled well with 48 bbls. Rigged up HES pump truck set PPI tool at 7750'. Held safety meeting and tested lines to 5000 psi. Unable to blank test tool. Rigged down test truck pulled out of well with PPI tool (found bottom packing element missing) Made up HES PPI tool and ran in well to 4000' Secured well.
11/9/2005	Open well 0 psi filled well with 28 bbls. Ran in well to 7666' set packer rigged up HES pump truck. Held safety meeting tested lines to 5000 psi. Blank tested tool to 3000 psi. Released tool ran in well to 7792' tag top of packer set packer rigged up HES (HES pump truck broke down unable to test) Pulled out of well to 7666" secured well.
11/10/2005	Open well 0 psi filled well with 28 bbls. Held safety meeting set PPI tool at 7666' rigged HES pump truck and tested lines to 5000 psi. Blank tested tool to 3000 psi. Released tool ran in well to 7792' set tool washed perforations from 7781' to 7701' step rate test in final stage. Rigged out HES pump truck released packer and pulled out of well to 3300" secured well.
11/11/2005	Open well 0 psi filled well with 58 bbls. Pulled out of well with PPI tool Layed down tools. Made up bumper sub, 9-5/6" casing scraper, (1) joint 2-7/8" tubing 6" brass mill. RAN in well to 7804' reversed circulated 50 bbls. Pulled out of well to 3200' secured well.
11/12/2005	Open well 0 psi filled well with 58 bbls. Pulled out of well layed down scraper and mill. Made up WEA tie-back assembly, float collar, (3) joints 5" 15.5 wire wrapped .012 screen with 6-5/8" shroud, 5' blank liner and landing nipple. Ran in well landed in PBR at 7804' spaced out and landed in tubing hanger.
11/13/2005	Open well 0 psi rigged up HES frac equipment. Held safety meeting pumped injection test. Pump frac 487 bbls. silverstim fluid with 41,000# versaprop at 20 bpm 2800 psi screen out at 3400 psi bhp 6289 psi. Dropped dart, pressured and shifted sleeve reversed out 73 sx. Released tools and pulled to 7500' secured well. Rigged out frac equipment.
11/14/2005	Open well 0 psi filled well with 10 bbls. Pulled out of well layed down frac tools and tail pipe. Made up 9-5/8" retrievable bridge plug ran in well tagged top of liner at 7689'. Set RBP at 7688 dumped 1 cu.ft. sand pulled out of well to kill string at 3400'.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Porter 69 G
A.P.I. No. 037-24225

Field: Aliso Canyon County: Los Angeles
Surface Location: Sec 28, T3N, R16W, SBB&M
Richard Jackson Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 2/6/2006

Signature: 

(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: 818-701-3251

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, balling tests, and initial production data.

Start Date	Ops: DOGGR Rpt
11/15/2005	Open well 0 psi well standing full. Pulled out of well layed down retrieving tool. Nipped up shooting flange rigged up Schlumberger wire line. Made up guns ran in well to 7680' shot 12hfp from 7680' to 7660' (0 bbls to fill) Made up guns and ran in well to 7660' shot 12 hfp from 7660 to 7640' (1 bbl to fill) Made up guns ran in well to 7640' shot 12hfp from 7640' to 7620'. (0 bbls to fill) Made up guns ran in well to 7620' shot 12 hpf from 7620 to 7600' rigged down wire line. Made up bumper sub, 9-5/8" casing scraper and retrieving tool. Ran in well to 7500' secured well.
11/16/2005	Open well 0 psi filled well with 8 bbls. Ran in well to 7980' rigged up and circulated sand off bridge plug. Released BP pulled out of well layed down bridge plug. Made up 9-5/8" pin point injection tool (6) 4-3/4" drill collars. Ran in well to 7575' secured well.
11/17/2005	Open well 0 psi filled well with 20 bbls. Set PPI tool at 7562' Held safety meeting rigged up HES pump truck solid test packer to 3000 psi. Ran in well to 7689' set packer wash perms from 7680' to 7600'. Rigged down HES released PPI tool and pulled out of well to 7200' secured well.
11/18/2005	Open well 0 psi filled well with 44 bbls. Pulled out of well with PPI tool layed down tools . Made up bottom hole packer, float collar, (3) joints 5 " .012 wire wrapped screen with 6-5/8" shroud/ (3) joints 5" blank liner, landing nipple. Made up tail pipe and hydraulic releasing tools. Ran in well to 4700'. Secured well.
11/19/2005	Open well 0 psi filled well with 40 bbls. Ran in well with liner to 7689' latched wicker checked latch with 4000 over string weight. Set packer and spaced out. Rigged to frac secured well.
11/20/2005	Open well 0 psi rigged up HES frac equipment. Held safety meeting Pumped injection test 15 bpm at 3300 psi. Pumped frac with 435 sx versa-pro proppant displaced screened out with 5 sx in formation. Dropped dart and shifted sleeve unable to reverse out. Released from liner pulled out of well to 5000' Secured well
11/21/2005	Opened well 0 psi filled with 2 bbls. Pulled out of well found (7) stands 2-7/8" tubing filled with sand layed down setting tool. Made up (7) joints 2-7/8" hydril tubing ran in well tagged sand at 6791'. Nipped up circulating head clean out sand to 6941 circulated well clean. Secured well
11/22/2005	Open well 0 psi. Cleaned out frac sand from 6941' to 7467' circulated well clean.
11/23/2005	Open well 0 psi ran in well to liner top at 7467'. (no fill) Reversed circulated 50 bbls. Pulled out of well layed down flush joint tubing. Made up liner top packer ran well stopped at 5407' worked up to 5362' unable to work free. Released form packer puled to 3500' kill string.
11/29/2005	Open well 0 psi filled well with 3 bbls. Pulled out of well layed down setting tool. Made up spear with 6.220 grapple, bumper sub, jars (4) 4-3/4" drill collars, instensifer. Ran in well engaged fish. moved down hole 14'. Pulled out of well (no recovery) Ran in well with kill string to 3200'. Secured well.
11/30/2005	Open well 0 psi fill well with 2 bbls. Pulled out of well with kill string made up spear with 6.476 grapple, stop, bumper sub, jars, (4) 4-3/4" drill collars, instensifer. Ran in well to 5362' Engaged fish reversed circulated 60 bbls. Attempt to work packer free (moved 12') Jarred on fish jarred free. Pulled out of well layed down fishing tools and fish. (recovered liner top packer) Made up 8-1/8" shoe 9-5/8" postive casing scraper, wire brush, bumper sub ran in well to 2500'. Secured well.
12/1/2005	Open well 0 psi filled well with 2 bbls. Ran in well to 5432' reversed circulated 65 bbls. ran in well to liner top at 7467' reversed circulated 90 bbls. (very small amount of sand across shaker) Pulled out fo well to kill string at 3000' Secured well.
12/2/2005	Open well 0 psi filled well with 3 bbls. Pulled out of well layed down scraper and wire brush assembly. Made up 9-5/8" liner top packer ran in well slowly to liner top at 7467'. Engaged wicker and pulled 4,000 over string weight. Rigged up test pump and hydrualicly set packer at 3000 psi. Tested annulus to 1000 psi for 20 minutes. Released from packer and pull out of well to 6200'. Secured well.
12/3/2005	Open well 0 psi fill well with 2 bbls. Pull out of well and layed down setting tool. Made up 4-1/4" bit picked up 15 joints 2-3/8" CS hydril tubing. Ran in well to liner top ar 7462'. Nipped up circulating head Picked up power swivel. Secured well.
12/5/2005	Open well 0 psi filled well with 3 bbls. Tagged liner at 7462' clean out sand to 7685' drilled out float. Ran in well to 7770' cleaned out to float drilled out float worked down to top of PBR at 7796' Reversed circulated clean. Pulled out of well to 7430'.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Porter 69 G
A.P.I. No. 037-24225

Field: Aliso Canyon County: Los Angeles
Surface Location: Sec 28, T3N, R16W, SBB&M
Richard Jackson Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 2/6/2006

Signature:

(Person Submitting Report)

Telephone Number: 818-701-3251

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

Start Date	Ops. DOGGR Rpt
12/6/2005	Open well 0 PSI, fill well with 13 bbls. pulled out of well, layed down 4 1/4" bit, made 4 3/8" string mill, Ran in well to 7685', rig up circulating head and power swivel, ream from 7685' to 7688'. Ran in well to 7788', reamed from 7788' to 7790'. Ran in to 7708' reversed circulated 50 bbls. Rig down power swivel, pulled out of hole to kill string 5900'. Secured well.
12/7/2005	Opened well 0 psi fill well with 18 bbls. Pulled out of hole and layed down 4 3/8" String mill, RIH with (15) joints 2 3/8" Hydril & (15) joints 2 3/8" 8 round tubing, ran in hole tagged 8092" and cleaned out to (8130'). Pulled out of hole to kill string at (3038'). Secured well.
12/8/2005	Open well 0 psi filled well with 18 bbls. Pulled out of well layed down excess 2-8" tubing. Layed down 2-3/8" CS Hydril tubing layed down (6(4-3/4" drill collars. Made up 4" seal assembly, 2-3/8 (1.87) No/Go , (1) joint 2-3/8" tubing, 2-3/8" XD sliding sleeve, (10) joints 2-3/8" tubing 2-3/8"X2-7/8" crossover 10' 2-7/8" pup joint, 2-7/8" 2.313 XD sliding sleeve, 10' 2-7/8" pup joint, 9-5/8" G-77 hydraulic set packer ,6' 2-7/8" pup joint, On?off tool (left hand release), (1) joint 2-7/8" tubing , 2-7/8" 2.313 XD sliding sleeve, (1) joint 2-7/8" tubing, GLMA mandrel with 1.0 dummy valve, (138) joints 2-7/8" tubing, GLMA with 1.0 dummy valve. Ran in well to 7430'. Secured well.
12/9/2005	Open well 0 psi filled well with 15 bbls. Stabbed in PBR at 7798 ' made up tubing hanger. Rigged up Spicer wire line set pxn plug in No/Go at 7796' set packer and landed tubing hsanger with 10,000 compression. Tested annulus to 1000 psi for twenty minutes. made up BPV rigged out working floor nipped out class III BOP nipped up production tree. Secured well.
12/12/2005	Open well 0 psi rigged up Spicer wire line shifted sliding sleeve. Rigged up and changed well over to 8.3 ppg fluid. Rigged down hoist loaded out equipment. Rigged down.
12/13/2005	Loaded out equipment cleaned location.

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

No. T205-174

Report on Operations

James D. Mansdorfer, Agent
SOUTHERN CALIFORNIA GAS COMPANY
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
December 8, 2005

Your operations at well "**Porter**" 69G, API No. 037-24225, Sec. 27, T. 3N, R. 16W, S.B.B.&M. **Aliso Canyon** Field, in **Los Angeles** County, were witnessed on 11-02-2005. **Mark Davis**, representative of the supervisor, was present from 0800 to 1100. There were also present **Mike Volkmar**.

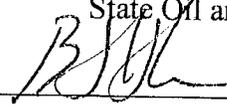
Present condition of well: 13 3/8" cem 848'; 9 5/8" cem 8500' cp 6693', 7181' & 7480', perf 7820'-8332'; 4 1/2" ld 7787'-8131', perf 7787'-8131'. TD 8500'. ED 8754'.

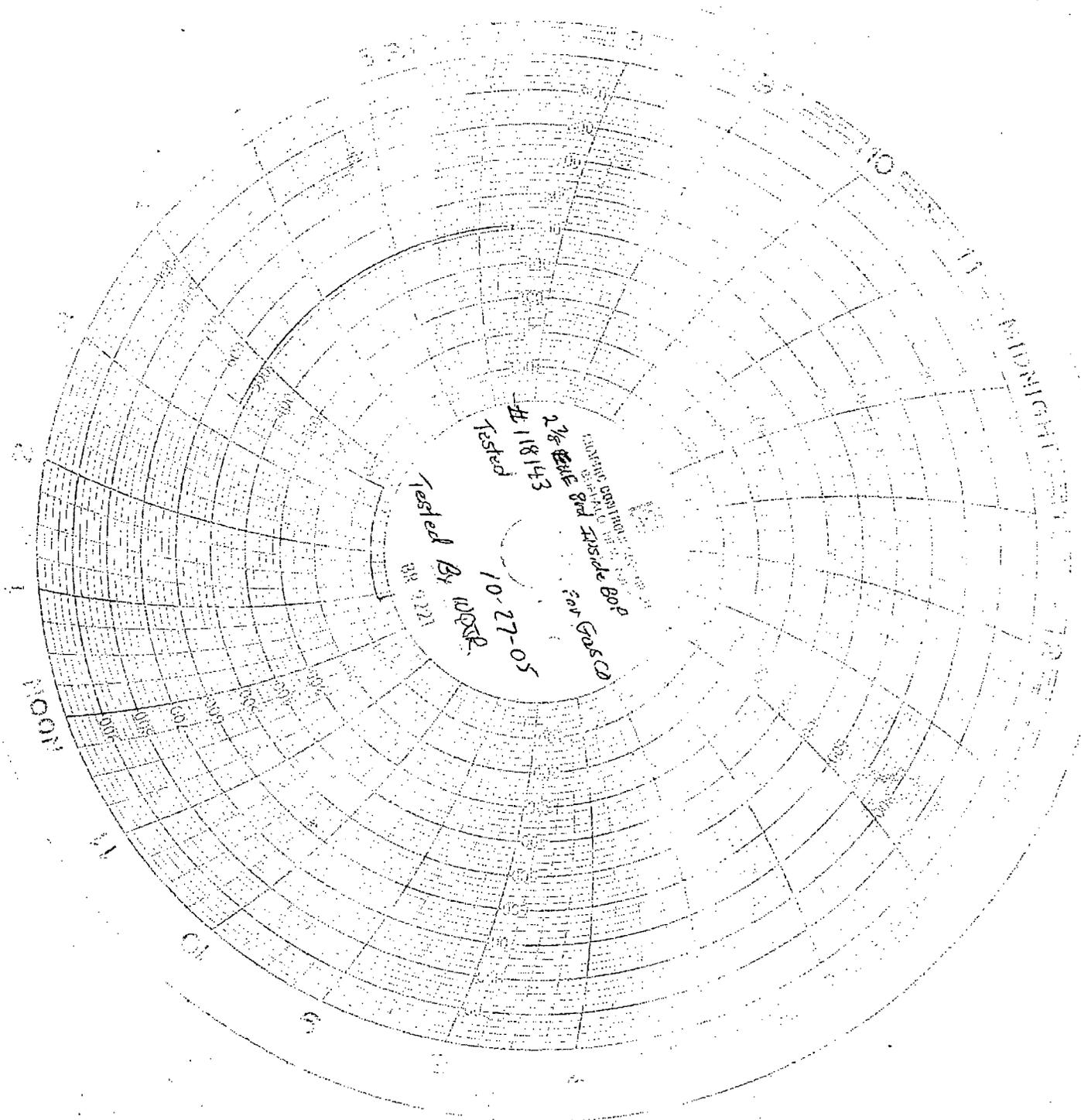
The operations were performed for the purpose of **inspecting the blowout prevention equipment and installation.**

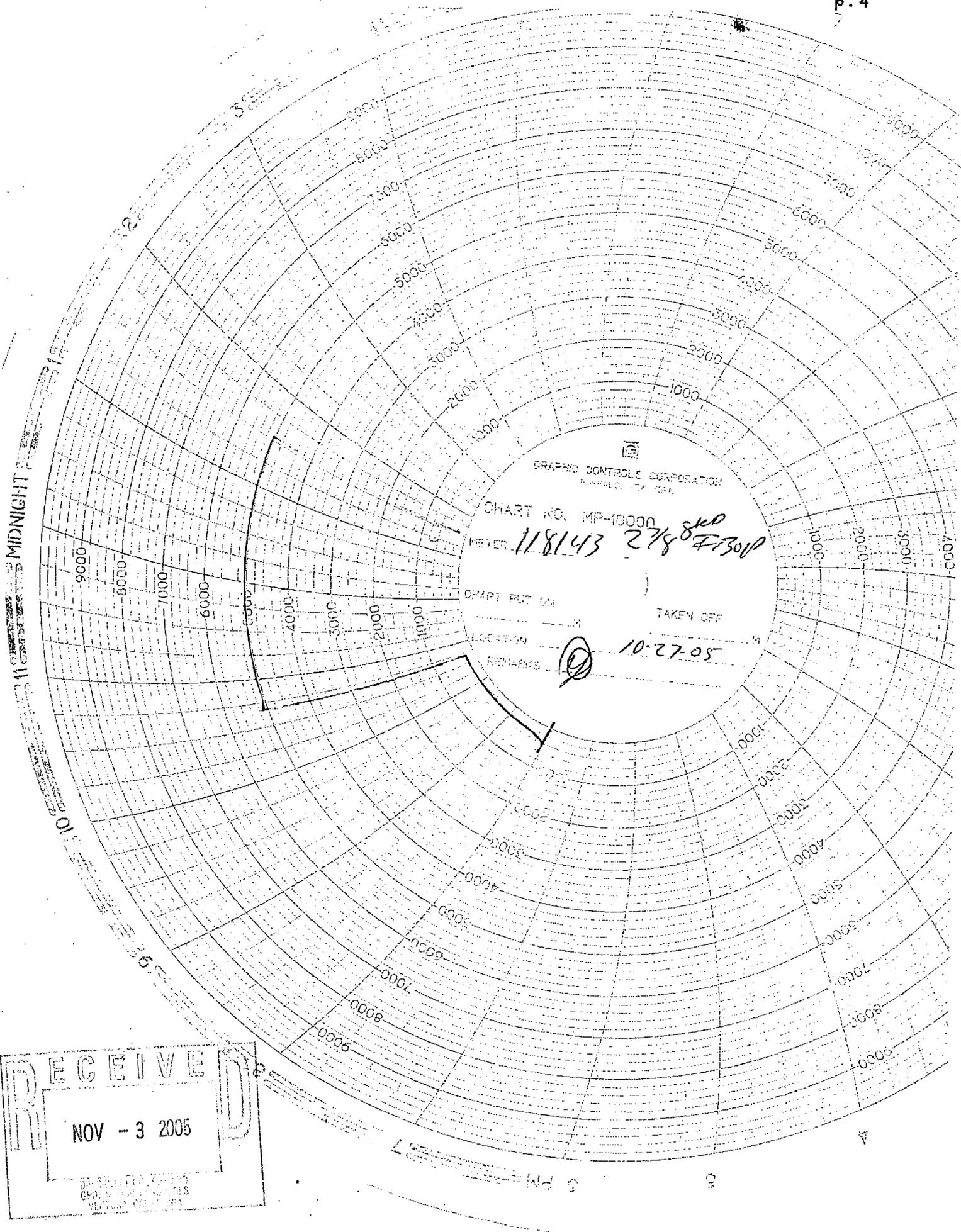
DECISION:

The blowout prevention equipment and its installation on the 9 5/8" casing are approved.

tkc

Hal Bopp
State Oil and Gas Supervisor
By 
Bruce H. Hesson
Deputy Supervisor





RECEIVED

NOV - 3 2005

BY [Signature] [Signature]
 CHART NO. [Number]
 METER NO. [Number]

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

NOTICE OF INTENTION TO REWORK / REDRILL WELL **205-191**

*010
DD
3D Session
Free*

C.E.Q.A. INFORMATION (when redrilling or deepening only)			
Exempt <input type="checkbox"/>	Neg. Dec. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	Document not required by local jurisdiction <input type="checkbox"/>
Class	S.C.H. No.	S.C.H. No.	See Reverse Side

FOR DIVISION USE ONLY			
Bond	Forms		EXP Well
	OGD114	OGD121	File
1,000,000	111 ✓	115 ✓	

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to

rework/redrill well Porter 69G API No. 037-24225
(Circle one) (Well designation)

Sec. 28 T. 3N R. 16W S.B.B.&M. Aliso Canyon Field

Los Angeles County.

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:
0'-848' 13-3/8" K-55 54.5# casing
0'-8500' 9-5/8" 47# N-80 LT&C casing
7787'-8131' 4-1/2" 11.6# wire-wrapped screen w/6.12 shroud graveled packed w/102 sx 16-30 gravel holes w/8292-8322 set retainer at 8223' squeezed w/134 cu ft and 72cu ft on top to c 8164'

GS

2. The total depth is: 8500 feet. The effective depth is: 8160 feet.

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

4. Present zone pressure: 3000' psi. Anticipated/existing new zone pressure: 3000 psi.

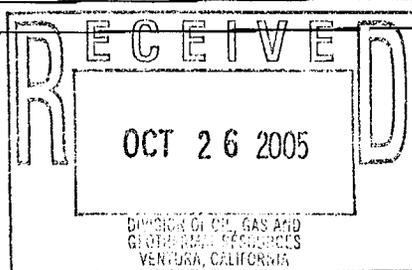
5. Last produced: 6-96 Storage
(Date) (Oil, B/D) (Water, B/D) (Gas, Mct/D)

(or)
Last injected: _____
(Date) (Water, B/D) (Gas, Mct/D) (Surface pressure, psi)

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

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

See attached program



For redrilling or deepening: _____
(Proposed bottom-hole coordinates) (Estimated true vertical depth)

The division must be notified if changes to this plan become necessary.

Name of Operator Southern California Gas Company	Telephone Number 818 701-3251	
Address 9400 Oakdale Ave	City Chatsworth	Zip Code 91313
Name of Person Filing Notice Richard Jackson	Signature <i>Richard Jackson</i>	Date 10/23/05

File In Duplicate

COMPLETION/ FRAC STIMULATION PROGRAM

(2 stage frac)

24 October 2005

Porter 69G

DATE: 24 October 2005
Revisions: 10-25-04RJ
OPERATOR: Southern California Gas Company
FIELD: Aliso Canyon
WELL: Porter 69G
CONTRACTOR: Key
OBJECTIVE: Perforate Sesnon - Casing Frac Stimulate and Complete well with Frac Packed Liner
ACCOUNT: GWO XXXX IO 300xxxxx
ELEVATION: Take all measurements from the original KB = 29' above GL.
SAFETY: Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of any wellhead or near any other flammable material.

BOP requirements in 224.05 should be fully implemented. Class III should be followed.
Reservoir is at high inventory and pressures should be monitored regularly.

Aliso Canyon is a Title V Facility: Check with Staff environmental specialist to assure all permits and procedures are properly recorded.

Work in this program will require approval from CaDOGGR

Notice of approval to be posted on site during well work operations.
All provisions are to be followed.

WELL WORK PROGRAM

Pre rig:

Well kill procedure will use fluids which will provide a 500psi minimum overbalance at all open intervals in the well bore.

- 1) Remove instrumentation. Remove laterals and install companion flanges and valves for killing well.
- 2) Set 500 barrel closed top tank and fill with 3% KCl water. Treat all water with ucarcide, 5 gallons per 100 barrels. Set 2 additional frac tanks as required providing storage capacity for Frac procedure. Tanks to be fitted with 4" suction manifold and with 3" circulating line to back of tank.
- 3) Move in pump with 100b circulating tank, shaker and mixer. Well crew to provide labor for killing well and installing kill equipment.
- 4) Dead head 80 barrels of polymer KCl/salt water down tubing to provide required overbalance. Use aprox. 2#/barrel HEC polymer to achieve 60 sec minimum viscosity. Check wellhead pressure prior to pumping and calculate gradient using TVD=6930'. Weight as required.
- 5) Rig up Wireline. Pull gas lift valve from lower mandrel.
- 6) Fill 500 barrel closed top tank with 3% KCl water and sufficient Sodium Chloride for adequate fluid weight to obtain 500psi overbalance. Use TVD of S-1 for fluid calculations.
 - a) Treat all water with ucarcide, 5 gallons per 100 barrels.
 - b) Connect pump to tubing and vent casing through choke manifold to Gas Co. system. Notify Aliso Operations prior to venting any gas to system.
- 7) Kill well per schedule: Maintain 500psi overbalance throughout kill.
 - a) Pump down casing and vent tubing bubble before starting kill schedule.
 - b) Vent gas through choke to Gas Co. system.

Rig work:

- 1) Move in Key Rig #447. Rig up. Sub base will not be needed on this work. Use working floor.
- 2) Set 2-7/8" LH Shaffer BPV. Install Class III BOPE directly on 11"-5000psi flange. Fit BOPE with 2-7/8" pipe rams and CSO. BOPE must have connection and valve below the blind rams. Fit with 5000psi valve.
- 3) Test BOPE system per Co. job instruction. Test to 5000psi. Notify DOGGR to witness testing.
- 4) Install 1 jt of 2-7/8" N-80 tubing in tubing hanger with Safety valve in top. Unland and work RH torque in tubing to get ¼ turn at packer. Pick up to equalize across packer. (4000# above string weight) Continue picking up to automatically "J" to running position. Allow element to relax then work up and down until free. Pull out of well with packer. Lay down all tubing accessories. Call HES to redress packer.
- 5) Rig up wireline and perforate intervals:
 - a) S-8, S-12 (from 7781' to 7701'). Note top 5' of interval is not perforated to provide zonal isolation.
 - b) Use 5" centralized carrier
 - c) Use full lubricator.
- 6) Rig down Perforators.
- 7) Run 9-5/8" -47# positive scraper on 2-7/8" tubing to top of Liner. Reverse circulate clean. Use short tail below scraper to assure that PBR is clear.
- 8) Make up wash tool with 5' spacing and run in well. Test tubing to maximum working pressure against closed tool. Wash perforations to assure holes are open. Use high rate from frac pump as required. Record: pressure vs. rate and plot to determine frac of formation. Wash all perforations at rate above frac pressure. Wait as directed at specified depths to observe closure pressure.
- 9) Pick up wire wrapped liner with .012 screen and shroud and run in well on "over the top" tools and baffle plug in top blank @ 7690'. Set in 6" PBR on top of Frew liner with zone isolation sub. See detailed liner program.
- 10) Halliburton to perform Stage I of frac procedure per attached program. At completion of pumping, release from liner and pull out of well with tools and dip tube.
- 11) Pick up 9-5/8" retrievable bridge plug on 2-7/8" tubing and run in well. Set BP at top of liner. Release from BP and dump 2 sacks of 6/9 gravel down tubing. Displace to BP. Pull out of well with tubing.

- 12) Rig up wireline and perforate remaining intervals: S-4 and S-6 (from 7680' to 7600')
bottom 5' of interval was omitted for better isolation.
 - a) Use 5" centralized carrier
 - b) Use full lubricator.
- 13) Rig down Perforators.
- 14) Run 9-5/8" -47# positive scraper to top of BP with retrieving tool on 2-7/8" tubing.
Reverse circulate clean, and latch on to BP. Release BP and pull out of well.
- 15) Make up wash tool with 5' spacing and run in well. Wash perforations to assure
holes are open. Use high rate from frac pump as required. Record: pressure vs. rate
and plot to determine frac of formation. Wash all perforations. Wait as directed at
specified depths to observe closure pressure.
- 16) Pick up wire wrapped liner with .012 screen and shroud and run in well on "over the
top" tools. Latch on to liner from stage I. See detail in WEA liner program.
- 17) Run dip tube inside liner through baffle and space out to baffle in first stage. Make
up on tools and into 6-5/8" shielding. Run in well and set on top of 1st stage liner and
pull over up weight by 2000# to check overshot double wicker latch.
- 18) Halliburton to perform Stage II of frac procedure per attached program. At
completion of pumping, release from liner and pull out of well with packing tools and
dip tube.
- 19) Make up drive on adapter with hold down slips and elastomer seal. Latch on to liner
top and set slips and sealing element. Release from adapter and pull out of well.
- 20) Pick up weight bars on sand line and run in well and knock out baffles. Full
lubricator must be used.
- 21) Set 9-5/8" X 2-7/8" HES packer (redressed from well) approximately 30' above of
top liner on completion tubing as follows:
 - a) 2-3/8" X 4" seals with 1.87 XN with 1.791 No Go
 - b) 1 jt 2-3/8 Hydril tubing
 - c) 2-3/8" sliding sleeve with 1.87 profile
 - d) 2-3/8" tubing to top of liner
 - e) 2-3/8 X 2-7/8" EUE XO
 - f) 2-7/8" EUE X 12' pup jt.
 - g) 2-7/8" sliding sleeve with 2.31 profile
 - h) 20' pup jt of 2-7/8" EUE tubing
 - i) HES packer

- j) 2-7/8" N-80 X 6' pup joint
 - k) LH Release On/off tool with 2.31. "X" nipple profile
 - l) 1 joint of 2-7/8" EUE 8R N-80 tubing
 - m) HES 2.31 sliding sleeve (closed)
 - n) 1 jt of 2-7/8" EUE 8R N-80 tubing
 - o) G/L Mandrel with dummy valve – place a second GLM w/dummy valve at approximately 3000'
 - p) 2-7/8" EUE 8R N-80 tubing as required.
- 22) Set lower seals in seal bore and set packer.
- a) Land tubing above packer in 10,000# compression or as recommended by HES.
 - b) Test packer to 1500psi for 20 minutes.
- 23) Install BPV and remove BOPE. Install tree and test to 5000psi. Remove BPV.
- 24) Release rig.

Post rig

1. Clean location and replace laterals with Casing flow choke in place. Inspect probes and replace as required.
2. Open sliding sleeve and unload well.
3. Flow well at high rate to remove as much fluid as possible to avoid potential salt precipitation.

Richard Jackson 24 October 2005

Approved:

 J. Mansdorfer

PRESENT CONDITIONS:

Casing:

0' - 848' 13-3/8" 54.5# K-55 Cemented

0' - 8500' 9-5/8" 47# N-80 Cemented

E.D. - 8154'

7820' - 7900' ✓ Perforated 4 HPF (TVDTP=7500')

Liner: 4-1/2 11.6# Wire wrapped screen with .016" slots

8131-7787 Packed with 16-30 sand O.D.= 6.12"

Tubing: 223? 2-7/8" 6.5# N-80 EUE 8R
Joints

? Halliburton 9-5/8" Top at 7662'
G-6

Note: Refer to WEA liner detail for exact dimensions of current liner.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company

Field: Aliso Canyon

County: Los Angeles

Well: Porter 69 G

Surface Location: Sec 28, T3N, R16W, SBB&M

A.P.I. No. 037-24225

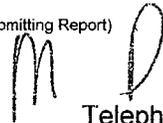
Mike Dozier

Title: Technical Specialist

(Person Submitting Report)

(President, Secretary, or Agent)

Date: 09/07/2004

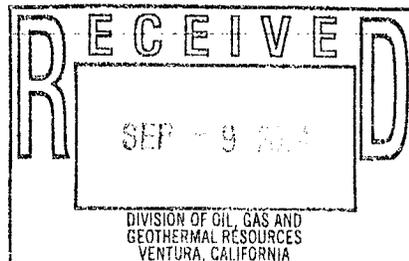
Signature: 

Telephone Number: 818-700-3235

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

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

Start Date	Ops. DOGCR
11/10/2003	Spot equipment and rig up choke manifold.
11/11/2003	Nipped up BOPE lines and valves. Rigged up mud pump.
11/12/2003	Mix 800 bbls. of KCL to 9.5 lb. with salt. Mix 50 bbl. high vis. pill. Rigged up to kill well.
11/13/2003	Pumped 50 bbls. high vis polymer pill displaced with 40 bbls. of 9.5 lb. KCL. Killed well with 600 bbls. of 9.5 lb. KCL. Made up back pressure plug and tested blind rams and choke to 5000 psi. Removed back pressure plug and tested pipe rams to 5000 psi. Tested Hydril to 3000 psi. Hydril would not test. Rigged down working floor.
11/14/2003	Nipped down Hydril and nipped up new Hydril and tested to 3000 psi. (BOPE test witnessed by A Anede, CADOGGR). Unlanded tubing pull out of well and laid down gas lift mandrels. Made up (12) joints 2-3/8 CS hydril tubing and measured in well. Tagged at 7946' (207' fill in liner) pulled to 7674'.
11/17/2003	Ran in well to 7946', tagged fill in liner. Clean out sand form 7946' to 8154', circulated well clean. Pulled out of well and laid down 2-3/8" CS hydril tubing. Made up 3-5/8" hdraulic cutter with 25" extensions and 7-1/2" stop and ran in well to 6500'.
11/18/2003	Ran in well with cutter, tagged with stop at 7788' (5' above packer) unable to work deeper. Measured out of well laid down cutter and made up 9-5/8" positive casing scraper. Ran in well to 7788' with no restrictions. Pull out of well to 3407'.
11/19/2003	Pulled out of well with 8-5/8" casing scraper and made up 3-5/8" hydraulic cutter with 25' extensions and 7-1/2" stop. Ran in well to top of packer at 7788'. Cut 4-1/2" blank at 7810'. Pulled out of well and made up Quatumam releasing tool bumper sub, jars and (2) 4-3/4" drill. Ran in well to 4500'.
11/20/2003	Ran in well with relieving tool latched into packer at 7788'. Attempted to released with no success. Released from packer and pulled out of well. Rigged up Baker Atlas wireline ran in well with collar locator and ran in well logged from 8000' to 7793' (no cut indicated) made up 3-9/16" jet cutter and ran in well cut liner at 7816'. Rigged down loggers and made up relieving tool, bumper sub, jars (2) 4-3/4" drill collars ran in well to 3233'.
11/21/2003	Ran in well with relieving tool and engaged Quatumam packer. Pulled out of well and laid down packer. Made up 8-1/8" shoe picked up 350' 8-1/8 wash pipe bumper sub, jars jars (2) 4-3/4" drill collars ran in well to 7777'.
11/22/2003	Ran in well with 7-1/8" wash pipe to 7810'. Picked up power swivel and washed over 4-1/2" liner from 7810' to 8153'. Circulated well clean and pulled out of well to 3500'.
11/23/2003	Pulled out of well and layed down wash pipe. Made up 4" spear, bumper sub, jars, (2) 4-3/4" drill collars ran in well to 7816'. Engaged fish and pulled out of well to 3500'.
11/24/2003	Pull out of well and laid down 4-1/2" liner, drill collars and fishing tools. Made up 9-5/8" casing scraper and ran in well to 8160'. Circulated well clean and pulled out of well to 3200'.
11/25/2003	Pulled out of well with casing scraper. Made up bullplug (8) joints 4-1/2" LT&C wire wrapped liner with 6" shroud (316') 5' blank and landing nipple. Made up 316' 2-3/8" CS hydril tail pipe and gravel pack tools. Ran in well to 8131' and landing nipple at 7807'. Rigged up gavel pack machine gravel packed liner with 102 cu. ft. 16/30 gravel screened out at 900 psi. Reversed out 2cu. ft. restressed with 900psi. 100 cu. ft in place (calculated volume 102 cu. ft.) Released gravel pack tools from landing nipple and pull out of well to 7795'.
11/26/2003	Pulled out of well layed down gravel pack tools and 2-3/8 tubing tail. Ran in well with kill string to 4375'.
12/01/2003	Pulled out of well with kill string made up liner packer PBR and drive over ran in well to 7807' engaged drive on pulled 4000 lbs. over string weight. Set packer and tested annulus to 1500 psi. for 15 minutes. Sheared out running tool and pulled out of well. Made up HES, 9-5/8", G-6 production packer and made up production equipment ran in well to 3500'.
12/02/2003	Ran in well with completion equipment to 7768'. Made up tubing hanger and set packer at 7765' coe with 10,000 compression.



In March 2003:

Permit was issued to
Perf. 8076-8095

In August, RAS inner line
no permit issued.

11/12/03

Wanted to pull lines

File Permits & history

to do additional work
in March and in August

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

No. T203-260

Report on Operations

James D. Mansdorfer, Agent
SOUTHERN CALIFORNIA GAS COMPANY
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
December 12, 2003

Your operations at well "Porter" 69G, API No. 037-24225, Sec. 27, T. 3N, R.16W, S.B.B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 11-14-2003. Anne Anderle, representative of the supervisor, was present from 1300 to 1400. There were also present Jim McCusker.

Present condition of well: 20" cem 69'; 13 3/8" cem 848'; 9 5/8" cem 8500', cp @ 6693', 7181' & 7480', perf @ int 7820'-8322'. TD 8500'. ED 8407'.

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

DECISION:

The blowout prevention equipment and its installation on the 9 5/8" casing are approved.

tkc

Hal Bopp
State Oil and Gas Supervisor
By 
Bruce H. Hesson
Deputy Supervisor

Porter 69G PRESENT CONDITIONS:

Group List - Actual								
Conductor								
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)
Casing Joints	20	94.00	K-55	19.124	29	69	40.0	29
Surface casing								
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)
Casing Joints	13 3/8	54.50	K-55	12.615	29	824	794.8	29
Float collar	13 3/8			12.615		825	1.5	824
Casing Joints	13 3/8	54.50	K-55	12.615	825	846	21.1	825
Float shoe	13 3/8			12.615	846	848	1.5	846
Casing liner								
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)
9-5/8" Quantum Packer	8 3/8				7,793	7,799	5.6	7,471
Polished bore receptacle	7 1/4			6.000	7,799	7,812	13.6	7,477
4-1/2" x 7-5/8" cross over	7 5/8			4.000	7,812	7,813	0.8	
1 joint blank pipe	4 1/2			4.000	7,813	7,819	5.6	
1 joint .018 Ga Slotted	4 1/2			4.000	7,819	7,853	34.9	
1 joint .018 Ga Slotted	4 1/2			4.000	7,853	7,871	17.5	
1 joint .018 Ga Slotted	4 1/2			4.000	7,871	7,911	39.7	
1 joint .018 Ga Slotted	4 1/2			4.000	7,911	7,951	40.5	
1 joint .018 Ga Slotted	4 1/2			4.000	7,951	7,992	40.5	
1 joint .018 Ga Slotted	4 1/2			4.000	7,992	8,032	40.5	
1 joint .018 Ga Slotted	4 1/2			4.000	8,032	8,072	40.3	
1 joint .018 Ga Slotted	4 1/2			4.000	8,072	8,112	40.2	
1 joint .018 Ga Slotted	4 1/2			4.000	8,112	8,153	40.3	
Bull nose shoe	5				8,153	8,154	0.8	
Production casing								
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)
Casing Hanger	9 5/8			8.681	27	28	1.0	27
Cross Over	14			9.625	28	30	2.0	28
Casing Joints	9 5/8	47.00	N-80	8.681	30	7,505	7,475.4	30
External Casing Packer	9 5/8			8.681	7,505	7,528	22.2	7,204
Casing Joints	9 5/8	47.00	N-80	8.681	7,528	8,409	881.4	7,225
Float Collar	9 5/8			8.681	8,409	8,411	1.5	
Casing Joints	9 5/8	47.00	N-80	8.681	8,411	8,499	88.0	
Float Shoe	9 5/8			8.681	8,499	8,500	1.5	
Perforations								
Des	Int (MD)	Date	Top (TVD)	Com				
Perforated /squeezed	7,480-7,484	10/30/2002	7,181	12, 1/2" holes - squeezed				
Perforated /squeezed	6,950-8,190	3/21/2003		w/cmf				
Perforated /squeezed	7,820-7,900	5/18/2002	6,693	Four, 1/2" holes per foot.				
Re-Perforated	7,820-7,900	4/3/2003		TCP4				
Perforated	7,802-8,116	3/28/2003		5/8-inch/6-spf/DP/43EHD/90"Pe				
Perforated	8,292-8,322	3/24/2003		Four, 1/2" holes per foot.				
Formations				Four, 1/2" holes per foot.				
Formations				Four, 1/2" holes per foot.				
Des	Top (MD)	Top (TVD)						
MP	7,074	6,808						
S1	7,472	7,174						
S2	7,503	7,202						
S4	7,538	7,235						
S6	7,572	7,266						
S8	7,610	7,301						
S10	7,648	7,337						
S12	7,675	7,362						
S14	7,757	7,438						
Frew	7,818							
CR	8,136							
Other in Hole								
Des	OD	Int (MD)						
Cement Retainer	9	8,223-8,226						

Note: BOP requirements in 224.05 should be fully implemented. Class III should be followed.

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

No. T203-049

Report on Operations

James D. Mansdorfer, Agent
SOUTHERN CALIFORNIA GAS COMPANY
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
March 28, 2003

Your operations at well "Porter 69G, API No. 037-24225, Sec. 27, T. 3N, R.16W, S.B.B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 03-11-2003. Steve Mulqueen, representative of the supervisor, was present from 1600 to 1700. There were also present Mike Volkmar.

Present condition of well: 13 3/8" cem 848'; 9 5/8" cem 8500', cp 7480', perfs 7820'-7900'. TD 8500'. ED 8407'.

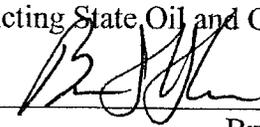
The operations were performed for the purpose of inspecting the blowout prevention equipment and installation.

DECISION:

The blowout prevention equipment and installation on the 9 5/8" casing are approved.

tkc

Kenneth P. Henderson
Acting State Oil and Gas Supervisor

By  _____
Bruce H. Hesson
Deputy Supervisor

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator SOUTHERN CALIFORNIA GAS CO. Well "PORTER" 69 G Sec. 27 T. 3N R. 16W
 Field ALISO CANYON County LOS ANGELES Spud Date _____

VISITS: Date Engineer Time Operator's Rep. Title
 1st 3-11-03 S. MULQUEEN (1600 to 1700) MIKE VOLLMAR FOREMAN
 2nd _____ (_____ to _____)

Contractor POOL Rig # 408 Contractor's Rep. & Title JIM McCUSKER
 Casing record of well: 13 7/8" casing 840'; 9 5/8" casing 8500', cp 7480', parts 7820' - 7900'; TD 8500'. ED 8407'.

OPERATION: ~~Testing~~ (inspecting) the blowout prevention equipment and installation. Critical well? Y N
 DECISION: The blowout prevention equipment and its installation on the 9 5/8" casing are approved.

Proposed Well Opns: REWORK MACP: _____ psi
 Hole size: _____ " fr. _____ " to _____ " to _____ " & _____ " to _____ "

REQUIRED BOPE CLASS:
III SM

CASING RECORD OF BOPE ANCHOR STRING					Cement Details				Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at					Casing	Annulus

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	-	HOBIL	CK	10	5000							3-11	3500
RD	2 7/8	SMITHER	LWS	10	"							"	5000
RD	CSO	"	LWS	10	"							"	5000

ACTUATING SYSTEM				TOTAL:		AUXILIARY EQUIPMENT						
Accumulator Unit(s) Working Pressure <u>3000</u> psi										Connections		Test Press.
Total Rated Pump Output _____ gpm				Fluid Level _____		No.	Size (in.)	Rated Press.	Weld	Flange	Thread	
Distance from Well Bore <u>55</u> ft.						Fill-up Line						
Accum. Manufacturer		Capacity	Precharge	Kill Line								
1	<u>ROONEY</u>	<u>80</u> gal.	<u>1000</u> psi	X	Control Valve(s)							
2		gal.	psi	X	4		"					5000
CONTROL STATIONS				Elec.	Hyd.	Pneu.	Check Valve(s)					"
X	Manifold at accumulator unit				✓		X	2				"
X	Remote at Driller's station					✓	X	Aux. Pump Connect.				"
	Other:						X	Choke Line				"
							X	Control Valve(s)				"
EMERG. BACKUP SYSTEM				Press.	Wkg. Fluid	Pressure Gauge						
X	N ₂ Cylinders	1	L=	"	2200	gal.	X	Adjustable Choke(s)				"
	Other:	2	L=	"	2200	gal.	X	Bleed Line				"
		3	L=	"	2200	gal.	X	Upper Kelly Cock				"
		4	L=	"	1950	gal.	X	Lower Kelly Cock				"
		5	L=	"		gal.	X	Standpipe Valve				"
		6	L=	"		gal.	X	Standpipe Press. Gau.				"
TOTAL:						ga	X	Pipe Safety Valve				"
							X	Internal Preventer				"
HOLE FLUID MONITORING				Alarm Type		Hole Fluid Type		Weight	Storage Pits (Type & Size)			
X	Calibrated Mud Pit			Audible	Visual	Class	<u>3% KCL H₂O</u>	<u>B.5</u>	<u>1000 BAL</u>			
	Pit Level Indicator				✓	A						
	Pump Stroke Counter					B						
	Pit Level Recorder					C						
	Flow Sensor											
	Mud Totalizer											
	Calibrated Trip Tank											
	Other:											

REMARKS AND DEFICIENCIES:
TESTED w/ PRESSURE PUMP + CHOKER

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

No. P203-67

PERMIT TO CONDUCT WELL OPERATIONS

814
(field code)
00
(area code)
30
(new pool code)
30
(old pool code)

James D. Mansdorfer, Agent
Southern California Gas Co.
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
March 24, 2003

Your supplementary proposal to rework well "Porter" 69G,
A.P.I. No. 037-24225 Sec. 27, T. 3N, R. 16W, SB B.&M.,
Aliso Canyon field, _____ area, Sesnon-Frew pool
Los Angeles County, dated 03/21/2003 received 03/21/2003 has been examined in conjunction
with records filed in this office.

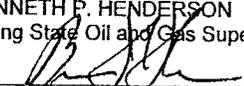
THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Requirements specified in permit No. P203-64, dated March 17, 2003 shall apply.

The Division recommends, as a minimum, that carbon monoxide monitoring equipment and a vent line be installed and maintained operational during all extensive perforating operations.

SAF:sf

Engineer Steven A. Fields
Phone (805) 654-4761

KENNETH P. HENDERSON
Acting State Oil and Gas Supervisor
By 
Deputy Supervisor

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

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

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

1,000,000
BOND
~~OGD114~~
OGD121
EDP WELL FILE

111 ✓
115 ✓
P203-67

SUPPLEMENTARY NOTICE

A notice to the Division of Oil, Gas, and Geothermal Resources, dated 3-14-03, stating the intention to

rework well Porter 69G, API No. 037-24225

(Drill, rework, abandon)

(Well designation)

Sec. 27 28, T. 3N, R. 16W, SB B.&M., Aliso Canyon Field,

Los Angeles County, should be amended because of changed conditions.

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

- See attached program
- 13-3/8 casing cemented at 846'
- 9-5/8" casing cemented at 8500'
- Perforated 7900' - 7820'
- Perforated 7480' - 7484' Squeezed with cement

GS

2. The total depth is: 8500 feet. The effective depth is: 8402 feet.

3. Present completion zone (s): Frew. Anticipated completion zone (s): Cretaceous / Frew / Sesnon

(Name)

(Name)

4. Present zone pressure: Storage psi. Anticipated/existing new zone pressure: Storage/Hydrostatic psi.

We now propose: (A complete program is preferred and may be attached.)

See attached program

RECEIVED
MAR 21 2003
VTA DOGGR

Send to go 3/21/03

[Handwritten signature]

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

Name of Operator Southern California Gas Company	Telephone Number 818 701 3251
Address 9400 Oakdale Av	City Chatsworth
Name of Person Filing Notice Richard Jackson	Signature <i>[Signature]</i>
	Zip Code 91313
	Date 3-21-2003

File In Duplicate

SUPPLEMENTAL
PROGRAM to Isolate by Squeezing cement
Frac and Evaluate FREW

21 March 2003

Porter 69G

Well was squeeze cemented to repair faulty primary cement job which led to gas leak from storage zone to upper sands. Repair has been confirmed and work will now be to evaluate the potential of storage zones with frac completions and to complete well as Injection / Withdrawal gas storage well.

DATE: 3 March 2003-RJ
Revisions: 12 March 2003-RJ
Supplemental: 21 March 2003-RJ

OPERATOR: Southern California Gas Company

FIELD: Aliso Canyon

WELL: Porter 69G

CONTRACTOR: Pool

OBJECTIVE: Clear well bore and log to evaluate cement.
Isolate Frew zone and test
Place well on Inj/WD

ACCOUNT: MWO 22728.000 I/O 300249196

ELEVATION: Take all measurements from the original KB = 29' above GL.

SAFETY: Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of any wellhead or near any other flammable material.

PRESENT CONDITIONS:

Casing:

0' - 848'	13-3/8"	54#	K-55	Cemented
0' - 8500'	9-5/8"	47#	N-80	Cemented
E.D. - 8407'				ECP @7505-7528'
7900'-7820'				Perforated 6 HPF (TVDTP=7500')
7480'-7484'				Squeezed perforations

Tubing:

248 Joints	2-7/8"	6.5#	N-80	EUE 8R
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~~OK Perforate Frew~~

WELL WORK PROGRAM

Perforate and Test Frew

Frac Stimulate and complete Sesnon & Frew

20 March 2003

Porter 69G

OK TO PERFORATE
WORK UNDER
SUPPLEMENTARY

Well was squeeze cemented to repair faulty primary cement job, which led to gas leak from storage zone to upper sands. Repair has been confirmed above the storage zone. Work was performed on MWO to assure isolation between Cretaceous and Frew and between Frew and Sesnon so Fractures could be contained within zones. The procedure in this program will define the productivity and pressure of Cretaceous sand penetrated by this well on previous GWO. Additionally pre-stimulation production from the Frew sands will be defined. Work will now be to evaluate the potential of storage zones (both Frew and Sesnon) with frac completions and to complete well as Injection / Withdrawal gas storage well. Completion techniques will isolate the Sesnon and the Frew so they can be managed separately.

- DATE:** 20 March 2003-RJ
Revisions: 28 March 2003, 31 March 2003, 3 April 2003-RJ, 30 April 2003-RJ
- OPERATOR:** Southern California Gas Company
- FIELD:** Aliso Canyon
- WELL:** Porter 69G
- CONTRACTOR:** Pool
- OBJECTIVES:** Perforate Cretaceous sand and test(completed)
Perforate Frew zone and test(completed)
Stimulate Frew and test
Stimulate Sesnon
Place well on Inj/WD with zones isolated
- ACCOUNT:** GWO
- ELEVATION:** Take all measurements from the original KB = 29' above GL.
- SAFETY:** Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of any wellhead or near any other flammable material.

SUPPLEMENTAL WELL WORK PROGRAM Porter 69G

Pre rig: DOGGR notice will be required for this procedure.

- ξ Pool Rig is on hole.
- ξ Scraper was run to ED at 8402'.
- ξ HES CBL was run from ED to MP.

Based on the cement bond log, we now propose the following:

- 1) Shoot 12 - ½" squeeze holes at 8190'.
- 2) Run Halliburton TCP Guns and redressed packer in well and set at 8240'+-.
 - a) Guns - 4) ½" holes per foot - spacing and correlation to be specified.
Perforation Intervals: 8292 to 8322'
 - b) 3-1/2" tubing as required for spacing
 - c) Packer at 8240'. Run pressure recorder in pocket above packer.
 - d) 3-1/2" tubing to surface.
- 3) Land tubing with pup joint and valve in place in top of hanger.
- 4) Fire guns and open tubing to testers.
 - a) Flow well until stabilized.
 - b) Catch samples of oil water and gas.
 - c) Swab as required to fully evaluate.
 - d) Monitor casing for flow or drop in fluid level.
- 5) Dead head tubing volume of kill fluid and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required.
- 6) Wireline set CI Bridge plug at 8260'. Cap with cement using wireline dump bailer.
- 7) Run TCP Guns and packer redressed packer in well and set at 7800'+-.
 - a) Guns - 4) ½" holes per foot - spacing and correlation to be specified.
Perforation Intervals: 8095-8116; 7983-8035; 7940-7977; 7902-7935; 8063-8076
 - b) 3-1/2" tubing as required for spacing
 - c) Packer at 7800'.
 - d) 3-1/2" tubing to surface.
- 8) Land tubing with pup joint and valve in place in top of hanger.
- 9) Fire guns and open tubing to testers.
 - a) Flow well until stabilized.

Porter 69G Clear well bore and test Frew 3-03

b) Catch samples of oil, water and gas.

If well does not flow: Run gas lift string to 7750' and set packer. Unload well through test trap and produce until stabilized.

- 10) Dead head tubing volume of kill fluid and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required. Fill well with KCl down casing if gas lift was used, and dead head of 80 bbl of HEC polymer.
- 11) Remove Gas Lift equipment.
- 12) Run tubing to 7500'.
- 13) Perform casing frac per attached program.
- 14) Before polymer has degraded reverse out sand from well bore.
- 15) Rerun Gas Lift equipment as before.
- 16) Install BPV, remove BOPE and install tree. Place well on production through test separator.
- 17) Replace laterals and place on production through tubing WD. Test frequently to verify.

Richard Jackson

21 March 2003

PRESENT CONDITIONS: (Does not include holes or other modifications made in cement squeeze work.

Casing:

0' - 848'	13-3/8"	54#	K-55	Cemented
0' - 8500'	9-5/8"	47#	N-80	Cemented
E.D. - 8164'				ECP @7505-7528'
7900'-7820'				Perforated 6 HPF (TVDTP=7500')
7480'-7484'				Squeezed perforations

Tubing:

248 Joints	2-7/8"	6.5#	N-80	EUE 8R
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Work string	3-1/2"	9.3#	N-80	EUE 8R
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Group List - Actual									
Conductor									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Casing Joints	20	94.00	K-55	19.124	29	69	40.0	29	
Surface casing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Csg head housing	13 3/8			12.615	28	29	1.0	28	
Casing Joints	13 3/8	54.50	K-55	12.615	29	824	794.8	29	
Float collar	13 3/8			12.615	824	825	1.5	824	
Casing Joints	13 3/8	54.50	K-55	12.615	825	846	21.1	825	
Float shoe	13 3/8			12.615	846	848	1.5	846	
Production casing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Tag head housing	9 5/8				26	27	1.0	26	
Cross Over	14			9.625	27	29	2.0	27	
Casing Hanger	9 5/8			8.681	29	30	1.0	29	
Casing Joints	9 5/8	47.00	N-80	8.681	30	7,505	7475.4	30	
External Casing Packer	9 5/8			8.681	7,505	7,528	22.2	7,204	
Casing Joints	9 5/8	47.00	N-80	8.681	7,528	8,409	881.4	7,225	
Float Collar	9 5/8			8.681	8,409	8,411	1.5		
Casing Joints	9 5/8	47.00	N-80	8.681	8,411	8,499	88.0		
Float Shoe	9 5/8			8.681	8,499	8,500	1.5		
Production tubing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Tubing hanger	7 1/8					29	30	0.5	
One 2-7/8" tubing pup	2 7/8			2.441		30	30	1.0	
236 jts. 2-7/8" Tubing	2 7/8			2.441		30	7,408	7377.4	
Bull plug (perforated)	2 3/8					7,408	7,409	0.6	
Perforations									
Des	Int (MD)	Date	Top (TVD)	Com					
Perforated	7,480-7,484	10/30/2002	7,181	12, 1/2" holes - squeezed w/cmt					
Perforated	7,820-7,900	5/18/2002		TCP/4					
5/8-inch/6-spf/DP/43EHD/30"Pen									
Formations									
Des	Top (MD)	Top (TVD)							
MP	7,074	6,808							
S1	7,472	7,174							
S2	7,503	7,202							
S4	7,538	7,235							
S6	7,572	7,266							
S8	7,610	7,301							
S10	7,648	7,337							
S12	7,675	7,362							
S14	7,757	7,438							
Frew	7,818								
CR	8,136								
Other in Hole									
Des	OD	Int (MD)							
Cement Retainer	9	7,438-7,440							
Cement Retainer	9	7,550-7,553							

Note: BOP requirements in 224.05 should be fully implemented. Class III should be followed.

Also Canyon is a Title V Facility: Check with Staff environmental specialist to assure all permits and procedures are properly recorded.

WELL WORK PROGRAM Porter 69G

Pre rig: DOGGR notice will be required for this procedure.

- 1) Laterals have been removed and well is full of 3% KCl.
- 2) Set 2) 500 barrel closed top tank and fill with 3% KCl water. Treat all water with ucarcide, 5 gallons per 100 barrels. Set tanks as required providing storage capacity for procedure. Use HEC polymer as necessary to keep well full and cleaned out.

Rig work:

- 1) Pool production rig with working floor is on well.
- 2) BOPE is installed and tested. Work string is removed from well. Well will be cleared of all cement and retainers at completion of MWO work. Casing will be scraped and logged.
- 3) Cretaceous sand: Run TCP Guns and packer in well and set at 8240'±.
 - a) Guns – 4) ½" holes per foot - spacing and correlation to be specified.
Perforation Intervals: 8290 to 8340'
 - b) 2-7/8" tubing as required for spacing
 - c) Packer at 8240'.
 - d) 2-7/8" tubing to surface.
- 4) Land tubing with pup joint and valve in place in top of hanger.
- 5) Fire guns and open tubing to testers.
 - a) Flow well until stabilized.
 - b) Catch samples of oil, water and gas.
 - c) Swab as required to fully evaluate.
 - d) Run temp/pressure survey at request of area engineer.
- 6) Dead head tubing volume of kill fluid and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required.
- 7) Wireline set CI Bridge plug at 8200'. Cap with cement using wireline dump bailer.
- 8) Frew Sands: Run TCP Guns and packer in well and set at 7800'. ±.
 - a) Guns – 4) ½" holes per foot - spacing and correlation to be specified.
Perforation Intervals: 7902-7935; 7940-7977; 7983-8035; 8063-8076; 8095-8116
Include the previously perforated interval: 7820' to 7900'.
 - b) 2-7/8" tubing as required for spacing
 - c) Packer at 7800'.

Porter 69G Clear well bore and test Frew 3-03

- d) 2-7/8" tubing to surface.
- 9) Land tubing with pup joint and valve in place in top of hanger.
- 10) Fire guns and open tubing to testers.
 - a) Flow well until stabilized.
 - b) Catch samples of oil, water and gas.

If well does not flow: Swab or run gas lift string to 7750' and set packer. Unload well through test trap and produce Frew Interval until stabilized.

(Note: well flowed 600MCFD and 20B/d cutting 90% water 3-31-03 from lower Frew)

- 11) Dead head tubing volume of kill fluid down tubing and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required.

Perforations; 7902-7935; 7940-7977; 7983-8035; 8063-8076; 8095-8116 from 7820 to 7900' have been re-perforated 4JHPF

- 12) Run 9-5/8" casing scraper on 3-1/2 tubing to top of plug. Circulate clean.
- 13) Wash perforation: monitor annulus for possible communication. 10' cup spacing. Exceed frac pressure and observe closure pressure at selected settings. Schlumberger engineer to observe. (John Wise (661) 864-4700) Tag for fill after wash and clean out as required. All perforations must be unobstructed.
- 14) Run 9-5/8" SLB Patriot service packer with unloader on 3-1/2" tubing and. set at 7800'+-.
- 15) Perform frac per attached Schlumberger program to stimulate the Frew.
 - 1. MIRU frac equipment
 - 2. Conduct Pre-Job (tailgate) safety meeting
 - 3. Pressure test treating lines to 7500 psi
 - 4. Perform injection test with 120 bbls of WF135 (linear guar gel). Injection test at designed frac rate (30 bpm) and step rate down to determine open perforations. Expected injection pressure to be ~4000 psi
 - 5. Monitor decline pressure for fracture closure
 - 6. Confirm any design changes resulting from injection test results
 - 7. Pump fracture treatment as per attached design file. Expected injection pressure to be ~4500 psi.
 - 8. Monitor decline pressure for fracture closure
 - 9. RDMO frac equipment

- 16) Release packer and reverse excess sand from well before polymer has degraded .
- 17) Lay down 3-1/2" tubing.
- 18) Set 9-5/8" "Quantum" "sump packer" with 6" bore at base of Sesnon at approximately 7800'. (E.D. is 8164') Hydraulic set and release. Emergency release by rotating rt.
 Hang the following below the packer:
 - a) 8150' 4-1/2" Bull Plug
 - b) 8150 - 8116' 4-1/2" -FJ blank pipe
 - c) 8116 - 7810' 4-1/2" MeshRite Screen
 - d) 7810 - 7800' Packer
- 19) Run 2-7/8" tubing/packer seals with latch/Gas Lift equipment and land in hanger with pup jt and valve. Use GLM at 1000' below static fluid level and 3000' below.
- 20) Tie to test separator:
 - a) Unload well with gas lift and flow until stabilized.
 - b) Catch samples of oil, water and gas.
- 21) Kill well. Pull and lay down Gas Lift equipment and packer.
- 22) Wireline set 9-5/8" Retrievable bridge plug and set just above sump packer at 7800'. Cap with sand using wireline dump bailer.
- 23) Sesnon sands Perforate as follows:
 - a) Wireline shoot Sesnon at 5 JHPF 7600 - 7730
- 24) Run 9-5/8" scraper and clean out to top of BP. Retrieve BP. Lay down 3-1/2" tubing. Run SLB Liner as follows on 2-7/8" EUE 8R tubing: (see SLB detail)
 - a) 7784 - 7780' 6' OD seal assembly and latch (5" bore?)
 - b) 7780 - 7538' 5-1/2" screen (6-5/8" O.D. of screen.
 - c) 7538 - 7450' 5-1/2" LT&C blank pipe. Running nipple on top at 7450'.
 - d) Cover entire Sesnon interval with top at 7450' to avoid setting drive-on in ECP.
 - e) Run 6' X 5-1/2" Polished landing nipple on top.
 - f) Running tools to consist of 9-5/8" BST assembly, reversing sub with floating actuating ball and 2-7/8 N-80 tubing.
- 25) Frac pack the Sesnon interval over the top per attached Schlumberger procedure:
 - a) Open circulation to pump proppant to top of liner
 - b) Pump frac per program and pack annulus to top of liner.
 - c) Reverse out excess sand.

- d) Release from liner and reverse circulate clean
- 26) Set "H seal adapter overshoot and Quantum Tie-back on top of liner.
- 27) Clean out as required.
- 28) Run production tubing as follows:
 - a) Seal assembly and stop for PBR
 - b) 2-7/8" XN nipple
 - c) XO 2-7/8" EUE pin X 2-7/8" 511 Hydril box
 - d) Xxx' of 2-7/8" 511 Hydril
 - e) XO 2-7/8" 511 Hydril pin X 2-7/8" EUE Box
 - f) 1 jt 2-7/8" EUE 8R tubing
 - g) Baker Model CMP pressure activated sliding sleeve pinned for 4000psi
 - h) 1 jt 2-7/8" EUE 8R tubing
 - i) 2-7/8" KBMG gas lift mandrel with Dummy valve in place
 - j) 2-7/8" EUE 8R N-80 to surface
 - k) 2-7/8" N-80 pup joints as required

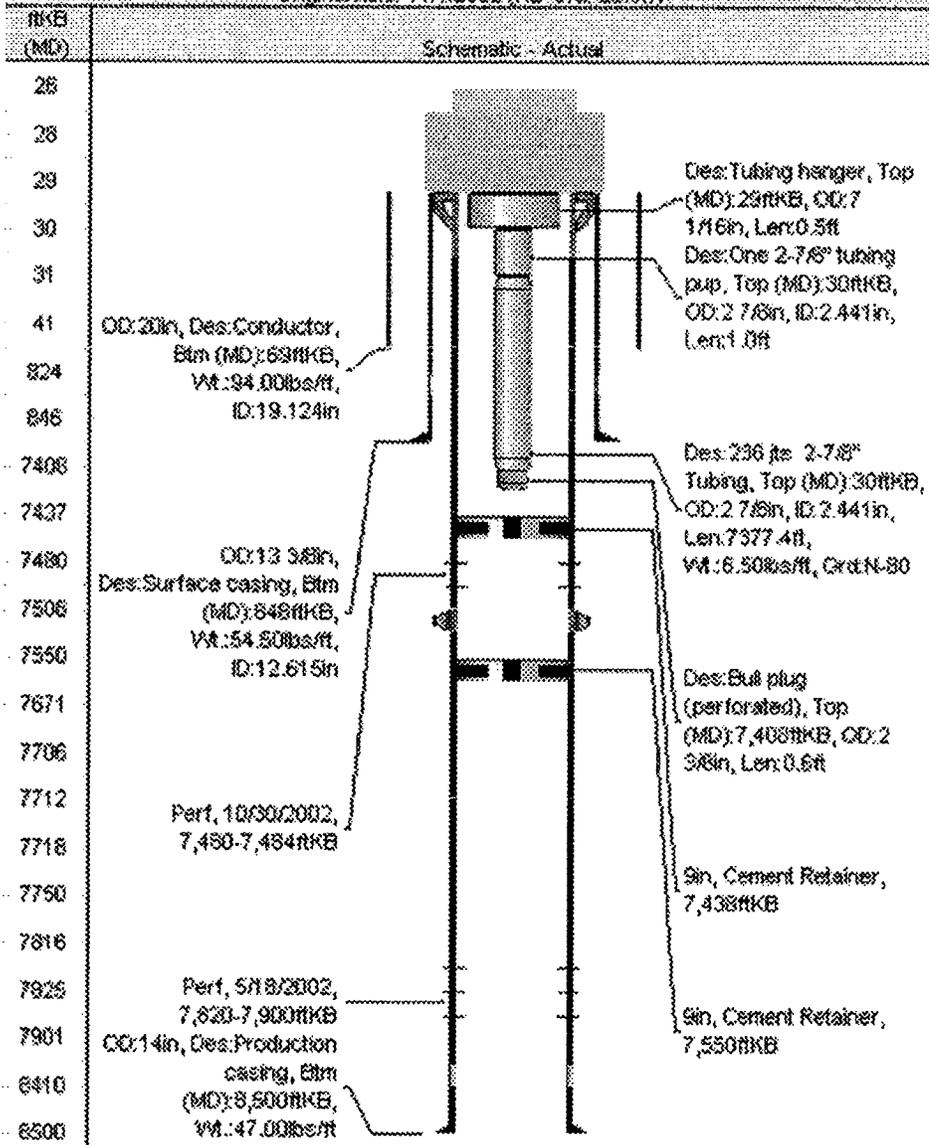
Insert seals (10') in PBR to stop and pick up 1 ft. Space out as required.

- 29) Land tubing and make up hold downs.
- 30) Install BPV, remove BOPE and install tree. Place well on production through test separator.
- 31) Replace laterals and place on production. Test frequently to verify.

Richard Jackson 20 March 2003

Approved:

Original hole: 11/1/2002 (KB-Grd: 29.0ft)



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

No. P203-64 _____

PERMIT TO CONDUCT WELL OPERATIONS

814
(field code)

00
(area code)

30
(new pool code)

30
(old pool code)

James D. Mansdorfer, Agent
Southern California Gas Co.
9400 Oakdale Ave.
Chatsworth CA 91313

Ventura, California
March 17, 2003

Your supplementary proposal to rework well "Porter" 69G,
A.P.I. No. 037-24225 Sec. 27, T. 3N, R. 16W, SB B.&M.,
Aliso Canyon field, _____ area, Sesnon-Frew pool
Los Angeles County, dated 03/14/2003 received 03/14/2003 has been examined in conjunction
with records filed in this office.

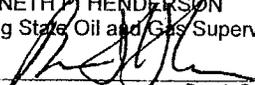
THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOGGR Class III 5M requirements shall be installed and maintained in operating conditions at all times.
2. Hole fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
4. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To inspect the installed blowout prevention equipment prior to commencing downhole operations.

The Division recommends, as a minimum, that carbon monoxide monitoring equipment and a vent line be installed and maintained operational during all extensive perforating operations.

SAF:sf

Engineer Steven A. Fields
Phone (805) 654-4761

KENNETH P. HENDERSON
Acting State Oil and Gas Supervisor
By 
Deputy Supervisor

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

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

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

Supp NOTICE OF INTENTION TO REWORK / REDRILL WELL **P203-64**

C.E.Q.A. INFORMATION (when redrilling or deepening only)			
Exempt <input type="checkbox"/>	Neg. Dec. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	Document not required by local jurisdiction <input type="checkbox"/>
Class _____	S.C.H. No. _____	S.C.H. No. _____	
See Reverse Side			

FOR DIVISION USE ONLY		
Bond	Forms	
	OGD1147	OGD1217
1,000,000	III ✓	115 ✓
		EDP Well File

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework/redrill well Porter 69G (Well designation) API No. 037-24225

Sec. 27 T. 3N 16W SBB&M. Aliso Canyon Field
Los Angeles, County.

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:
See attached program
13-3/8 casing cemented at 846'
9-5/8" casing cemented at 8500'.
Perforated 7900' - 7820'
Perforated 7480' - 7484' Squeezed with cement
9-5/8' Cement retainers at 7440' & 7550'

GS

2. The total depth is: 8500 feet. The effective depth is: 7440' feet.

3. Present completion zone (s): Frew (Name) Anticipated completion zone (s): _____ (Name)

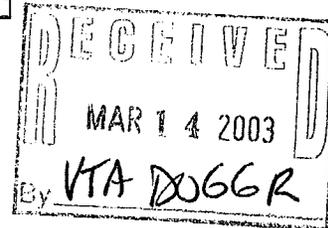
4. Present zone pressure: 3500 psi. Anticipated/existing new zone pressure: _____ psi.

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

(or)
Last injected: _____ (Date) (Water, B/D) (Gas, Mcf/D) 2660 (Surface pressure, psig)

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

The proposed work is as follows: (A complete program is preferred and may be attached.)
See attached program for squeeze cementing to isolate and test Frew.



For redrilling or deepening: _____ (Proposed bottom-hole coordinates) _____ (Estimated true vertical depth)

The division must be notified if changes to this plan become necessary.

Name of Operator Southern California Gas Company	Telephone Number 818-701-3251
Address 9400 Oakdale Av	City Chatsworth
Name of Person Filing Notice Richard Jackson	Signature
	Zip Code 91313
	Date 03-14-02

File In Duplicate

**PROGRAM to Isolate by Squeezing cement
Frac and Evaluate FREW**

3 March 2003

Porter 69G

Well was squeeze cemented to repair faulty primary cement job which led to gas leak from storage zone to upper sands. Repair has been confirmed and work will now be to evaluate the potential of storage zones with frac completions and to complete well as Injection / Withdrawal gas storage well.

DATE: 3 March 2003-RJ
Revisions: 12 March 2003-RJ

OPERATOR: Southern California Gas Company

FIELD: Aliso Canyon

WELL: Porter 69G

CONTRACTOR: Pool

OBJECTIVE: Clear well bore and log to evaluate cement.
Isolate Frew zone and test
Place well on Inj/WD

ACCOUNT: MWO Through step #15
GWO

ELEVATION: Take all measurements from the original KB = 29' above GL.

SAFETY: Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of any wellhead or near any other flammable material.

PRESENT CONDITIONS:

Porter 69G Clear well bore and test Frew 3-03

Casing:

0' - 848'	13-3/8"	54#	K-55	Cemented
0' - 8500'	9-5/8"	47#	N-80	Cemented
E.D. - 8407'				ECP @7505-7528'
7900'-7820'				Perforated 6 HPF (TVDTP=7500')
7480'-7484'				Squeezed perforations

Tubing:

248 Joints	2-7/8"	6.5#	N-80	EUE 8R
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Retainers

Halliburton EZSV	9-5/8"			7440' & 7550'
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Group List - Actual									
Conductor									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Casing Joints	20	94.00	K-55	19.124	29	69	40.0	29	
Surface casing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Csg head housing	13 3/8			12.615	28	29	1.0	28	
Casing Joints	13 3/8	54.50	K-55	12.615	29	824	794.8	29	
Float collar	13 3/8			12.615	824	825	1.5	824	
Casing Joints	13 3/8	54.50	K-55	12.615	825	846	21.1	825	
Float shoe	13 3/8			12.615	846	848	1.5	846	
Production casing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Tag head housing	9 5/8				26	27	1.0	26	
Cross Over	14			9.625	27	29	2.0	27	
Casing Hanger	9 5/8			8.681	29	30	1.0	29	
Casing Joints	9 5/8	47.00	N-80	8.681	30	7,505	7475.4	30	
External Casing Packer	9 5/8			8.681	7,505	7,528	22.2	7,204	
Casing Joints	9 5/8	47.00	N-80	8.681	7,528	8,409	881.4	7,225	
Float Collar	9 5/8			8.681	8,409	8,411	1.5		
Casing Joints	9 5/8	47.00	N-80	8.681	8,411	8,499	88.0		
Float Shoe	9 5/8			8.681	8,499	8,500	1.5		
Production tubing									
Des	OD	Wt.	Grd	ID	Top (MD)	Btm (MD)	Len	Top (TVD)	
Tubing hanger	2 7/8			2.441	29	30	0.5	0.5	
One 2-7/8" tubing pup	2 7/8			2.441	30	30	1.0	1.0	
236 jts. 2-7/8" Tubing	2 7/8			2.441	30	7,408	7377.4	7377.4	
Bull plug (perforated)	2 3/8				7,408	7,409	0.6	0.6	
Perforations									
Des	Int (MD)	Date	Top (TVD)		Com				
Perforated	7,480-7,484	10/30/2002	7,181		12, 1/2" holes - squeezed w/cmt				
Perforated	7,820-7,900	5/18/2002			TCP/4				
5/8-Inch/6-spf/DP/43EHD/30"Pen									
Formations									
Des	Top (MD)	Top (TVD)							
MP	7,074	6,808							
S1	7,472	7,174							
S2	7,503	7,202							
S4	7,538	7,235							
S6	7,572	7,266							
S8	7,610	7,301							
S10	7,648	7,337							
S12	7,675	7,362							
S14	7,757	7,438							
Frew	7,818								
CR	8,136								
Other in Hole									
Des	OD	Int (MD)							
Cement Retainer	9	7,438-7,440							
Cement Retainer	9	7,550-7,553							

Note: BOP requirements in 224.05 should be fully implemented. Class III should be followed.

Aliso Canyon is a Title V Facility: Check with Staff environmental specialist to assure all permits and procedures are properly recorded.

Porter 69G Clear well bore and test Frew 3-03

WELL WORK PROGRAM Porter 69G

Pre rig: DOGGR notice will be required for this procedure.

- 1) Laterals have been removed and well is full of 3% KCl.
- 2) Set 2) 500 barrel closed top tank and fill with 3% KCl water. Treat all water with ucarcide, 5 gallons per 100 barrels. Set tanks as required providing storage capacity for procedure. Use HEC polymer as necessary to keep well full and cleaned out.

Rig work:

- 1) Move in Pool production rig capable of 300,000#. Rig up. Sub base will not be needed on this work. Use working floor.
- 2) Remove tree and install Class III BOPE directly on 11"-5000psi flange. Fit BOPE with 2-7/8" pipe rams and CSO. BOPE must have connection and valve below the blind rams. Fit with 5000psi valve. (Keep wellhead/BOPE as low as practical).
- 3) Test BOPE system per Co. job instruction. Test to 5000psi. DOGGR to witness testing.
- 4) Lay down all 2-7/8" tubing.
- 5) Pick up 8-1/2" open bit on 12,000# of drill collars with 2 junk baskets and run in well on 3-1/2" tubing.
- 6) Drill out cement, and retainer to 7550'. Test casing and squeeze holes to 2000psi for 20 minutes.
- 7) Clean out retainer at 7550' and cement to 8400'. Watch for potential gas trapped below retainer.
- 8) Run 9-5/8" scraper to 8400'.
- 9) Rig up wireline and shoot 12 -- 1/2" squeeze holes at 8280'. Wireline set EZSV cement retainer at 8260'.
- 10) Stab into retainer at 8260' and establish breakdown. Squeeze cement with 200 CF "G" cement with water loss additive and friction reducer. Displace to retainer and pull out of retainer. Reverse clean.
 - a) Pump cement per mix on attached program.
 - b) Squeeze 200cf cement into perforations and clear tubing.
 - c) Stage squeeze in 10cf increments. If no squeeze is achieved over displace to clear well bore.
 - d) Repeat procedure until squeeze is achieved.
 - e) Monitor annulus pressure for communication with holes above.
 - f) Do not exceed frac pressure at holes while pumping until squeeze is achieved.
 - g) Volumes may be modified based on breakdown.

Porter 69G Clear well bore and test Frew 3-03

- h) Hold to pumpability limit of cement.
 - i) Wait for cement to set up overnight.
- 11) Run in well with EZSV retainer on 3-1/2" tubing and set at 7820'.
- a) Release from retainer and stab in.
 - b) Establish breakdown
- 12) Squeeze cement existing perforations (7900'-7820') with 200 CF "G" cement with water loss additive and friction reducer. Displace to retainer and pull out of retainer. Reverse clean.
- a) Pump cement per mix on attached program.
 - b) Squeeze 200cf cement into perforations and clear tubing.
 - c) Stage squeeze in 10cf increments. If no squeeze is achieved over displace to clear well bore.
 - d) Repeat procedure until squeeze is achieved.
 - e) Do not exceed frac pressure at holes while pumping until squeeze is achieved.
 - f) Volumes may be modified based on breakdown.
 - g) Hold to pumpability limit of cement.
 - h) Wait for cement to set up overnight.
- 13) Pick up bit and collars and drill out retainers at 8260' and 7820', and clean out cement to 8400'.
- 14) Run scraper to top of cement at 8400'.
- 15) Run cement bond log from 8400' to top of first squeezed cement estimated to be at 6800'. Tie in to USIT and open hole logs.
- 16) Run Halliburton TCP Guns and redressed packer in well and set at 8240'+-.
- a) Guns - 4) 1/2" holes per foot - spacing and correlation to be specified.
Perforation Intervals: 8290 to 8340'
 - b) 2-7/8 tubing as required for spacing
 - c) Packer at 8240'.
 - d) 2-7/8" tubing to surface.
- 17) Land tubing with pup joint and valve in place in top of hanger.
- 18) Fire guns and open tubing to testers.
- a) Flow well until stabilized.
 - b) Catch samples of oil water and gas.
 - c) Swab as required to fully evaluate.

Porter 69G Clear well bore and test Frew 3-03

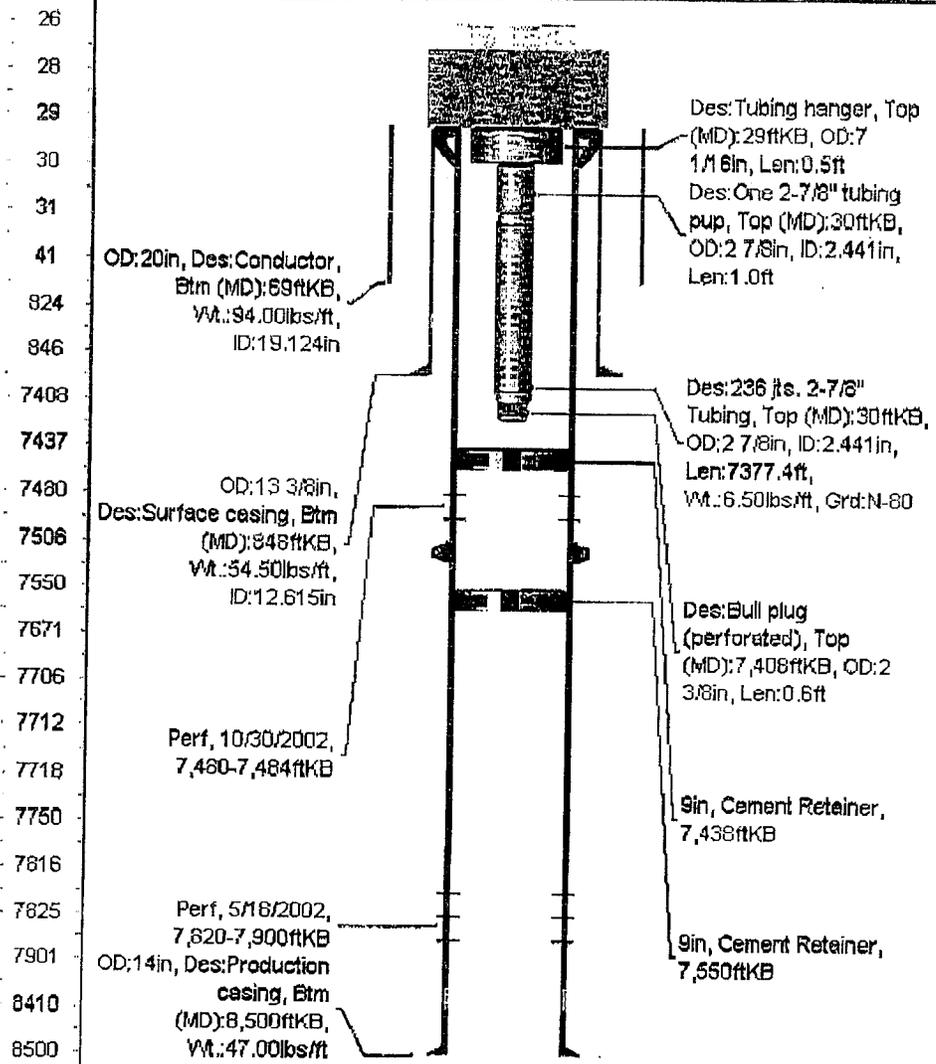
- d) Run temp/pressure survey at request of area engineer.
- 19) Dead head tubing volume of kill fluid and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required.
- 20) Wireline set CI Bridge plug at 8200'. Cap with cement using wireline dump bailer.
- 21) Run TCP Guns and packer redressed packer in well and set at 7800'.²+-.
- a) Guns - 4) 1/2" holes per foot - spacing and correlation to be specified.
- Perforation Intervals: 8095-8116; 7983-8035; 7940-7977; 7902-7935; 8063-8076
- b) 2-7/8 tubing as required for spacing
- c) Packer at 7800'.
- d) 2-7/8" tubing to surface.
- 22) Land tubing with pup joint and valve in place in top of hanger.
- 23) Fire guns and open tubing to testers.
- a) Flow well until stabilized.
- b) Catch samples of oil, water and gas.
- If well does not flow: Run gas lift string to 7750' and set packer. Unload well through test trap and produce until stabilized.
- 24) Dead head tubing volume of kill fluid and release packer. Circulate well. Pull and lay down guns and packer. Use HEC pill to establish circulation if required. Fill well with KCl down casing if gas lift was used, and dead head of 80 bbl of HEC polymer.
- 25) Remove Gas Lift equipment.
- 26) Run tubing to 7500'.
- 27) Perform casing frac per attached program.
- 28) Before polymer has degraded reverse out sand from well bore.
- 29) Rerun Gas Lift equipment as before.
- 30) Install BPV, remove BOPE and install tree. Place well on production through test separator.
- 31) Replace laterals and place on production through tubing WD. Test frequently to verify.

Richard Jackson 7 October 2002

Approved:

Original hole: 11/1/2002 (KB-Grd: 29.0ft)

ftKB (MD)	Schematic	Actual
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Porter 69G Clear well bore and test Frew 3-03

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

No. T202-241

Report on Operations

James D. Mansdorfer, Agent
SOUTHERN CALIFORNIA GAS COMPANY
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
November 5, 2002

Your operations at well "**Porter**" 69G, API No. 037-24225, Sec. 27, T. 3N, R.16W, S.B.B.&M. **Aliso Canyon** Field, in **Los Angeles** County, were witnessed on 10-27-2002. **Steve Mulqueen**, representative of the supervisor, was present from 1400 to 1600. There were also present **Mike Volkmar**.

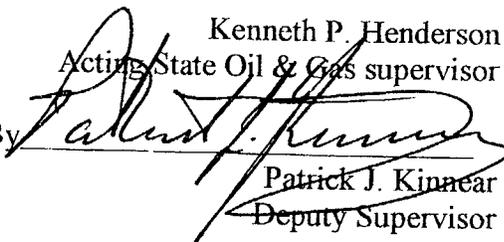
Present condition of well: 13 3/8" cem 848'; 9 5/8" cem 8500', perfs 7820'-7900'. TD 8500'.

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

DECISION:

The blowout prevention equipment and its installation on the 9 5/8" casing are approved.

tkc

Kenneth P. Henderson
Acting State Oil & Gas supervisor
By 
Patrick J. Kinnear
Deputy Supervisor

API No. 037-24025

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

202-241

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator SOUTHERN CALIF. GAS CO. Well "Porter" 69 G Sec. 27 T. 3N R. 16W
 Field ALISO CANYON County LOS ANGELES Spud Date 10-29-01

VISITS: Date Engineer Time Operator's Rep. Title
 1st 10-27-02 S. MULQUEEN (1400 to 1600) MIKE VOLKMAR FOREMAN
 2nd _____ (_____ to _____) _____ _____

Contractor KEY Rig # 432 Contractor's Rep. & Title MANUEL ARMENTA
 Casing record of well: 13 3/8" casing 848'; 9 7/8" casing 8500'; parts 7820' - 7900'; ID 8500'

OPERATION: Testing (inspecting) the blowout prevention equipment and installation. Critical well? Y N
 DECISION: The blowout prevention equipment and its installation on the 9 7/8 casing are approved.

Proposed Well Opns: REPAIR . MACP: _____ psi
 Hole size: _____ " fr. _____ " to _____ " to _____ " & _____ " to _____ " psi

REQUIRED BOPE CLASS:
III 5M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details		Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at			Casing	Annulus

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	-	HYDRIL	GK	5000										
RD	2 7/8	STAFFER	LWS	"		TEST PUMPUP CHART						10-27	3000	
RD	CSO	"	LWS	"									10-27	5000
													10-27	5000

ACTUATING SYSTEM			
Accumulator Unit(s) Working Pressure	<u>3000</u> psi	Total Rated Pump Output	_____ gpm
Distance from Well Bore	<u>50</u> ft.	Fluid Level	_____
Accum. Manufacturer	<u>KOONEY</u>	Capacity	<u>80</u> gal.
		Precharge	<u>1000</u> psi

TOTAL:		AUXILIARY EQUIPMENT						
Fill-up Line		No.	Size (in.)	Rated Press.	Connections			Test Press.
					Weld	Flange	Thread	
X Kill Line			<u>2 1/2</u>	<u>5K</u>	✓	✓	✓	<u>5K</u>
X Control Valve(s)	<u>2</u>					✓		<u>5K</u>
X Check Valve(s)	<u>2</u>					✓		<u>5K</u>
X Aux. Pump Connect.					✓			<u>5K</u>
X Choke Line			<u>2 1/2</u>	<u>5K</u>	✓	✓	✓	<u>5K</u>
X Control Valve(s)	<u>11</u>					✓		<u>5K</u>
X Pressure Gauge							✓	<u>5K</u>
X Adjustable Choke(s)	<u>2</u>	<u>3</u>				✓		<u>5K</u>
X Bleed Line			<u>2</u>				✓	<u>5K</u>
X Upper Kelly Cock							✓	<u>5K</u>
X Lower Kelly Cock	<u>1</u>	<u>2 1/2</u>	<u>5K</u>					<u>5K</u>
Standpipe Valve								<u>5K</u>
Standpipe Press. Gau.								<u>5K</u>
X Pipe Safety Valve	<u>1</u>	<u>2 1/2</u>	<u>5K</u>					<u>5K</u>
X Internal Preventer			<u>2 1/2</u>	<u>5K</u>				<u>5K</u>

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

EMERG. BACKUP SYSTEM			
N ₂ Cylinders	1	L=	<u>1750</u> gal.
Other:	2	L=	<u>2000</u> gal.
	3	L=	<u>2000</u> gal.
	4	L=	<u>2050</u> gal.
	5	L=	_____ gal.
	6	L=	_____ gal.
TOTAL:			_____ ga

HOLE FLUID MONITORING			
X Calibrated Mud Pit			A
Pit Level Indicator		✓	
Pump Stroke Counter			B
Pit Level Recorder			
Flow Sensor			C
Mud Totalizer			
Calibrated Trip Tank			
Other:			

Hole Fluid Type	Weight	Storage Pits (Type & Size)
<u>KOR WATER</u>		<u>200 BBL</u>

REMARKS AND DEFICIENCIES:
1. MINOR LEAK IN SIDE OF ROOM, CORRECTED

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

No. P202-192

PERMIT TO CONDUCT WELL OPERATIONS

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

James D. Mansdorfer, Agent
Southern California Gas Co.
9400 Oakdale Ave.
Chatsworth CA 91313

Gas Storage

Ventura, California
October 23, 2002

Your _____ proposal to repair well "Porter" 69G
A.P.I. No. 037-24225 Sec. 27, T. 3N, R. 16W, SB B.&M.,
Aliso Canyon field, _____ area, Sesnon-Frew pool
Los Angeles County, dated 10-22-2002 received 10-22-2002 has been examined in conjunction
with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

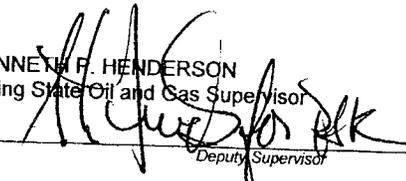
1. Blowout prevention equipment conforming to DOGGR Class III 5M requirements shall be installed and maintained in operating conditions at all times.
2. Hole fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
4. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To inspect the installed blowout prevention equipment prior to commencing downhole operations.

Please submit one copy of the temperature/noise log that indicated a leak outside of casing at the top of the storage zone and one copy of the temperature noise log that indicates repairs have been successful.

SAF:sf
Super Blanket Bond

Engineer Steven A. Fields
Phone (805) 654-4761

KENNETH F. HENDERSON
Acting State Oil and Gas Supervisor

By 
Deputy Supervisor

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

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

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

NOTICE OF INTENTION TO REWORK / REDRILL WELL **P202-192**

*010
DD
30
SERIAL*

C.E.Q.A. INFORMATION (when redrilling or deepening only)			
Exempt <input type="checkbox"/>	Neg. Dec. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	Document not required by local jurisdiction <input type="checkbox"/>
Class _____	S.C.H. No. _____	S.C.H. No. _____	
<small>See Reverse Side</small>			

FOR DIVISION USE ONLY			
Bond	Forms		EDP Well File
	OGD114	OGD121	
1,000,000	✓	✓	
	<i>111V</i>	<i>115V</i>	

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework/redrill well Porter 69G (Circle one) (Well designation) API No. 037-24225

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

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:
See attached program
13-3/8 casing cemented at 846'
9-5/8" casing cemented at 8500'.
Perforated 7900' - 7820'

GS

2. The total depth is: 8500 feet. The effective depth is: 8407 feet.

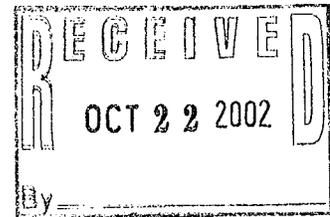
3. Present completion zone (s): Frew (Name) Anticipated completion zone (s): _____ (Name)

4. Present zone pressure: 3500 psi. Anticipated/existing new zone pressure: _____ psi.

5. Last produced: _____ (Date) (Oil, B/D) (Water, B/D) (Gas, Mc/D)

(or)
Last injected: _____ (Date) (Water, B/D) (Gas, Mc/D) 2660 (Surface pressure, psig)

6. Is this a critical well according to the definition on the reverse side of this form? Yes No
The proposed work is as follows: (A complete program is preferred and may be attached.)
See attached program for squeeze cementing



For redrilling or deepening: _____ (Proposed bottom-hole coordinates) (Estimated true vertical depth)

The division must be notified if changes to this plan become necessary.

Name of Operator Southern California Gas Company	Telephone Number 805 253-7077
Address 9400 Oakdale Av	City Chatsworth Zip Code 91313
Name of Person Filing Notice Richard Jackson	Signature <i>Richard Jackson</i> Date 10-22-02

OG107 (7/97/GSR/5M)

Post-It [®] Fax Note	7671	Date	10-22-02	# of pages	7
To	STEVE FIELDS	From	R. JACKSON		
Co./Dept.	DOGGR	Co.	THE GAS CO		
Phone #		Phone #	818 701 3251		
Fax #	805 654-4765	Fax #	818 701 4554		

CEMENT SQUEEZE PROGRAM**22 October 2002****Porter 69G**

DATE: 22 October 2002

OPERATOR: Southern California Gas Company

FIELD: Aliso Canyon

WELL: Porter 69G

CONTRACTOR: Key

OBJECTIVE: Repair leak outside casing at top of storage zone using 2-7/8" tubing from well for work string.

ACCOUNT:

ELEVATION: Take all measurements from the original KB = 29' above GL.

SAFETY: Hard hats are to be worn by all personnel on or near a rig. No smoking is permitted within 100' of any wellhead or near any other flammable material.

PRESENT CONDITIONS:**Casing:**

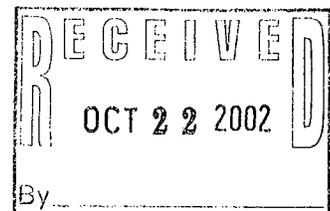
0' - 848'	13-3/8"	54#	K-55	Cemented
0' - 8500'	9-5/8"	47#	N-80	Cemented
E.D. - 8407'				ECP @7505-7528'
7900'-7820'				Perforated 6 HPF (TVDTP=7500')

Tubing:

248 Joints+ pups	2-7/8"	6.5#	N-80	EUE 8R
---------------------	--------	------	------	--------

Packer

Halliburton G-6	9-5/8"			Top at 7711'
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Note: BOP requirements in 224.05 should be fully implemented. Class III should be followed. Reservoir is at high inventory and pressures should be monitored regularly.

Also Canyon is a Title V Facility: Check with Staff environmental specialist to assure all permits and procedures are properly recorded.

WELL WORK PROGRAM Porter 69G

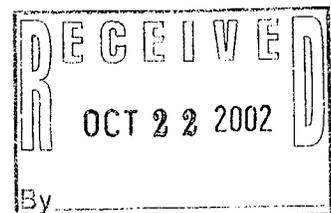
Pre rig: DOGGR notice will be required for this procedure.

1. Remove laterals and install companion flanges for killing well.
2. Mix and fill 500 barrel closed top tank with 3%KCl use sufficient KCl for adequate fluid weight to obtain 500psi overbalance. MI drilling fluids (661) 598-6370. Treat all water with ucarcide, 5 gallons per 100 barrels. Set tanks as required providing storage capacity for procedure.

Rig work:

3. Move in production rig capable of 180,000#. Rig up. Sub base will not be needed on this work. Use working floor.
4. Set 2-7/8" LH Shaffer BPV. Install Class III BOPE directly on 11"-5000psi flange. Fit BOPE with 2-7/8" pipe rams and CSO. BOPE must have connection and valve below the blind rams. Fit with 5000psi valve. (Keep wellhead/BOPE as low as practical).
5. Test BOPE system per Co. job instruction. Test to 5000psi.
 - a. On 9-18-02 wellhead pressure was 2660psi. TVD=7500'.
 - b. Connect pump to tubing and vent casing through choke manifold to Gas Co. system
6. Pump 80 barrels of high viscosity XC polymer down tubing.
7. Install 1 jt of 2-7/8" N-80 tubing in tubing hanger with Safety valve in top. Work RH torque in tubing to get 1/4 turn at packer. Pick up to equalize across packer. (4000# above string weight) Continue picking up to automatically "J" to running position. Allow element to relax then work up and down until free.
8. Circulate well and maintain 500psi overbalance while pumping. Vent gas through choke to Gas Co. system. Circulate well volume and confirm well is dead on both tubing and casing before proceeding. Hold back pressure and weight system as required.
9. Pull out of well with packer and TCP assembly. Lay down all tubing accessories. Call HES to handle radioactive marker sub and to redress packer.
10. Rig up Schlumberger and run USIT log from top of cement inside 9-5/8" casing at 8407' to top of gas migration. Modify depths based on results of USIT log as required. Orient log to show "high side" of hole.

Porter 69G Shoe Leak Repair 10-02



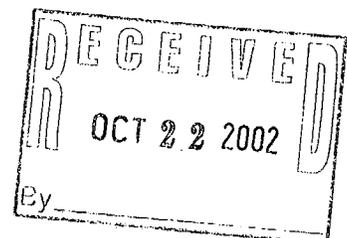
11. Perforate 12) ½" holes at 7480'. Locate ECP and allow 20' above ECP. (Note: perforations may be oriented based on results of USIT)
12. Pick up retrievable bridge plug and set at 7550'. Cap with sand.
13. Run in with Packer and set at 7400'.
 - a. Use circulation valve on packer to allow reverse circulation.
 - b. Take returns through manifold to allow backpressure while reverse circulating.
14. Establish breakdown rate with water.
 - a. Pressure test casing to 1500psi for 20 minutes.
 - b. Hold 500psi on casing to monitor seal through out cementing.
15. Pump pre-flush per attached program.
16. Pump cement per mix on attached program.
 - a. Squeeze 100cf cement into perforations and clear tubing. (Modify volumes based on breakdown rates.
 - b. Stage squeeze in 10cf increments. If no squeeze is achieved over displace with water to clear well bore.
 - c. Repeat procedure until squeeze is achieved.
 - d. Do not exceed frac pressure at holes while pumping until squeeze is achieved.
17. Pull out of packer and reverse 2 tubing volumes. Hold cement in place with backpressure while reversing.
18. Pull out of well and lay down packer. Run tubing in well and land on hanger.

Suspend operations and release rig.

When operations resume:

19. Pick up 8-1/4" bit and 2) 6" collars and run in well. Drill out cement to below holes. Increase viscosity as required, with HEC polymer, to clean hole. Pressure test holes to 1500psi for 20 minutes. Record test on chart. Drill out to top of sand plug Run scraper to top of BP.
20. Rerun USIT from top of cement to above gas migration.
21. Re-cement if required otherwise, retrieve bridge plug. (Refer to step 13)
22. Run Halliburton redressed G-6 packer in well and set at 7700'+-.
 - a. Packer
 - b. 1 Jt tubing
 - c. Use 2-7/8" XN

Porter 69G Shoe Leak Repair 10-02



- d. 1 Jt tubing
- e. Use 2-7/8" "XD" sliding sleeve
- f. 2-7/8" tubing to surface.

23. Land tubing and set BPV. Remove BOP and install and test head.

24. Release rig.

Post Rig

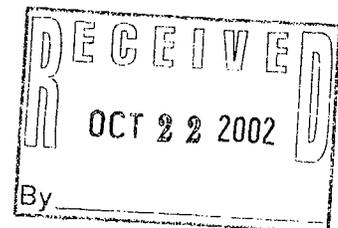
- 1. Clean location.
- 2. Monitor well with temp/noise log to confirm repair.
- 3. Laterals will be replaced after additional completion work.

Richard Jackson 22 October 2002

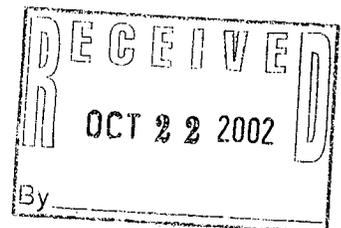
Approved:

Jim Mansdorfer

Date



Group List - Actual						
Wellbore						
	Des	OD	Int (MD)			
	Main Hole	17 1/2	29-853			
	Main Hole	12 1/4	853-8,500			
Conductor						
No.	Des	OD	ID	Top (MD)	Len	
3.2	Casing Joints	20	19,124	29	40.0	
Surface casing						
No.	Des	OD	ID	Top (MD)	Len	
1.1	Csg head housing	13 3/8	12,615	28	1.0	
1.2	Casing Joints	13 3/8	12,615	29	794.8	
1.3	Float collar	13 3/8	12,615	824	1.5	
1.4	Casing Joints	13 3/8	12,615	825	21.1	
1.5	Float shoe	13 3/8	12,615	846	1.5	
Production casing						
No.	Des	OD	ID	Top (MD)	Len	
2.1	Tbg head housing	9 5/8		27	1.0	
2.2	Casing Hanger	9 5/8	8,661	28	1.0	
2.3	Casing Joints	9 5/8	8,661	29	7476.4	
2.4	External Casing Packer	9 5/8	8,661	7,505	22.2	
2.5	Casing Joints	9 5/8	8,661	7,528	881.4	
2.6	Float Collar	9 5/8	8,661	8,409	1.5	
2.7	Casing Joints	9 5/8	8,661	8,411	68.0	
2.8	Float Shoe	9 5/8	8,661	8,499	1.5	
Tubing - Production						
No.	Des	OD	ID	Top (MD)	Len	
1.1	Tubing hanger	7 1/8	2,441	27	0.6	
1.2	Tubing pup	2 7/8	2,441	28	1.7	
1.3	Tubing pup	2 7/8	2,441	29	6.1	
1.4	Tubing pup	2 7/8	2,441	35	5.9	
1.5	244 joints tubing	2 7/8	2,441	41	7629.5	
1.6	Radioactive marker	2 7/8	2,441	7,671	4.1	
1.7	1 joint tubing	2 7/8	2,441	7,675	31.5	
1.8	Tubing pup	2 7/8	2,441	7,706	4.1	
1.9	Cross over	4 3/4	2,441	7,711	1.1	
1.10	Halliburton G-6 packer	8 3/8	4,000	7,712	5.3	
1.11	Cross over	4 3/4	2,441	7,717	1.2	
1.12	1 joint tubing	2 7/8	2,441	7,718	30.4	
1.13	TCP Gun Fluid Isolation Sub	3 7/8	2,250	7,749	1.4	
1.14	2 joints tubing	2 7/8	2,441	7,750	61.0	
1.15	TCP Gun Firing Head	2 7/8	1,562	7,811	5.0	
1.16	TCP Gun Spacer	4 5/8		7,816	4.0	
1.17	TCP Gun Assembly	4 5/8		7,820	80.0	
1.18	Bull plug	4 5/8		7,900	1.1	
Cement						
	Des	Int (MD)		Date		
	835 C.F	29-848		10/31/2001		
	Lead slurry	29-8,295		11/20/2001		
	Tail #1	8,295-7,819		11/20/2001		
	Float equipment plug	8,409-8,500		11/20/2001		
	Tail #2	7,819-8,500		11/20/2001		
Perforations						
	Des	Int (MD)	Date			
	Perforated	7,820-7,900	5/18/2002			
Formations						
	Des	Top (MD)				
	MP	7,074				
	S1	7,472				
	S2	7,503				
	S4	7,538				
	S6	7,572				
	S8	7,610				
	S10	7,648				
	S12	7,675				
	S14	7,757				
	Frew	7,818				
	CR	8,136				



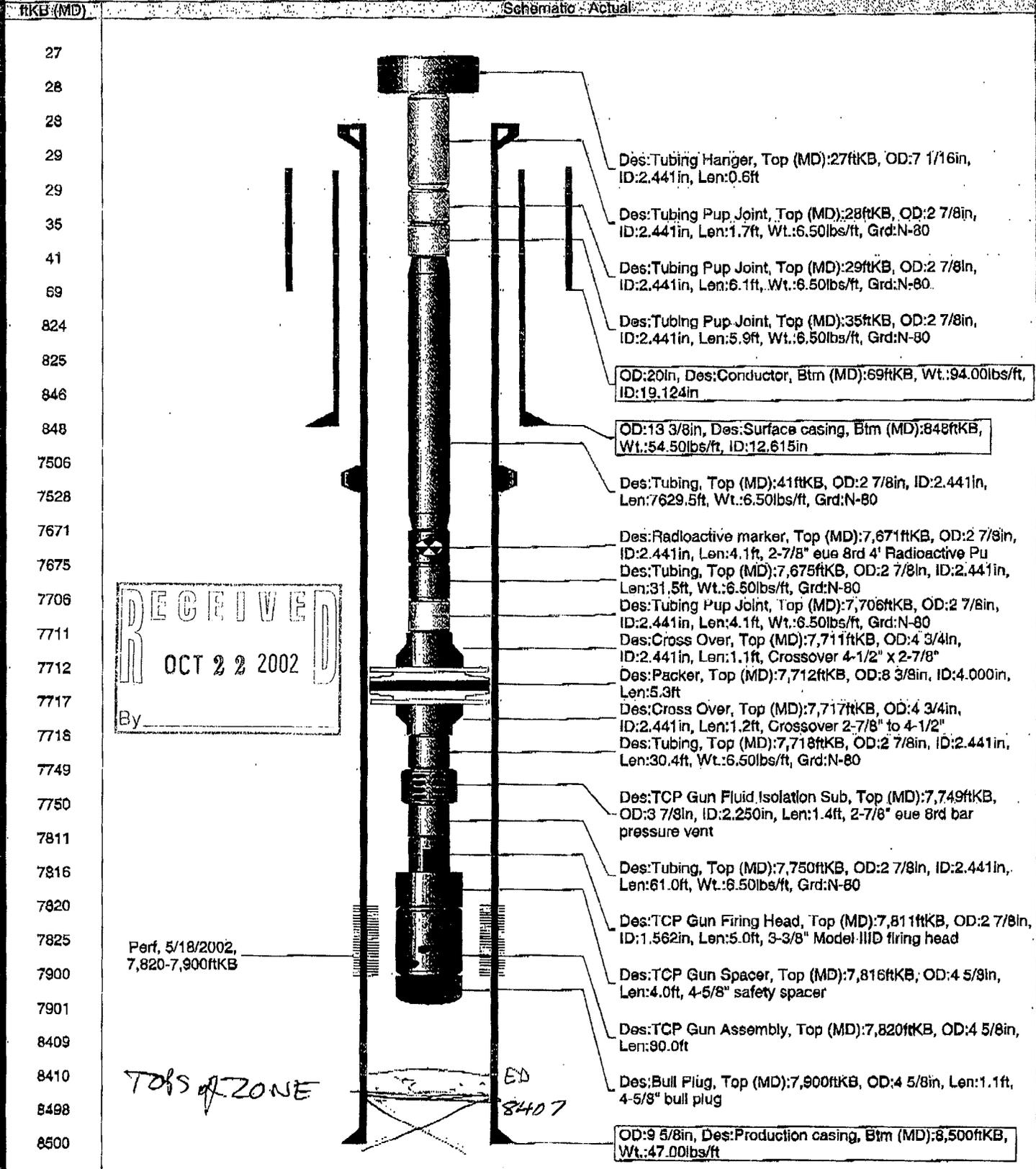
Porter 69 G

Current Schematic

API 037-24225	Field Name Aliso Canyon	Operator Southern California Gas Company	County Los Angeles	State California
Ground Elevation (ft) 2366.00	KB-Ground Distance (ft) 29.00	Spud Date 10/30/2001		

Main Hole: 5/18/2002 (KB-Grd: 29.0ft)

Schematic - Actual



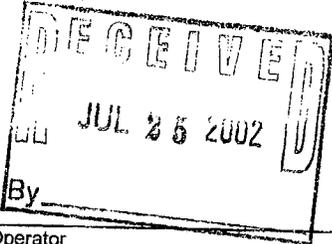
RECEIVED
OCT 22 2002
By _____

Perf, 5/18/2002,
7,820-7,900ftKB

TOBS ZONE

ED
8407

- Des:Tubing Hanger, Top (MD):27ftKB, OD:7 1/16in, ID:2.441in, Len:0.6ft
- Des:Tubing Pup Joint, Top (MD):28ftKB, OD:2 7/8in, ID:2.441in, Len:1.7ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:Tubing Pup Joint, Top (MD):29ftKB, OD:2 7/8in, ID:2.441in, Len:6.1ft, Wt.:6.50lbs/ft, Grd:N-80.
- Des:Tubing Pup Joint, Top (MD):35ftKB, OD:2 7/8in, ID:2.441in, Len:5.9ft, Wt.:6.50lbs/ft, Grd:N-80
- OD:20in, Des:Conductor, Btm (MD):69ftKB, Wt.:94.00lbs/ft, ID:19.124in
- OD:13 3/8in, Des:Surface casing, Btm (MD):848ftKB, Wt.:54.50lbs/ft, ID:12.615in
- Des:Tubing, Top (MD):41ftKB, OD:2 7/8in, ID:2.441in, Len:7629.5ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:Radioactive marker, Top (MD):7,671ftKB, OD:2 7/8in, ID:2.441in, Len:4.1ft, 2-7/8" eue 8rd 4" Radioactive Pu
- Des:Tubing, Top (MD):7,675ftKB, OD:2 7/8in, ID:2.441in, Len:31.5ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:Tubing Pup Joint, Top (MD):7,706ftKB, OD:2 7/8in, ID:2.441in, Len:4.1ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:Cross Over, Top (MD):7,711ftKB, OD:4 3/4in, ID:2.441in, Len:1.1ft, Crossover 4-1/2" x 2-7/8"
- Des:Packer, Top (MD):7,712ftKB, OD:8 3/8in, ID:4.000in, Len:5.3ft
- Des:Cross Over, Top (MD):7,717ftKB, OD:4 3/4in, ID:2.441in, Len:1.2ft, Crossover 2-7/8" to 4-1/2"
- Des:Tubing, Top (MD):7,718ftKB, OD:2 7/8in, ID:2.441in, Len:30.4ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:TCP Gun Fluid Isolation Sub, Top (MD):7,749ftKB, OD:3 7/8in, ID:2.250in, Len:1.4ft, 2-7/8" eue 8rd bar pressure vent
- Des:Tubing, Top (MD):7,750ftKB, OD:2 7/8in, ID:2.441in, Len:61.0ft, Wt.:6.50lbs/ft, Grd:N-80
- Des:TCP Gun Firing Head, Top (MD):7,811ftKB, OD:2 7/8in, ID:1.562in, Len:5.0ft, 3-3/8" Model IIIID firing head
- Des:TCP Gun Spacer, Top (MD):7,816ftKB, OD:4 5/8in, Len:4.0ft, 4-5/8" safety spacer
- Des:TCP Gun Assembly, Top (MD):7,820ftKB, OD:4 5/8in, Len:90.0ft
- Des:Bull Plug, Top (MD):7,900ftKB, OD:4 5/8in, Len:1.1ft, 4-5/8" bull plug
- OD:9 5/8in, Des:Production casing, Btm (MD):8,500ftKB, Wt.:47.00lbs/ft



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

WELL SUMMARY REPORT

API NO. 037-24225

Operator Southern California Gas Company		Well Porter 69 G				
Field Aliso Canyon		County Los Angeles	Sec. 28	T. 3N	R. 16W	B.&M. S.B.
Location (Give surface location from property or section corner, street center line) 873' South and 3413' West from Station 84					Elevation of ground above sea level 2366'	
California Coordinates (if known):						
Was the well directionally drilled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, show coordinates at total depth. 7215' TVD , 1104'.00 N and 1120.00' E						

Commenced drilling (date) 10/29/01	(1st hole) 8500'	Total depth (2nd)	(3rd)	Depth measurements taken from top of: <input type="checkbox"/> Derrick Floor <input type="checkbox"/> Rotary Table <input checked="" type="checkbox"/> Kelly Bushing										
Completed drilling (date) 11/18/01	Present effective depth 8409'			Which is 29 feet above ground										
Commenced production/injection (date)	Production mode: <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas lift			<table border="1"> <thead> <tr> <th>GEOLOGICAL MARKERS</th> <th>DEPTH</th> </tr> </thead> <tbody> <tr> <td>MP</td> <td>7073'</td> </tr> <tr> <td>S4</td> <td>7538'</td> </tr> <tr> <td>Frew</td> <td>7819'</td> </tr> <tr> <td>Cretaceous</td> <td>8138'</td> </tr> </tbody> </table>	GEOLOGICAL MARKERS	DEPTH	MP	7073'	S4	7538'	Frew	7819'	Cretaceous	8138'
GEOLOGICAL MARKERS	DEPTH													
MP	7073'													
S4	7538'													
Frew	7819'													
Cretaceous	8138'													
Name of production/injection zone(s) Frew	Junk None			Formation and age at total depth Cretaceous										
				Base of fresh water										

	Clean Oil (bbl per day)	API Gravity (clean oil)	Percent Water (including emulsion)	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production				Gas Storage	2100 psi.	2100 psi.
Production After 30 days						

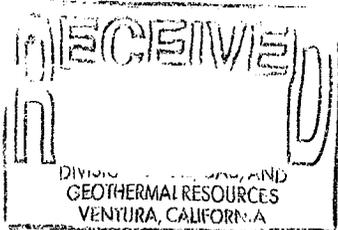
Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New (N) or Used (U)	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)	Top(s) of Cement in Annulus
13 3/8"	30' KB	848' KB	54.5 #	N-80 SMLS	N	17-1/2"	729 sks.	Shoe	Surface
9 5/8"	30' KB	8500' KB	47 #	N-80 SMLS	N	12-1/4"	2327 sks.	Shoe	Surface

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

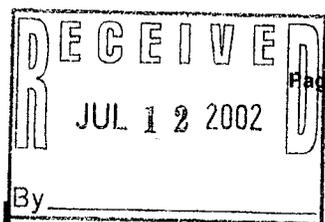
7820' - 7900', 5/8" holes, six holes per foot, gun perforated.
Logs/surveys run? Yes No If yes, list type(s) and depth(s).

Wellbore deviation survey 72' to TD. Platform Express array from 848' to 8500'.
In compliance with Sec. 3215, Division 3, of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name Mike Dozier	Title Technical Specialist
Address P. O. Box 2300, M.L. SC 9365	City/State Chatsworth, CA
Telephone Number 818.701.3235	Zip Code 91313-2300
Signature <i>Mike Dozier</i>	Date July 5, 2002



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



HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Porter 69 G
A.P.I. No. 037-24225

Field: Aliso Canyon
County: Los Angeles
Surface Location: Sec 28, T3N, R16W, SBB&M
Mike Dozier
(Person Submitting Report)
Title: Storage Manager
(President, Secretary, or Agent)

Date: 7/11/2002

Signature: *Mike Dozier*

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: (818) 701-3235

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

Start Date	Ops This Rpt
10/28/2001	Move rig from P-69-F to P-69-G. Rigged up.
10/29/2001	Spud @ 13:30. Drilled 17-1/2" hole with mud motor from 73' to 460'.
10/30/2001	Drilled from 460' to 853'.
10/31/2001	Ran 13-3/8" 54.5# K-55 casing to 848', float collar @ 824'. Cemented well with 729 sacks, 835 cu/ft. cement slurry 34% excess. Good circulation through out cement job, 14 bbls. cement returns, cement in place @ 15:30. Cement mix lead 65-35 poz cement with 6% gel, 2% CaCl, 0.25pps cellophane. Tail: class G cement with 2% CaCl, 0.25 pps cellophane. Installed wellhead, X-Ray OK. Installed B.O.P
11/1/2001	Nipped up Class III B 5000# B.O.P, tested B.O.P. and choke manifold to 2500 psi., tested annular preventer to 1500 psi. Steve Mulqueen DOGGR approved all tests.
11/2/2001	Drilled 12-1/4" hole from 853' to 1724'.
11/3/2001	Drilled from 1724' to 2912'.
11/4/2001	Drilled from 2912' to 3747'.
11/5/2001	Drilled from 3747' to 4691'.
11/6/2001	Drilled from 4691' to 5485'.
11/7/2001	Drilled from 5485' to 6501'.
11/8/2001	Drilled from 6501' to 6750'.
11/9/2001	Drilled from 6750' to 7387'.
11/10/2001	Drilled from 7387' to 7646'.
11/11/2001	Drilled from 7646' to 7769'.
11/12/2001	Drilled from 7769' to 7947'.
11/13/2001	Reamed well bore from 2200' to 4355'. Spot reamed from 4800' to 7947'. Cleaned out 14' of fill. Drilled from 7947' to 8010'
11/14/2001	Drilled from 8010' to 8500'.
11/15/2001	Ran Platform Express Array Induction/GR/SP Density/Neutron/ML. from 8436' to 848'. Ran four arm caliper & gamma ray. Drilled 12-1/4" hole from 8034' to 8065'.
11/16/2001	Drilled from 8065' to 8142'.
11/17/2001	Drilled from 8142' to 8475'.
11/18/2001	Drilled from 8475' to 8500'. Ran Platform Express Array Induction /GR/SP Density/Neutron/ML, from 8490' to 6800'.
11/19/2001	Ran 9-5/8" 47# N-80 casing to 8500'. Was unable to work pipe after tagging bottom. Circulated casing.
11/20/2001	Circulated and worked pipe, unable to work casing. Rigged up cementers, pressure tested lines to 4000 psi. OK, precede cement with 25 bbls. mud flush, 25 bbls. ultra flush. Lead: 347 bbls. of class G cement @ 12 ppg., 1943 cu/ft., 0.2% FL-62 + 2 gals /100 sacks FP-6L + 2.5% bwoc Sodium Metasilicate + 7.5 % bwoc MPA-1+1.25% bwoc, R-3 +132.2% fresh water. # 1 tail slurry: 84 bbls. 15.8 ppg., 470 cu/ft., class G cement +0.5% bwoc R-3+ 0.4% bwoc FL-63 + 0.5% bwoc CD-32+1 gal /100 sacks FP-6L + 0.3% bwoc Sodium Metasilicate + 30.3% fresh water. # 2 tail: 45 bbls. 15.8 ppg., 252 cu/ft. class G cement, BA-86L + 0.5% bwoc R-3 + 0.5% bwoc FL-63 + 0.5% bwoc CD-32 2 gals /100 sacks FP-6L + 0.3% bwoc Sodium Metasilicate + 30.2% fresh water. Good circulation through out cement job. 70 bbls. cement returns.
11/21/2001	Ran 9-5/8" scraper to top float collar @ 8409'. Changed well over to 3% KCL water. Removed BOP, installed well head. Released rig @ 22:30 Hrs.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
 Well: Porter 69 G
 A.P.I. No. 037-24225

Field: Aliso Canyon
 County: Los Angeles
 Surface Location: Sec 28, T3N, R16W, SBB&M
 Mike Dozier
(Person Submitting Report)
 Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 7/11/2002

Signature: *Mike Dozier*

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: (818) 701-3235

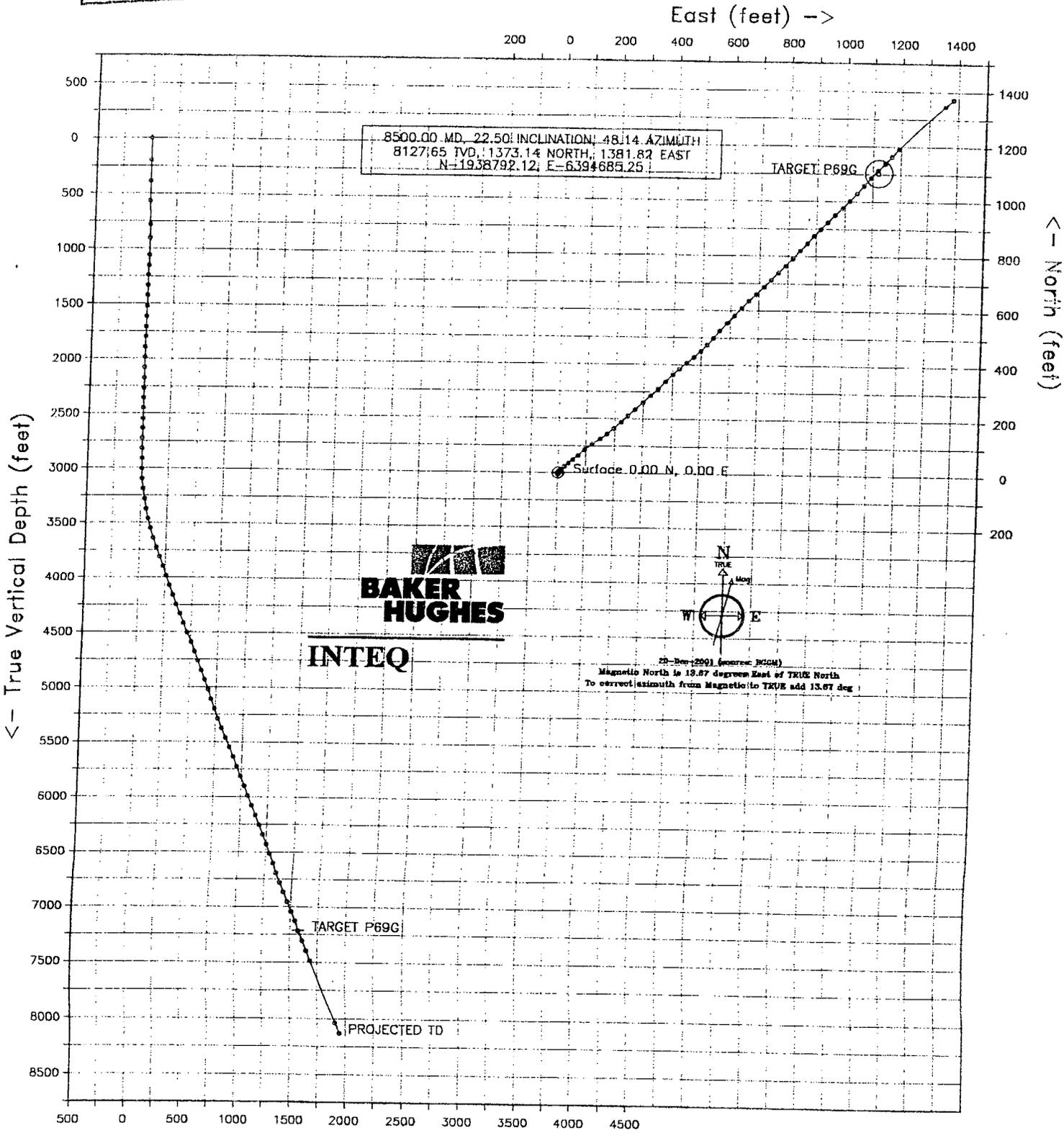
History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment, with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and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

Start Date	Ops This Rpt
5/17/2002	Moved in and rigged up Pool 377# rig. Removed tree, rigged up tubing equipment. Made up 4-5/8" Vannguns 6SPF RDX DP 80 ft. loaded, 4-5/8" safety spacer, 3-3/8" model IIID firing head, two joints 2-7/8" N-80 tubing, 2-7/8" bar pressure vent, one joint of 2-7/8" tubing, 9-5/8" G-6 Mec packer, 2-7/8" pup, one joint 2-7/8" tubing, 2-7/8" 4 ft. R/A sub. Measured and picked up 81 joints , filled tubing, ran in well picking up tubing to 7917'.
5/18/2002	Rigged up loggers, ran depth log. Put R/A tag on depth @ 7670.88'. Spaced out tubing string and set G-6 packer @ 7710' with 16K on packer. Tubing up wt. 50K down wt. 32K. Installed and tested tree to 5000# psi. OK. Dropped bar to fire guns @ 12:00 noon. Fluid to surface in 4 minutes. Perforated well 80' from 7900' to 7820'. Flowed well for 2 Hrs. Total fluid gain 16 Bbls. Shut well in.

RECEIVED
 JUL 25 2002
 By _____

THE GAS COMPANY

Structure : PORTER LEASE Well : PORTER 69G
 Field : ALISO CANYON Location : CALIFORNIA



Vertical Section (feet) -->

Azimuth 45.41 with reference 0.00 N, 0.00 E from PORTER 69G

THE GAS COMPANY
PORTER LEASE

PORTER 69G
PORTER 69G
ALISO CANYON
CALIFORNIA

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : PORTER 69G MWD
Our ref : svy22692
License :

Date printed : 16-Jan-2002
Date created : 31-Oct-2001
Last revised : 19-Nov-2001

Field is centred on n34 15 58.360,w118 32 55.220,-117
Structure is centred on n34 15 58.360,w118 32 55.22

Slot location is n34 18 53.437,w118 33 27.334
Slot Grid coordinates are N 1937426.600, E 6393296.019
Slot local coordinates are 17699.11 N 2693.76 W

Projection type: lambert, NAD83 - California V (0405), Spheroid: NAD 83

Reference North is True North

THE GAS COMPANY
 PORTER LEASE, PORTER 69G
 ALISO CANYON, CALIFORNIA

SURVEY LISTING Page 1
 Your ref : PORTER 69G MWD
 Last revised : 19-Nov-2001

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect	G R I D Easting	C O O R D S Northing
0.00	0.00	0.00	0.00	0.00N	0.00E	0.00	0.00	6393296.02	1937426.60
197.00	0.50	308.00	197.00	0.53N	0.68W	0.25	-0.11	6393295.34	1937427.13
383.00	0.25	42.00	382.99	1.33N	1.05W	0.31	0.19	6393294.98	1937427.94
567.00	1.25	59.00	566.98	2.66N	0.94E	0.55	2.54	6393296.98	1937429.26
780.00	1.75	67.00	779.90	5.13N	5.93E	0.25	7.82	6393301.98	1937431.70
902.00	1.20	47.10	901.86	6.73N	8.58E	0.61	10.83	6393304.64	1937433.28
1057.00	1.50	251.00	1056.85	7.17N	7.85E	1.70	10.63	6393303.91	1937433.73
1148.00	1.80	251.00	1147.81	6.32N	5.37E	0.33	8.26	6393301.43	1937432.89
1239.00	1.00	202.80	1238.78	5.12N	3.71E	1.49	6.24	6393299.76	1937431.70
1330.00	1.10	176.10	1329.77	3.52N	3.47E	0.54	4.94	6393299.50	1937430.10
1424.00	1.00	148.30	1423.75	1.92N	3.96E	0.55	4.17	6393299.99	1937428.50
1521.00	1.10	175.40	1520.74	0.27N	4.48E	0.52	3.38	6393300.50	1937426.85
1615.00	1.80	236.20	1614.71	1.45S	3.32E	1.69	1.35	6393299.33	1937425.13
1709.00	0.70	250.30	1708.69	2.46S	1.56E	1.21	-0.62	6393297.56	1937424.13
1799.00	0.50	188.10	1798.68	3.04S	0.98E	0.71	-1.43	6393296.98	1937423.56
1894.00	0.40	170.10	1893.68	3.78S	0.98E	0.18	-1.95	6393296.98	1937422.82
1988.00	0.40	175.40	1987.68	4.43S	1.06E	0.04	-2.35	6393297.06	1937422.17
2081.00	0.40	225.50	2080.68	4.98S	0.86E	0.36	-2.88	6393296.85	1937421.62
2174.00	0.50	212.30	2173.67	5.55S	0.41E	0.15	-3.60	6393296.40	1937421.05
2268.00	0.50	216.20	2267.67	6.22S	0.05W	0.04	-4.41	6393295.93	1937420.38
2358.00	0.40	17.90	2357.67	6.24S	0.19W	0.99	-4.52	6393295.80	1937420.36
2450.00	0.70	48.10	2449.67	5.56S	0.33E	0.44	-3.67	6393296.32	1937421.04
2544.00	0.90	357.20	2543.66	4.44S	0.72E	0.76	-2.60	6393296.72	1937422.15
2633.00	0.90	339.90	2632.65	3.09S	0.45E	0.30	-1.85	6393296.45	1937423.51
2725.00	0.80	306.50	2724.64	2.03S	0.32W	0.54	-1.65	6393295.69	1937424.58
2818.00	0.60	336.10	2817.63	1.19S	1.04W	0.44	-1.58	6393294.98	1937425.41
2912.00	0.30	324.50	2911.63	0.54S	1.38W	0.33	-1.36	6393294.64	1937426.06
3003.00	2.10	26.70	3002.61	1.14N	0.77W	2.17	0.25	6393295.26	1937427.74
3097.00	5.80	40.00	3096.37	6.32N	3.06E	4.03	6.61	6393299.11	1937432.90
3191.00	8.40	50.60	3189.64	14.32N	11.42E	3.09	18.18	6393307.52	1937440.85
3285.00	10.30	48.80	3282.39	24.21N	23.05E	2.04	33.41	6393319.20	1937450.68
3377.00	11.80	49.20	3372.68	35.78N	36.36E	1.63	51.01	6393332.57	1937462.17
3469.00	13.70	49.20	3462.41	49.04N	51.73E	2.07	71.27	6393348.01	1937475.36
3560.00	17.00	48.50	3550.15	64.90N	69.86E	3.63	95.31	6393366.22	1937491.12
3655.00	22.00	50.00	3639.67	85.56N	93.90E	5.29	126.94	6393390.38	1937511.64
3747.00	22.40	55.50	3724.86	106.56N	121.55E	2.30	161.37	6393418.15	1937532.49
3840.00	20.10	53.80	3811.53	126.04N	149.06E	2.56	194.63	6393445.75	1937551.82
3932.00	19.70	49.50	3898.05	145.45N	173.60E	1.65	225.74	6393470.41	1937571.09
4024.00	19.90	48.50	3984.61	165.89N	197.12E	0.43	256.84	6393494.04	1937591.41
4118.00	20.90	46.70	4072.71	187.99N	221.31E	1.26	289.58	6393518.34	1937613.38
4212.00	21.70	46.00	4160.29	211.57N	246.01E	0.89	323.72	6393543.17	1937636.81
4306.00	21.90	46.40	4247.57	235.73N	271.21E	0.27	358.63	6393568.50	1937660.83
4398.00	23.40	46.40	4332.47	260.16N	296.86E	1.63	394.05	6393594.29	1937685.12
4491.00	23.70	47.40	4417.72	285.55N	323.99E	0.54	431.19	6393621.55	1937710.36
4583.00	22.90	44.30	4502.22	310.87N	350.11E	1.59	467.57	6393647.80	1937735.54
4677.00	23.00	42.20	4588.78	337.57N	375.22E	0.88	504.19	6393673.06	1937762.10
4770.00	21.30	46.40	4674.92	362.68N	399.66E	2.50	539.23	6393697.63	1937787.08
4862.00	21.20	47.10	4760.67	385.53N	423.94E	0.30	572.56	6393722.04	1937809.79
4955.00	20.60	49.50	4847.55	407.60N	448.70E	1.12	605.69	6393746.92	1937831.73
5048.00	21.00	48.80	4934.49	429.20N	473.68E	0.51	638.64	6393772.02	1937853.19

All data in feet unless otherwise stated. Calculation uses minimum curvature method.
 Coordinates from PORTER 69G and TVD from rotary table (2399.46 Ft above mean sea level).
 Bottom hole distance is 1948.06 on azimuth 45.18 degrees from wellhead.
 Vertical section is from wellhead on azimuth 45.41 degrees.
 Grid is Lambert, NAD83 - California V (0405).
 Grid coordinates in FEET and computed using the NAD 83 spheroid
 Presented by Baker Hughes INTEQ

THE GAS COMPANY
 PORTER LEASE, PORTER 69G
 ALISO CANYON, CALIFORNIA

SURVEY LISTING Page 2
 Your ref : PORTER 69G MWD
 Last revised : 19-Nov-2001

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect	GRID Easting	COORDS Northing	
5141.00	20.10	45.90	5021.57	451.30N	497.70E	1.46	671.26	6393796.15	1937875.16	
5235.00	20.00	42.20	5109.88	474.45N	520.10E	1.35	703.46	6393818.67	1937898.18	
5330.00	21.00	39.00	5198.86	499.71N	541.72E	1.58	736.60	6393840.44	1937923.33	
5425.00	22.30	40.00	5287.16	526.75N	564.02E	1.42	771.46	6393862.88	1937950.24	
5520.00	24.00	41.80	5374.51	554.96N	588.49E	1.94	808.69	6393887.50	1937978.32	
5614.00	23.40	43.20	5460.58	582.82N	614.01E	0.88	846.42	6393913.17	1938006.04	
5708.00	23.10	43.20	5546.95	609.87N	639.41E	0.32	883.50	6393938.72	1938032.95	
5803.00	22.20	44.60	5634.62	636.24N	664.77E	1.10	920.07	6393964.22	1938059.17	
5898.00	22.40	45.00	5722.52	661.81N	690.17E	0.26	956.12	6393989.76	1938084.61	
5992.00	22.70	44.60	5809.33	687.39N	715.57E	0.36	992.16	6394015.30	1938110.05	
6088.00	22.40	44.30	5897.99	713.67N	741.35E	0.33	1028.97	6394041.22	1938136.19	
6183.00	22.20	43.90	5985.88	739.56N	766.44E	0.26	1065.01	6394066.45	1938161.93	
6279.00	22.30	43.90	6074.74	765.75N	791.64E	0.10	1101.35	6394091.80	1938187.99	
6375.00	22.90	42.90	6163.36	792.56N	816.99E	0.74	1138.22	6394117.28	1938214.65	
6471.00	23.40	42.20	6251.63	820.36N	842.51E	0.59	1175.91	6394142.95	1938242.32	
6567.00	22.20	41.80	6340.13	848.01N	867.40E	1.26	1213.04	6394168.00	1938269.82	
6661.00	21.60	42.90	6427.35	873.92N	891.01E	0.77	1248.05	6394191.75	1938295.61	
6755.00	21.90	42.90	6514.66	899.44N	914.73E	0.32	1282.85	6394215.60	1938320.99	
6850.00	22.50	44.30	6602.61	925.43N	939.48E	0.84	1318.73	6394240.50	1938346.84	
6945.00	22.70	45.00	6690.32	951.40N	965.14E	0.35	1355.23	6394266.30	1938372.67	
7041.00	22.80	45.30	6778.85	977.58N	991.46E	0.16	1392.35	6394292.76	1938398.71	
7135.00	23.00	43.90	6865.44	1003.62N	1017.14E	0.62	1428.93	6394318.58	1938424.61	
7231.00	23.70	41.50	6953.58	1031.59N	1042.93E	1.23	1466.92	6394344.52	1938452.43	
7327.00	23.50	41.50	7041.55	1060.37N	1068.40E	0.21	1505.27	6394370.14	1938481.08	
7422.00	22.60	42.90	7128.97	1087.93N	1093.37E	1.11	1542.40	6394395.27	1938508.50	
7518.00	22.20	43.90	7217.72	1114.51N	1118.51E	0.58	1578.96	6394420.54	1938534.94	
7613.00	21.80	43.20	7305.81	1140.30N	1143.03E	0.50	1614.53	6394445.20	1938560.60	
7709.00	21.70	43.20	7394.97	1166.23N	1167.38E	0.10	1650.08	6394469.70	1938586.40	
7804.00	21.80	43.90	7483.21	1191.75N	1191.63E	0.29	1685.26	6394494.09	1938611.77	
8400.00	22.50	48.14	8035.26	1347.60N	1353.32E	0.29	1909.82	6394656.61	1938766.74	
8500.00	22.50	48.14	8127.65	1373.14N	1381.82E	0.00	1948.04	6394685.25	1938792.12	

All data in feet unless otherwise stated. Calculation uses minimum curvature method.
 Coordinates from PORTER 69G and TVD from rotary table (2399.46 Ft above mean sea level).
 Bottom hole distance is 1948.06 on azimuth 45.18 degrees from wellhead.
 Vertical section is from wellhead on azimuth 45.41 degrees.
 Grid is Lambert, NAD83 - California V (0405).
 Grid coordinates in FEET and computed using the NAD 83 spheroid
 Presented by Baker Hughes INTEQ

THE GAS COMPANY
PORTER LEASE, PORTER 69G
ALISO CANYON, CALIFORNIA

SURVEY LISTING Page 3
Your ref : PORTER 69G MWD
Last revised : 19-Nov-2001

				Comments in wellpath
				=====
MD	TVD	Rectangular Coords.		Comment

8500.00	8127.65	1373.14N	1381.82E	PROJECTED TD

Targets associated with this wellpath.				
=====				
Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised

TARGET P69G		7215.00	1104.00N 1120.00E	16-Aug-2001

Perforating intervals Aliso canyon			
WELL NAME	TOP DEPTH	BOTTOM DEPTH	SHOT DENSITY / SIZE
Fernando Fee 38 A	7175'	7185'	12 spf - 1"
"	7195'	7212'	12 spf - 1"
"	7222'	7242'	12 spf - 1"
"	7247'	7345'	12 spf - 1"
Fernando Fee 38 B	7035'	7100'	6 spf - 0.43"
Fernando Fee 38 C	7160'	7230'	6 spf - 0.43"
Porter 69 F	7645'	7790'	6 spf - 0.43"
Porter 69 G	7820'	7900'	6 spf - 0.43"
Porter 69 H	7605'	7670'	6 spf - 0.43"
"	7704'	7762'	6 spf - 0.43"
"	7785'	7850'	6 spf - 0.43"
Porter 69 J	7920'	8000'	6 spf - 0.43"
Porter 69 K	7975'	8050'	6 spf - 0.43"

RECEIVED
 JUN 1982
 DIVISION OF OIL AND
 GEOTHERMAL RESOURCES
 VENTURA, CALIFORNIA

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

No. T202-025

Report on Operations

James D. Mansdorfer, Agent
SOUTHERN CALIFORNIA GAS COMPANY
9400 Oakdale Ave.
Chatsworth, CA 91313

Ventura, California
January 17, 2002

Your operations at well "Porter" 69G, API No. 037-24225, Sec. 27, T. 3N, R.16W, S.B.B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 11-1-2001. Steve Mulqueen, representative of the supervisor, was present from 2100 to 2300. There were also present Jim Dayton.

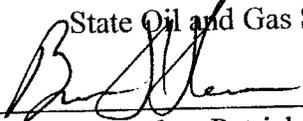
Present condition of well: 13 3/8" cem 848'. TD 853' (drilling).

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

DECISION:

The blowout prevention equipment and its installation on the 13 3/8" casing are approved.

tkc

William F. Guerard, Jr.
State Oil and Gas Supervisor
By 
FOR Patrick J. Kinnear
Deputy Supervisor

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator SOUTHERN CALIF. GAS CO. Well "POKER" 696 Sec. 28 T. 3N R. 16W
 Field ALISO CANYON County LOS ANGELES Spud Date 10-29-01
 VISITS: Date 11-1-01 Engineer S. MULQUEEN Time (2100 to 2300) Operator's Rep. JIM DANTON Title ENGINEER
 1st _____ to _____
 2nd _____ to _____
 Contractor NABORS Rig # 37 Contractor's Rep. & Title MATT SMITH
 Casing record of well: 13 3/8" cem 848 TD 853' (DRILLING)

OPERATION: Testing (inspecting) the blowout prevention equipment and installation. Critical well? Y N
 DECISION: The blowout prevention equipment and its installation on the 13 3/8" casing are approved.

Proposed Well Opns: DRILL MACP: _____ psi **REQUIRED**
 Hole size: 12 1/2" fr. 40' to 85370' to _____ & _____ to _____ **BOPE CLASS: III BSM**

CASING RECORD OF BOPE ANCHOR STRING					Cement Details		Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at			Casing	Annulus
<u>13 3/8"</u>	<u>54.5#</u>	<u>K-55</u>	<u>848'</u>		<u>FLOAT COLLAR INSERT @ 824'</u> <u>CEM w/ B35 CT CEM</u>		<u>824'</u>	<u>0</u>

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	Recovery Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
<u>A</u>	<u>-</u>	<u>HYDRIL</u>	<u>6 1/2"</u>	<u>13 3/8"</u>	<u>5000</u>							<u>11-1</u>	<u>1500</u>
<u>RD</u>	<u>5"</u>	<u>SHAFER</u>	<u>6 1/2"</u>	<u>"</u>	<u>"</u>							<u>11-1</u>	<u>2500</u>
<u>RD</u>	<u>5 1/2"</u>	<u>"</u>	<u>6 1/2"</u>	<u>"</u>	<u>"</u>							<u>11-1</u>	<u>3500</u>

(TEST RAMP & CHART)

ACTUATING SYSTEM				TOTAL:		AUXILIARY EQUIPMENT									
Accumulator Unit(s) Working Pressure <u>3000</u> psi				<u>w/ TOP DRIVE</u>		No.		Size (in.)	Rated Press.	Connections			Test Press.		
Total Rated Pump Output _____ gpm		Fluid Level _____				Weld	Flange	Thread							
Distance From Well Bore <u>110</u> ft.		Precharge _____ psi		X		Fill-up Line									
Accum. Manufacturer		Capacity		X		Kill Line		<u>2 1/2"</u>	<u>5000</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>2500</u>		
1 <u>KOOMEY</u>		<u>160 gal.</u>		<u>1000 psi</u>		Control Valve(s)		<u>3</u>	<u>"</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>2500</u>		
2 _____		_____ gal.		_____ psi		Check Valve(s)		<u>1</u>	<u>"</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>2500</u>		
CONTROL STATIONS				Elec.		Hyd.		Pneu.		X		Aux. Pump Connect.		<u>2500</u>	
X Manifold at accumulator unit				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		X		Choke Line		<u>2500</u>	
X Remote at Driller's station				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		X		Control Valve(s)		<u>2500</u>	
Other:										X		Pressure Gauge		<u>2500</u>	
EMERG. BACKUP SYSTEM				Press.		Wkg. Fluid		X		Adjustable Choke(s)		<u>2</u>	<u>3</u>	<u>5000</u>	<u>2500</u>
X N ₂ Cylinders				1 L= <u>2000</u> gal.		X		Bleed Line		<u>5</u>	<u>"</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>2500</u>
Other:				2 L= <u>2000</u> gal.		X		Upper Kelly Cock						<u>2500</u>	
				3 L= <u>2000</u> gal.		X		Lower Kelly Cock		<u>5</u>	<u>5000</u>			<u>2500</u>	
				4 L= <u>2000</u> gal.		X		Standpipe Valve <u>4"</u>						<u>2500</u>	
				5 L= <u>2000</u> gal.		X		Standpipe Press. Gauge						<u>2500</u>	
				6 L= <u>2000</u> gal.		X		Pipe Safety Valve		<u>5</u>	<u>"</u>			<u>2500</u>	
				TOTAL:		gal.		X		Internal Preventer		<u>5</u>	<u>"</u>	<u>2500</u>	

HOLE FLUID			Alarm Type		Class	Hole Fluid Type		Weight	Storage Pits (Type & Size)	
MONITORING EQUIPMENT			Audible	Visual		CLAY GEL	9.2		700	
X Calibrated Mud Pit				<input checked="" type="checkbox"/>	A					
X Pit Level Indicator			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	B					
X Pump Stroke Counter				<input checked="" type="checkbox"/>						
X Pit Level Recorder				<input checked="" type="checkbox"/>						
X Flow Sensor			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	C					
X Mud Totalizer				<input checked="" type="checkbox"/>						
Calibrated Trip Tank										
Other:										

REMARKS AND DEFICIENCIES:

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Porter 69-G
A.P.I. No.

Field: Aliso Canyon

County: Los Angeles
Surface Location:

Name:
(Person Submitting Report)

Title:
(President, Secretary, or Agent)

Date: 11/02/2001

Signature:

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300

Telephone Number: (818) 700-3851

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

Start	Ops This Rpt
10/28/2001 10:00	Ready rig to skid. Move rig from P-69-F to P-69-G. Rig up.
10/29/2001 06:00	Rig up. Spud @ 13:30. Drill with mud motor from 73' to 460'. Total hrs on bit 13.5
10/30/2001 06:00	Drill from 460' to 650'. Pull out change bit, Drilled from 650 to 853'. Total of 30 hrs to drill 780' surface hole.
10/31/2001 06:00	Ran 13-3/8" 54.5# K-55 casing to 848', Float collar @ 824', Cemented well with 835 c.f Cement slurry 34% excess. Good circ through out cement job 14 Bbls cement returns cement in place @ 15:30. Cement mix lead 65-35 poz cement with 6% gel, 2% CaCl, 0.25pps cellophane. Tail cement class G cement with 2% CaCl, 0.25 pps cellophane. Install well head, Weld X-Rayed by Valley x-ray weld good. Install B.O.P
11/01/2001 06:00	Nipple up Class III B 5000# B.O.P, Tested B.O.P., choke manifold to 2500 psi tested Bag to 1500 psi. Stephen P. Mulqueen with Divison Oil And Gas Approved all test,s. Install wear bushing. Make up Drilling assembly'

CEMENT DETAILS ONLY

EST CEMENT VOLUME 621 CF

A#1 STEPHEN P. MULQUEEN

F/ Jim DAYTON 11-2-01



PERMIT TO CONDUCT WELL OPERATIONS

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

(old pool code)

Gas Storage Project

James D. Mansdorfer, Agent
Southern California Gas Company
9400 Oakdale Ave.
Chatsworth, CA, 91313

Ventura, California
July 3, 2001

Your _____ proposal to _____ drill _____ well _____ "Porter" 69G _____,
A.P.I. No. 037-24225 _____ Sec. 28 , T. 3N , R. 16W , SB B.&M.,
Aliso Canyon _____ field, _____ area, _____ Sesnon-Frew _____ pool
Los Angeles _____ County, dated 06-28-2001 received 06-28-2001 has been examined in conjunction
with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

Drilling Operations

1. Blowout prevention equipment conforming to DOGGR Class IIIB 5M equipment on the 13-3/8" casing and maintained in operating condition at all times during drilling.
2. Drilling fluid of a quality and in sufficient quantity is used to control all subsurface condition in order to prevent blowouts.
3. An approved blowout prevention and control plan shall be available during the proposed operations.
4. Any sump used during these operations shall be thoroughly cleaned and filled with earth as soon as operations are completed.
5. If extensive, unplanned drill pipe operations occur (such as fishing, milling, etc.) and there is a possibility of casing damage, the casing must be pressure tested prior to resuming normal operations. This Division must be notified to witness the tests
6. The spacing provisions of Section 3606 shall apply.
7. A subsurface directional survey is made and a plat of such survey is filed with this office within 15 days of completion of the well.
8. This office shall be consulted before sidetracking the well or running any additional casing.
9. This office shall be consulted before initiating any changes or additions to this proposed operation, or operations are to be suspended.
10. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To witness a pressure test of the blowout prevention equipment prior to drilling out of the shoe of the 13-3/8" casing. Prior to notifying the Division engineer to witness the test, the blind rams must be tested. Information on the blind rams test must be entered on the tour sheet along with the signature of the person in charge

Continued on Page 2

SAF:sf
Super Blanket Bond

Engineer Steven A. Fields
Phone (805) 654-4761

WILLIAM F. GUEBARD, JR., State Oil and Gas Supervisor
By [Signature]
Deputy Supervisor

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

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

Southern California Gas Company

July 3, 2001

P201-164

Completion Operations

1. Blowout prevention equipment conforming to DOGGR Class II 5M requirements shall be installed and maintained in operating conditions at all times.
2. Hole fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. Wire line operations are conducted through at least a 5M lubricator.
4. Requirements specified in our approval of the Gas Storage project dated July 26, 1989 shall apply.
5. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To inspect the installed blowout prevention equipment prior to commencing downhole operations.

Note: The Division recommends, as a minimum, that carbon monoxide monitoring equipment and a vent line be installed and maintained operational during all extensive perforating operations.

P201-164

NOTICE OF INTENTION TO DRILL NEW WELL

C.E.Q.A. INFORMATION			
EXEMPT <input checked="" type="checkbox"/>	NEG. DEC. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION <input type="checkbox"/>
CLASS <u>1</u>	S.C.H. NO.	S.C.H. NO.	
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS	
				114	121
254	7-6-01		1000.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well Porter 69 G, well type Gas Storage, API No. 037-24225,
(Assigned by Division)

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

Legal description of mineral-right lease, consisting of _____ acres (attach map or plat to scale), is as follows:
(See attached base map)

Do mineral and surface leases coincide? Yes No . If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of well _____ feet _____ along section / property line and _____ feet _____
(Direction) (Check one) (Direction)

at right angles to said line from the _____ corner of section / property _____ or
(Check one)

873' South and 3413' West from Station 84

Is this a critical well according to the definition on the next page of this form? Yes No

If well is to be directionally drilled, show proposed coordinates (from surface location) and true vertical depth at total drilled depth:
1168 feet North and 1211 feet East Estimated true vertical depth 7487. Elevation of ground above
(Direction) (Direction)

sea level 2366 feet. All depth measurements taken from top of KB that is 24 feet above ground.
(Derrick Floor, Rotary Table, or Kelly Bushing)

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
13-3/8"	54.5 lb/ft	K55 ST&C	Surface	800	800	800
9-5/8"	47 lb/ft	N80 LT&C	Surface	7846	7846	7846

(A complete drilling program is preferred and may be submitted in lieu of the above program.)

Intended zone(s) of completion Sesson, Frew Estimated total depth 7846
(Name, depth, and expected pressure) (Feet)

It is understood that if changes to this plan become necessary, we are to notify you immediately.

Name of Operator <u>Southern California Gas Company</u>		Type of Organization (Corporation, Partnership, Individual, etc.) <u>Corporation</u>	
Address <u>9400 Oakdale Avenue</u>		City <u>Chatsworth</u>	Zip Code <u>91313</u>
Telephone Number <u>818-701-3251</u>	Name of Person Filing Notice <u>Dan Neville</u>	Signature <u>DAN NEVILLE</u>	Date <u>6/28/01</u>

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



California Public Utilities Commission
505 Van Ness Avenue, San Francisco, CA 94102
News Release

MEDIA CONTACT: Kyle DeVine
213-576-7050

June 28, 2001
kyl@cpuc.ca.gov

CPUC -522
A.01-04-007;A00-04-031

CPUC MAKES MORE NATURAL GAS AVAILABLE

The California Public Utilities Commission (CPUC) today approved Southern California Gas' (SoCal Gas) request to reclassify and withdraw cushion gas (natural gas that is needed to maintain the storage pressure necessary to allow stored gas to be withdrawn) from three of its underground natural gas storage fields in Montebello and Aliso Canyon in Los Angeles County, and La Goleta in Santa Barbara County.

This will make approximately 41 billion cubic feet (Bcf) of additional natural gas available to California consumers over the next five years. Making this gas available helps California meet its demand from in-state resources and reduces the need to import expensive natural gas from other states.

One Bcf is enough natural gas to supply about 17,500 homes for a year.

SoCal Gas will close its Montebello gas storage facility after all the gas has been withdrawn from it and parts have been salvaged or sold. The Montebello facility is very small compared to SoCal Gas' other facilities. It occasionally delivers 100 to 200 MMcfd (million cubic feet per day) of gas for a couple days during the year compared to Aliso Canyon which can deliver more than 1,000 MMcfd.

Montebello has not been used for four years and keeping it operating would cost more than its benefit to Southern California gas users. In addition to the benefits of using the cushion gas, ratepayers will see a \$44 million reduction in their bills resulting from the closure of the Montebello facility. About 24 Bcf of cushion gas can be drawn from the ground.

SoCal Gas plans to redesign its La Goleta and Aliso Canyon natural gas storage fields. It plans to drill new wells and rework several existing wells so that the utility can store the same amount of gas with less cushion gas. About 7 Bcf of cushion gas will be made available for sale from each of these fields (14 Bcf in total).

The costs of natural gas prices received at the southern California border soared last winter from an average of \$2.41\Dth (decatherm, or 10 therms) in December 1999 to \$13.82\Dth in December 2000.

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