DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: **Southern California Gas Company** WELL DESIGNATION **"Porter" 24A**

API No. **03724143** SE **27** T: **3N** R.: **16W** , **SB** B. and M.

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

Type of Notice: **Rework** **Date** **6/2/2016** **Report Number:** **P216-0074**

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

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

NEW STATUS

DATE: _____

NOTICE OF RECORDS DUE

DATE: _____

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

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

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

ENGINEER'S CHECK LIST

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

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

CLERICAL CHECK LIST

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

REMARKS

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

Modfied OGD2

AOR Datbase _____

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

No. P 216-0074

Old	New
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
June 08, 2016

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

Your proposal to **Rework** well **"Porter" 24A**, A.P.I. No. **037-24143**, Section **27**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **6/2/2016**, received **6/2/2016** has been examined in conjunction with records filed in this office. (Lat: **34.314887** Long: **-118.552861** 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, 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. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.
9. **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 **9 5/8"** casing prior to commencing injection.

Continued on Next Page

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

Engineer Kris Gustafson
Office (805) 654-4761

KG/kg

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By _____ for
Patricia A. Abel, *District Deputy*

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

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.

Rec'd 06-02-16 DOGGR Ventura.

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

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

P216-0074

NOTICE OF INTENTION TO REWORK / REDRILL WELL

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ (Check one) well Porter 24A, API No. 037-24143,

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: 7850 feet. The effective depth is: 7850 feet.

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

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

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

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

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

See attached program

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

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

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

Name of Operator			
Southern California Gas Company			
Address P. O. Box 2300		City/State Chatsworth	Zip Code 91313-2300
Name of Person Filing Notice Brian Vlasko	Telephone Number: 714-655-9506	Signature	Date 6/2/16
Individual to contact for technical questions: Brian Vlasko	Telephone Number: 714-655-9506	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, redrilling, or deepening any well.
2. Milling out or removing a casing or liner.
3. Running and cementing casing or tubing.
4. Running and cementing liners and inner liners.
5. Perforating casing in a previously unperforated interval for production, injection, testing, observation, or cementing purposes.
6. Drilling out any type of permanent plug.
7. Reentering an abandoned well having no bond.

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

WORKOVER PROJECT

Porter 24A – Well Inspection

DATE: June 2, 2016

OPERATOR: SOUTHERN CALIFORNIA GAS COMPANY

FIELD: ALISO CANYON

WELL: Porter 24A

API NUMBER: 037-24143

ELEVATION: All depths based on original KB, 24' above GL

SURFACE LOCATION: SEC 27, T3N, R16W, S.B. B&M

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 2-7/8" completion string, running casing inspection logs and a gyro survey, pressure testing casing and well laterals, installing a new completion string, converting well to tubing flow, and installing pressure monitors. Baseline assessment data will be gathered on vertical casing pipe and other well components.

WELL RECORD

Current Status:	Active
TD:	7850' md
Special Conditions:	Last tag on 09/18/2015 at 7849'
Casing Record:	13-3/8" 54.5# K-55 ST&C casing cemented at 818' with 900 ft3 Class G 9-5/8" 47# N-80 LT&C casing cemented at 7412' with 3049 ft3 Class G 5-1/2" 17# J-55 & N-80 WWS landed at 7850', TOL at 7354', GP'd w/312 ft3 20/40 sand Perfs: 7377''-7419' slotted, 7419'-7658 WWS', 7719'-7845' slotted
Tubing Record:	See attached tubing detail as run on 10/23/1993

GEOLOGIC MARKERS

KB above sea-level: 2206ft

UDA1	5680'md / 5621'tvd
UDA2	6010'md / 5940'tvd
MDA	6395'md / 6311'tvd
MP	7142'md / 7032'tvd
S1	7367'md / 7250'tvd
S2	7421'md / 7303'tvd
S4	7473'md / 7353'tvd
S6	7501'md / 7380'tvd
S8	7554'md / 7432'tvd
S10	7604'md / 7480'tvd
S12	7654'md / 7529'tvd
Frew	7700'md / 7573'tvd
CR	7841'md / 7711'tvd

Estimated Field Pressure: 917 psi on 2/3/2016 (Variable)

Estimated Bottom-hole Temperature: 172°F (as per 09/18/2015 Temperature survey)

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.

2. Complete slickline work as required to set-up well for circulation. – needs to be detailed depending on downhole configuration.

3. Ensure correlation log on file or plan for CCL.

WELLWORK PROGRAM

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

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

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

3. Verify the well is dead. If needed, circulate well with 8.5 ppg KCL brine.
   i. The tubing volume is ~ 42 bbls and
   ii. The tubing/casing annulus is ~ 477 bbls.
   iii. *Use HEC polymer as required to minimize lost circulation.*

4. Install BPV in tubing hanger. ND tree.

   NOTE: Send-in wellhead and tree components for inspection.

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

   - All tests are to be charted and witnessed by a DOGGR representative.
   - Perform a 300 psig low pressure test on the annular preventer, blind rams and pipe

rams for 20 minutes. Test all lines and connections to 300 psig.

- Pressure test the Class III 5M annular preventer to 3500 psig for 20 minutes. Test blind rams and the pipe rams to 5000 psig for 20 minutes. Test all lines and connections to 5000 psig.
- Remove BPV.

6. POOH with production equipment and stand back tubing to be used as a work string. Lay down packer.

   a.) Attempt to release packer or seal assembly. If not successful plan for a cut.
   b.) If planning to mill or fish, lay down production string and PU 2-7/8" P110 to be used as work string.

7. RIH with 9-5/8, 47# positive ID casing scraper on Work String to top of liner @ 7,354'. Circulate well clean. POOH.

8. RIH with stinger to PBMD @ 7,850' and clean out if necessary. POOH.

9. MIRU WL unit to Run Gyro from PBMD to surface. Contact engineer for QC before RDMO WL. Send a copy of the survey file to ELein@semprautilities.com.

10. Rig-up wireline unit(s) and run:

    a.) Magnetic flux leakage from top of liner to surface
    b.) Multi-arm caliper log from top of liner to surface

    Notify engineer prior to logging. Do not RDMO WL without engineer's approval.

11. RIH with RBP above liner top, pressure test to 500 psi for 10 minutes and sand off.

12. Nipple down BOPE, crossover spool, and primary pack-off.

    a.) Send DSA and tubing spool to Vendor for refurbishment.
    b.) Install auxiliary spacer spool and NU BOPE

13. Rig-up wireline unit, install lubricator and run:

    c.) Ultrasonic from top of liner to surface
    d.) CBL from top of liner to surface

    Notify engineer prior to logging. Do not RDMO WL without engineer's approval.

14. Ensure equipment integrity (tree, spool, tubing hanger, master valve, wing valves) has been verified before proceeding to the next step.

15. ND BOPE, install tubing spool, reinstall BOPE and test.
    NOTE: VERIFY csg head rating before pressure test (5000 psi or 3000 psi; ensure we are not testing 3000 psi csg head to 5000 psi).

16. RIH with test packer on work string and conduct a Pressure Integrity Test ("Block"). Set packer at 7,339' and test annulus to 2250 psi for 1 hour. Set packer at 3,500' and test annulus to 3625 psi for 1 hour. POOH with test packer.

    a.) Pressure test to 115% of the wells maximum allowable operating pressure (3625 psi) as per attached Pressure Test Schedule.
    b.) Engineering team to analyze log and pressure test results and recommend any additional remediation.

17. RIH with retrieving tool on work string circulating on the way down, begin slowing down the last 20' before reaching RBP, circulate on top of RBP until returns are clean. Circulate out sand and engage BP. Release BP, circulate as required to control well. POOH and lay down work string.

18. RIH with new tubing as follows:

    Run items 1) - 10) and 1 joint of 5-1/2" tubing. Install XN plug. Make up testing sub and test BHA to 4000 psi for 5 mins. Remove test sub and pull XN plug. RIH with Pump Thru Plug. Continue running 5-1/2" tubing hydro-testing each connection to 4000psi. Pull Pump Thru Plug prior to picking up tubing hanger.

    1. *4-1/2" Wireline re-entry guide, set at ~* ***7,340'***
    2. *+/- 8ft - 4-1/2" 12.6# L-80 x 9-5/8" 53.5# TCPC production packer*
    3. *+/- 10ft - Pup joint 4-1/2" 12.6# L-80 TCPC*
    4. *+/- 2ft - 4-1/2" 12.6# L-80 TCPC XN (3.81" w/3.725" no-go) nipple*
    5. *+/- 31ft - Full joint 4-1/2" 12.6# L-80 TCPC tubing*
    6. *+/- 2ft - Pup 4-1/2" 12.6# L-80 TCPC*
    7. *+/- 2ft - 4-1/2" 12.6# L-80 TCPC (3.81" Open Down) sliding sleeve*
    8. *+/- 4ft - Pup 4-1/2" 12.6# L-80 TCPC*
    9. *+/- 31ft - Full joint 4-1/2" 12.6# L-80 TCPC tubing*
    10. *+/- 4ft - 4-1/2" 12.6# TCPC Pin x 5-1/2" 20# TCPC Box crossover sub*
    11. *+/- 7229ft - 5-1/2" 20# L-80 TCPC tubing to surface*
    12. *Pup joints 5-1/2" 20# TCPC L-80 TCPC for space-out*
    13. *+/- 3ft - 5-1/2" 20# TCPC Pin x 4-1/2" 12.6# TCPC Box crossover sub*
    14. *+/- 10ft - Pup 4-1/2" 12.6# L-80 TCPC*
    15. *+/- 4ft - 4-1/2" 12.6# L-80 TCPC fatigue nipple (pin x pin)*
    16. *Tubing hanger with 4-1/2" EUE top box / 4" BPV / 4-1/2" TCPC bottom box*

Notes : Prior to sending completion equipment to well site

- Make up items 1) through 4) under the supervision of Quality Tubulars. Pressure test assembly to 40000 psi for 1hr, chart test. Test caps to be installed and removed by Quality Tubulars.
- Make up items 6) through 8) under the supervision of Quality Tubulars. Pressure test assembly to 4000 psi for 1hr, chart test. Test caps to be installed and removed by Quality Tubulars.
- Shift sliding sleeve and drift with XN plug prior to shipping tools to location.
- Seal lube top sub on ASX-1 packer, to be witnessed by Quality Tubulars.
- Packer vendor to provide Force Analysis / Tube Move Calculations prior to sending equipment to well site.

19. Land tubing as per vendor specifications.

    Note: Amount of compression to set on packer will be determined by Force Analysis / Tube Move Calculations.

20. Rig-up slickline unit and lubricator. Set a plug in the 3.81" XN profile.

21. Notifiy DOGGR to witness tubing tests to 3700 psi, hold for 1 hour. Perform annular test to 1000 psi, hold for 1 hour. Record tests digitally.

    Take a note of tubing pressure in case of annular pressure doesn't hold.

22. RIH with WL and shift the sliding sleeve open. RDMO WL.

23. Install BPV in tubing hanger. Nipple down BOPE, install production tree and test to 5,000 psig. Remove BPV.

24. RDMO.

UNLOAD WELL

25. Rig-up nitrogen unit. Recover workover fluid by pumping down annulus taking returns up tubing.

26. MIRU WL unit. RIH with slickline and shift sliding sleeve closed. POOH and rig down slickline unit.

WELL LATERAL HYDROTESTING

27. Per Gas Company Standard 182.0170, pressure test the tubing and casing kill laterals from the wellhead to the remote tie in to 3625 psig. Pressure test the tubing and casing withdrawal/injection laterals from wellhead to operating valves to 3625 psig.

21. Reinstall the hydro-tested laterals.

22. Install the well safety systems and instrumentation. Install pressure transmitters on tubing, casing, and surface casing.

23. Release well to operations.

EXTERNAL CORROSION PROTECTION

Per Gas Company Standard 167.30, remove any lead based paint and recoat wellhead, production tree, and laterals.

Tubing Detail as ran 10/23/1993

Quantity	Item	Length	Depth
1	KB	23.50	23.50
1	Tubing Hanger	0.53	24.03
1	2-7/8", EUE 8rd, J-55 pup jt	7.79	31.82
1	2-7/8", EUE 8rd, J-55 pup jt	10.13	41.95
230	2-7/8", EUE 8rd, J-55 tbg.	7115.91	7157.86
1	2-7/8", EUE 8rd, J-55 pup jt.	4.06	7161.92
1	2-7/8" MMG Mandrel	8.44	7170.36
1	2-7/8", EUE 8rd, J-55 pup jt.	1.12	7171.48
1	2-7/8", EUE 8rd, J-55 tbg.	29.45	7200.93
1	XD Sliding Sleeve	3.20	7204.13
1	2-7/8", EUE 8rd, J-55 tbg.	31.42	7235.55
1	XN No-Go Nipple - 2.313" ID	1.29	7236.84
1	2-7/8", EUE 8rd, J-55 tbg.	30.46	7267.30
1	Latch Seal Unit w/40K Shear	2.69	7269.99
1	1 Seal Unit	1.00	7270.99
1	Production Tube w/ 45° Guide Shoe	0.50	7271.49

Casing Pressure Test Schedule

Well: Porter 24A

		External Casing Backup Pressure			Pressure Test Net Burst Pressure @ Depth				Tubing Leak Net Burst Pressure @	Test Pressuree > 85% of Burst	Test Pressure < Tubing Leak - Net Burst (Gas-filled annulus)
Depth (TVD)	85% of Burst Strength	Fluid / Formation Pressure Gradient	External Casing Backup Pressure	Internal Water Hydrostatic	1	2	3	Final	Gas-Filled Annulus		
				Surface Test Pressure	3625			2250	3625		
				Test Packer Depth	3500						
				Test Down Casing or Tubing	Casing			Tubing			
				Bridge Plug Depth				7344			
0	5840	0.00	0	0	3625			2250	3625		
500	5840	0.00	0	221	3846			2471	3670		
1000	5840	0.00	0	442	4067			2692	3716		
1500	5840	0.00	0	663	4288			2913	3761		
2000	5840	0.00	0	884	4509			3134	3806		
2500	5840	0.00	0	1105	4730			3355	3852		
3000	5840	0.00	0	1326	4951			3576	3897		
3500	5840	0.00	0	1547	5172			3797	3942		
4000	5840	0.00	0	1768	-			4018	3988		
4500	5840	0.00	0	1989	-			4239	4033		
5000	5840	0.00	0	2210	-			4460	4078		
5500	5840	0.00	0	2431	-			4681	4123		
6000	5840	0.00	0	2652	-			4902	4169		
6500	5840	0.00	0	2873	-			5123	4214		
7344	5840	0.00	0	3246	-			5496	4291		
				0.442 psi/ft int. grad.					0.091 psi/ft int. grad.		

Rec'd 06-02-16 DOGGR Ventura.

Well
Porter 24A

API #: 04-037-24143-00
Sec 27, T3N, R16W

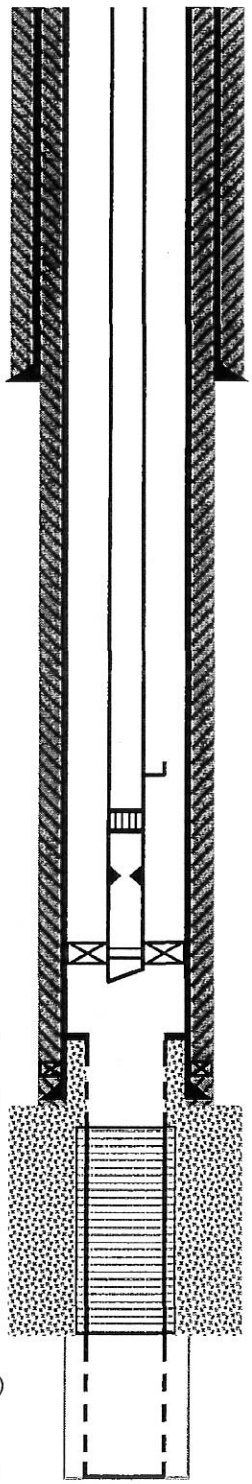
Operator: So. California Gas Co.

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

Ground Elevation: 2182' asl
Datum to Ground: 24' KB

Spud Date: 8/5/1993
Completion Date: 10/23/1993

Junk: None



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

17-1/2" Hole

Surface Casing
13-3/8", 54.5#, K-55
0' - 818'

CMT'D w/ 900 CF,
Good CMT Returns to Surface

818'

12-1/4" Hole
(to 7430')

Production Casing
9-5/8", 47#, N-80
0' - 7412'

CMT'D w/ 3049 CF,
500 CF CMT Returns to Surface

7354'

7412'

15" Hole (7430' - 7660')

Liner
5-1/2", 17#, J-55/N-80
7354' - 7850'

8-1/2" Hole (7660' - 7850')

7850'

TD 7850'
TVD (7719')
Directionally Drilled: Yes (TD is 1037' W, 154' N of Surf)

Tubing
2-7/8", J-55
0' - 7270'

7160' BST MMG GLM w/ K-1.5" Latch

7199' Otis XD Sliding Sleeve

7234' Otis XN No-Go Nipple

7266' Latch Seal Unit
7269' Guiberson Magnum H PCKR w/ Seal Unit
7270' Tail

7381' - 7397' 9-5/8" ECP Inflated w/ 18 BBLS CMT

Liner Perfs:
7377' - 7419' 1.5" x 0.012", 12R, 6"C Slots
7419' - 7658' WWS
7719' - 7845' 1.5" x 0.30", 12R, 6"C Slots

Gravel Packed w/
312 CF (126% of Calc'd), 20-40,
Bottom 40 CF Resin Coated

Top of Zone Markers	md (tvd)
UDA1	5680' (5621')
UDA2	6010' (5940')
MDA	6395' (6311')
MP	7142' (7032')
S1	7367' (7250')
S2	7421' (7303')
S4	7473' (7353')
S6	7501' (7380')
S8	7554' (7432')
S10	7604' (7480')
S12	7654' (7529')
FREW	7700' (7574')
CR	7841' (7711')

Prepared by: CAM (3/15/2016)
Updated by: LD (5/20/2016)

InterAct

Rec'd 06-02-16 DOGGR Ventura.

Well

Porter 24A

API #: 04-037-24143-00
Sec 27, T3N, R16W

Production Casing Pressure Test - Program

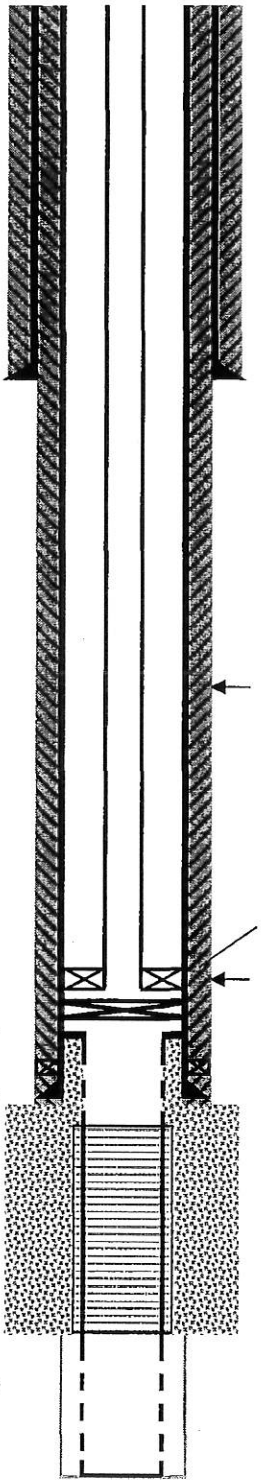
Operator: So. California Gas Co.

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

Ground Elevation: 2182' asl
Datum to Ground: 24' KB

Spud Date: 8/5/1993
Completion Date: 10/23/1993

Junk: None



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

17-1/2" Hole

Surface Casing
13-3/8", 54.5#, K-55
0' - 818'

CMT'D w/ 900 CF,
Good CMT Returns to Surface

818'

TEST 3500' to Surface - 3625 psi

12-1/4" Hole
(to 7430')

Production Casing
9-5/8", 47#, N-80
0' - 7412'

CMT'D w/ 3049 CF,
500 CF CMT Returns to Surface

9-5/8" Test Packer, Move and Set at each TEST Location

TEST 7339' to Surface - 2250 psi
7344' 9-5/8" Retrievable Bridge Plug

7354'

7381' - 7397' 9-5/8" ECP Inflated w/ 18 BBLS CMT

7412'

Liner Perfs:
7377' - 7419' 1.5" x 0.012", 12R, 6"C Slots
7419' - 7658' WWS
7719' - 7845' 1.5" x 0.30", 12R, 6"C Slots

15" Hole (7430' - 7660')

Liner
5-1/2", 17#, J-55/N-80
7354' - 7850'

Gravel Packed w/
312 CF (126% of Calc'd), 20-40,
Bottom 40 CF Resin Coated

8-1/2" Hole (7660' - 7850')

7850'

Top of Zone Markers	md (tvd)
UDA1	5680' (5621')
UDA2	6010' (5940')
MDA	6395' (6311')
MP	7142' (7032')
S1	7367' (7250')
S2	7421' (7303')
S4	7473' (7353')
S6	7501' (7380')
S8	7554' (7432')
S10	7604' (7480')
S12	7654' (7529')
FREW	7700' (7574')
CR	7841' (7711')

TD 7850'
TVD (7719')
Directionally Drilled: Yes (TD is 1037' W, 154' N of Surf)

Prepared by: CAM (3/31/2016)
Updated by: LD (5/20/2016)

InterAct

OPERATOR SO CAL GAS CO P.I. 037-24143
WELL NO. "PORTER" 24A SECTION 3 N, R. 16 W
MAP

INTENTION	DRILL					
NOTICE DATED	7-6-93					
P-REPORT NUMBER	293-220					
CHECKED BY/DATE	SAM 8-11-93					
MAP LETTER DATED	8-12-93					
SYMBOL	✱					

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	7-8-93											
HISTORY	1-11-94											
SUMMARY	2-28-95											
E-LOG DLL-MSFL-GR	10-20-93											
MUD LOG												
DIPMETER												
DIRECTIONAL	4-24-94											
CORE/SWS												
CBL												
DIL/SFL	8-26-93											
GR/SP	↓											
Caliper	↓											
[illegible]	10-20-93											
MAP	OK	✓										

ENGINEERING CHECK

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

RECORD'S COMPLETE SAM 3-28-95
-EDP 7/93

FINAL LETTER OK
MAILED
RELEASED BOND

INJECTION BOOK
IDLE WELL LIST
SURFACE INSP. CARD

REMARKS:

OK TO RELEASE FROM CONFIDENTIAL
ABANDONED-REMOVED FROM E.D.P.

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

API No. 037-24143

WELL SUMMARY REPORT

Operator: Southern California Gas Co.	Well: Porter 24A				
Field: Aliso Canyon	County: L.A.	Sec. 27	T. 3N	R. 16W	B. & M. S.B.

Location (Give surface location from property or section corner, street center line and/or California coordinates)
886' South & 1983' West from station 84, Section 27, T3N, R16W

Elevation of ground above sea level

Commenced drilling (date): 8/5/93

Completed drilling (date): 10/23/93

Commenced producing (date):

☐ Flowing ☐ Pumping
☐ Gas lift

Name of producing zone(s):

Total depth: (1st hole) 7850' | (2nd) | (3rd)

Present effective depth: 7850'

Junk:

Depth measurements taken from top of:
☐ Derrick Floor ☒ Rotary Table ☐ Kelly Bushing
Which is 23.5 feet above ground

GEOLOGICAL MARKERS	DEPTH
MP Marker	7142' MD
Top of S1	7367' MD
Top of S4	7473' MD
Top of S8	7554' MD
Top of Frew	7700' MD

Formation and age at total depth

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

CASING RECORD (Present Hole)

Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New or Second Hand	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)
13-3/8"	0'	819'	54.5#	K-55 Buttress	New	17-1/2"	Cmt to Surf	
9-5/8"	0'	7412'	47#	N-80 LT&C	New	12-1/4"	Cmt to Surf	

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforation and method.)
5-1/2" 17#, J-55 LT&C Liner, Slotted Blank from 6377' - 7419' and 7699' - 7845'. WWS from 7419' - 7658'

Was the well directionally drilled? If yes, show coordinates at total depth
☒ Yes ☐ No 153.72 N, 1036.74 W, TVD 7719.34

Please see attached survey listings

Other surveys

RECEIVED
FEB 28 1995
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

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: Ian Binmore	Title: Drilling Engineer	
Address: Box 3249, ML 22GO	City: Los Angeles	Zip: 90051-1249
Telephone Number: (213) 244-2680	Signature: Ian R. Binmore	Date: 3/8/94

OG100 (10/85/DWRR/5M)

SUBMIT IN DUPLICATE

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Porter #24A, Sec. 27, T3N, R16W, S.B.B. & M.
A.P.I. No. 037-24143 Name M. A. Woiemberghe (Person submitting report) Title Agent (President, Secretary or Agent)
Date December 28 19 93

Signature I R. Binmore for M. A. Woiemberghe

P. O. Box 3249 Los Angeles, CA 90051-1249 (213) 244-2680
(Address) (Telephone Number)

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

Date	
1993	
08/04	Skidded rig from 24B - to 24A. Rigged up and picked up bottom hole assembly.
08/05	Spudded @ 8:00 a.m. Drilled and surveyed 17-1/2" hole to 661'.
08/06	Drilled to 819'. Ran 13-3/8" 54.5# K-55 buttress casing to 818', B.J. Pumped 20 Bbls of water ahead of 600 cu. ft. of 14.2 ppg Class G cement with .4% Bentonite Gel & 0.2% $CaCl_2$. Pumped at 15.8 ppg. Displaced with 690 cu. ft. of water. Bumped plug with 900 psi. Good cement returns to surface. Cement in place at 11:00 p.m. Waited on cement for 5 hours. Made cut off.
08/07	Welded and tested wellhead to 500 psi. Nippled up and tested BOPE. Drilled cement and shoe. Drilled to 876'.
08/08	Drilled to 902'. Pulled out of well. Changed bit and bottom hole assembly. Ran back to bottom. Drilled and surveyed to 1885'. Wiped hole.
08/09	Drilled and surveyed from 1885' to 2441'. Wiped hole from 1885' to 2441'. Drilled and surveyed from 2441' to 2695'.
08/10	Pulled out of hole. Changed bit and bottom hole assembly. Reamed from 3233' to 3292'. Directionally drilled from 2695' to 3292'.

RECEIVED

JAN 11 1994

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

D.O.G. 1/10/94

OG103 (6/91/GSR1/5M)

08/11 Directionally drilled to 3638'. Pulled out of hole. Ran in hole to 3292'. Reamed and drilled with mud motor to 3750'.

08/12 Continued to drill and survey 12-1/4" hole from 3750' to 4304'. Wiped hole to 3000'. Drilled and surveyed ahead from 4304' to 4957'.

08/13 Continued to drill and survey 12-1/4" hole from 4957' to 5113'. Wiped hole to 2325', with 30,000 lbs. to 50,000 lbs. drag. Drilled and surveyed from 5113' to 5740'. Circulated and tripped out for bit and BHA change. Tripped in with bit #7 and slight angle-building BHA.

08/14 Reamed hole from 5680' to 5740'. Continued to drill and survey 12-1/4" hole from 5740' to 5911'. Pulled to 5861' and circulated clean. Tripped out for bit #8 and locked drilling assembly. Drilled and surveyed ahead to 6420'. Raised mud weight from 68 pcf to 73 pcf due to 15' of fill on connections. Drilled and surveyed to 6475'.

08/15 Continued to drill and survey 12-1/4" hole from 6475' to 6504'. Wiped hole to 5080'. Drilled and surveyed ahead to 7024'. Pulled to 6977' and surveyed. Wiped hole to 6094'. Drilled to 7084'.

08/16 Drilled to 7210'. Pulled to 7163 and surveyed. Drilled to 7405'. Pulled to 7343', circulated and surveyed. Started wiper run and pipe became stuck with bit at 6954'. Worked stuck pipe.

08/17 Unable to work stuck pipe free (100% circulation). Ran a free-point and backed off pipe @ 6613'. Recovered drill pipe, jars and 19 joints of heavy-weight drill pipe, leaving one joint of HWDP on top of collars. Made up fishing string, including jars and HWDP, engaged fish and attempted to work fish to bottom.

08/18 Jarred on fish, Spotted 75 Bbls. mineral oil in place at 930 hours. Jarred on fish and spotted 50 Bbls crude oil. Jarred on fish while circulating oil slowly past fish. Ran free-point and attempted string shot at second drill-collar down. String shot failed to detonate, probably damaged in bent HWDP.

08/19 Circulated and conditioned mud. Re-attempted back off with centralized, extra-slim String-Shot at top of drill-collars. Backed off fish successfully. Pulled out with 30' of fish (bottom-most joint of heavy wall from on top of drill collar). Laid down 8 joints of bent HWDP, bent from jarring down. Made clean out run.

08/20 Made up fishing tools. Ran in hole. Attempted to screw into fish (failed). Pulled out of well. Laid down screw-in assembly and picked up wash pipe and crossover tools. Ran in hole, broke circulation and washed over fish. Screwed into fish and spotted 80 Bbls of mineral oil and pipe lax around fish.

08/21 Worked stuck pipe and ran free point with string shot. Attempted unsuccessful back-off at 2nd drill collar. Made successful back-off at bottom of top collar. Pulled out of hole with fish. Retrieved 27.54' of drill collars. Made clean-up run. Broke circulation at 6595'. Cleaned out to 6625' and pulled out of hole.

08/22 Ran in hole with wash pipe and mill shoe. Washed over 2 collars and cleaned off top of stabilizer. Pulled out of hole. Ran in hole with fishing tools. Jarred on fish. Worked fish free and began pulling out of hole with fish. Note mineral oil had been left in place around fish for over 48 hours.

08/23 Pulled out of hole with fish. Laid down fishing tools. Picked up and ran in hole with bottom hole assembly. Reamed tight hole at 4677' to 4717'. Reamed from 6378' to 7405' and circulated and conditioned mud.

08/24 Wiped hole to 13-3/8" casing shoe. Circulated and conditioned mud for logs. Pulled out of hole. Rigged up Schlumberger. Ran DIL/SP/GR/Calp. Rigged down loggers. Ran in hole.

08/25 Reamed hole from 7315' to 7405'. Drilled 12-1/4" hole to 7430'. Circulated and conditioned mud for casing. Began running 9-5/8",47# N-80, LT&C casing string.

08/26 Ran remainder of 9-5/8" casing to 7412'. Held pre-job safety meeting. Cemented casing in place with two pump trucks at 8-12 BPM as follows: Pumped 20 Bbls of mud flush ahead of 410 Bbls. Lead cement consisting of 11.4 ppg Class G cement with 10 lbs/sk spherolite (LW-6) and 10 lbs/sk fumed silica (BA-90). Tailed with 133 Bbls of 15.8 ppg Class G cement with 0.06% FL-62 and 0.02% C12-32. Dropped top plug and pumped an additional 18 Bbls of tail cement. Displaced with 555 Bbls of fresh water. Bumped plug with 1700 psi, (displacement fluid used was 6% over theoretical, cement returns to surface approximately 500 cu. ft.). Set and inflated casing packer @ 7381' with 2900 psi surface pressure. Tested packer with good results. Left well shut-in with 1500 psi. Shoe @ 7412' with 310,000 lbs on hook, cement in place @ 12:30 hr's. Waited on cement for 6 hours. Landed casing in slips. Laid down BHA. Laid down drill pipe.

08/27 Finished laying down drill pipe. Removed blow-out equipment. Welded on cap with relief valve. Released rig at 1800 hours. Rigged down and moved off drilling rig

10/11 Moved in and rigged up completion rig.

10/12 Rig up. Nippled up BOPE. Tested blind rams and choke manifold to 4000 psi. Tested 3-1/2" pipe rams and manifold to 4000 psi. Tested Hydril bag to 3500 psi. BOPE test witnessed by Pete Wygle with D.O.G. Made up 8-1/2" bit on 5-7/8" OD drill collars.

10/13 Unable to get tubing hanger out of tubing head. Two packing stubs froze in head. Removed tubing head and installed new one. Tested seal flange to 3500 psi. Installed BOPE and tested to 2600 psi with rig pump. Made up 8-1/2" mill tooth bit on 182' of 5-7/8" OD drill collars. Picked up 3-1/2" drill pipe. Tagged cement at 6938'. 474' of cement inside 9-5/8" casing.

10/14 Drilled out cement from 6938' to 7390'. Pressure tested 9-5/8" casing to 1500 psi for 20 min., held OK. Changed well over with 9.5 ppg XCD polymer. Cleaned mud pits. Drilled from 7390' to 7428'. Pulled out of well.

10/15 Pulled out of well. Made up drilling assembly. Ran in well to 7428'. Drilled and surveyed ahead from 7428'. Surveyed at 7528'; N-72-W, 13-1/2°. Drilled and surveyed ahead from 7528' to 7625'.

10/16 Drilled and surveyed ahead from 7625'. Surveyed at 7644' 13.5°, N-81-W. Drilled and surveyed ahead from 7644' to 7768'. Surveyed; 14°, N-78-W. Drilled ahead to 7850' T.D. Circulated hole clean. Pulled to 9-5/8" shoe at 7412'. Ran in to 7850', circulated hole clean. Pulled out of well. Installed shooting flange. Rigged up Schlumberger to run logs.

10/17 Using Schlumberger ran DLL-MSFL-GR-SP from 7841' to 7100'. Ran LAT-CNL-GR from 7841' to 7412'. Made up Tri-State 8-1/4" x 15" hole opener. Ran in well to 7412'. Opened 8-1/2" hole to 15' from 7412' to 7487' in 12-1/2 hours (6' per hour).

10/18 Opened 8-1/2" hole to 15" from 7487'-7622'.

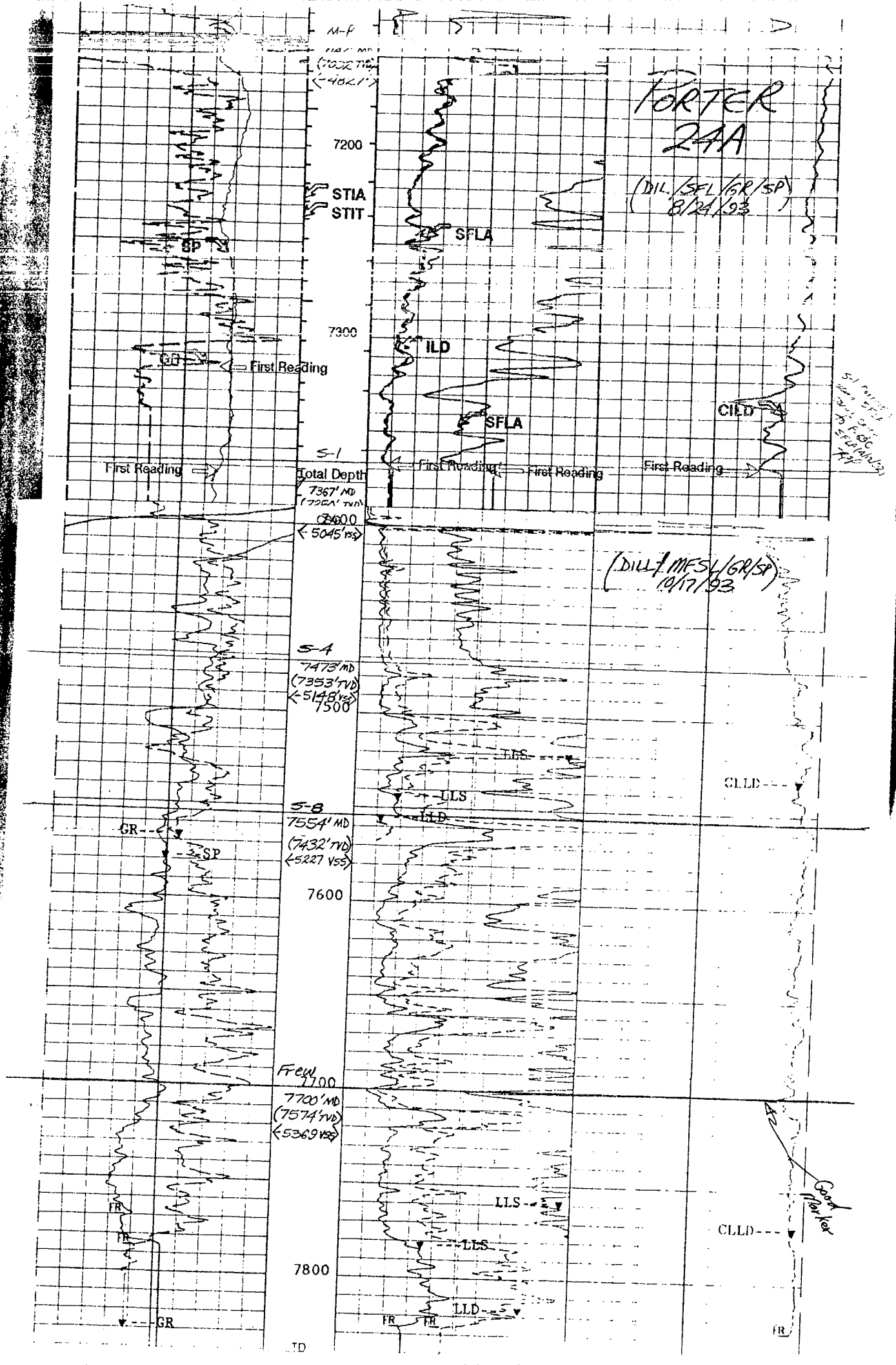
10/19 Opened 8-1/2" hole to 15" from 7622' to 7660'. Circulated well clean. Pulled out of well. Using Schlumberger, ran Dual Caliper (4-arm)-GR-CCL log from 7770' - 7100'. Ran in well with 8-1/2" bit and tagged fill at 7756'. Cleaned out to 7850' T.D. Circulated well clean.

10/20 Changed well over to clean 9.5 ppg 1% KCL-HEC polymer. Pulled out of well. Made up and ran 492' of 5-1/2" 17# LT&C liner. Ran in well with liner. Set bottom at 7850' with top of landing nipple at 7357'. Set packer at 7342'. Tested packer to 500 psi. Mixed and pumped 13.8 Bbls of 12.6 ppg slurry with 40 cu. ft. 20-40 resin coated sand, then 80 Bbls of 12.5 ppg slurry containing 257 cu. ft. of 20-40 Ottawa sand. Displaced with 49 Bbls at 1200 psi pressure. Pumped at slow rate with 64 Bbls displaced. Pressure dropped to 350 psi. Pumped a total of 59 Bbls displacement. Reversed out two drill pipe volumes with no gravel returns to surface. Tested packer to 500 psi. Packer would not test. Fluid returns to surface past packer rubbers. 297 cu. ft. of gravel in place behind liner at 4:24 a.m. Allowed pack to settle until 8:30 a.m.

10/21 Released Baker packer at 7324'. Pressured down annulus to 750 psi to establish pump rate for re-pack tool, check gravel pack for sand out, and verify need to run re-pack tool. Pumped away at 1 Bbls/min. Reset Baker packer at 7339'. Packer would not hold pressure. Released from liner. Pulled out of well and found packer rubbers damaged. Made up 90' of 2-3/8" CS Hydril tail on Baker re-pack tool. Ran in well slow to 7357'. Established pump rate of 3 Bbls/min at 375 psi. Mixed and pumped 10.3 Bbls of 12.6 ppg slurry with 30 cu. ft. of Ottawa sand. Displaced with 49.5 Bbls of polymer. Pressured up to 1000 psi. Reversed out 15 cu. ft. of sand. Total of 312 cu. ft. of gravel in place behind liner (26% excess). Waited 4 hours. Pressure tested pack to 1000 psi. Held 20 min (test O.K.). Pulled out of well with repack tools.

10/22 Ran Baker lead seal drive over adapter to 7354'. Set lead seal and released from drive over adapter. Pulled out of well. Made up 523' of 2-7/8" CS Hydril tubing on 3-1/2" drill pipe. Ran in well to 7850' with no fill. Circulated well clean. Laid down 3-1/2" drill pipe.

10/23 Laid down 3-1/2" drill pipe. Installed shooting flange. Using Dialog, set 9-5/8" Guiberson Magnum H packer at 7270'. Made up Guiberson guide shoe on 2' of 3.25" OD seals and latch assembly, 1 joint of 2-7/8" J-55 tubing, Otis 2.205 XN nipple, 1 joint of 2-7/8" J-55 tubing, Otis 2.313" XD sliding sleeve, 1 joint of 2-7/8" J-55 tubing, BST MMG gas lift mandrel with K-1.5 latch. Measured and picked up 2-7/8" 6.5# J-55 tubing, applying Baker seal to connections. Latched into packer at 7270'. Released from packer. Spaced out, latched packer and pulled 10,000 lbs over string weight to check latch. Landed 12,000 lbs down on packer. Tested down annulus to 1500 psi for 20 minutes. Packer and tubing held O.K. Using Santa Paula Wireline, opened XD sliding sleeve at 7202'. Installed back pressure valve in tubing hanger. Removed BOPE. Installed xmas tree. Using Associated Service, tested xmas tree to 5000 psi. Changed well over to 2% KCl water at 7202'. Water treated with 5 gals of Ucarcide per 100 Bbls and 5 gals HIB-19 per 100 Bbls, 2-1/2 gals COS per 100 Bbls. Released rig for move at 5:00 a.m. on 10/24/93.


PORTER 24A
(DIL/SFL/GR/SP 8/24/93)
(DILL/MFSL/GR/SP 10/17/93)
M-P
7200
7300
7400
7500
7600
7700
7800
STIA
STIT
SP
SFLA
ILD
CILD
GR
First Reading
S-1
Total Depth
7367' MD
(7250' TVD)
(-5045' VSS)
S-4
7473' MD
(7353' TVD)
(-5148' VSS)
S-8
7554' MD
(7432' TVD)
(-5227 VSS)
Frew
7700' MD
(7574' TVD)
(-5369 VSS)
LLS
LLD
CLLD
FR
Good Marker
TD

THE GAS COMPANY
PORTER

PORTER 24A
PORTER 24A
ALISO CANYON
CALIFORNIA

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

by
Baker Hughes INTEQ

Your ref : PORTER 24A
Our ref : svy2918
License :

Date printed : 7-Feb-94
Date created : 12-Aug-93
Last revised : 2-Feb-94

FINAL
REVISED
PRINT

Field is centred on 0.000,0.000,999.00000,+
Structure is centred on 0.000,0.000,3.00000,N

Slot location is s0 0 8.792,w1 29 38.388
Slot Grid coordinates are N -270.781, E -606.048
Slot local coordinates are 886.00 S 1983.00 W
Reference North is True North

THE GAS COMPANY
PORTER,PORTER 24A
ALISO CANYON,CALIFORNIA

SURVEY LISTING Page 1
Your ref : PORTER 24A
Last revised : 2-Feb-94

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert. Depth	RECTANGULAR COORDINATES	Dogleg Deg/100Ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N 0.00 E	0.00	0.00
136.00	0.50	214.00	136.00	0.49 S 0.33 W	0.37	0.24
254.00	0.50	214.00	253.99	1.34 S 0.91 W	0.00	0.67
411.00	0.25	169.00	410.99	2.25 S 1.22 W	0.23	0.83
561.00	0.75	199.00	560.98	3.50 S 1.48 W	0.36	0.88
719.00	1.00	167.00	718.97	5.82 S 1.51 W	0.34	0.52
867.00	0.75	199.00	866.95	7.99 S 1.53 W	0.36	0.18
985.00	0.50	205.00	984.94	9.19 S 2.00 W	0.22	0.44
1108.00	0.50	181.00	1107.94	10.21 S 2.24 W	0.17	0.50
1294.00	1.50	182.00	1293.91	13.46 S 2.34 W	0.54	0.06
1409.00	2.00	188.00	1408.85	16.95 S 2.67 W	0.46	-0.20
1531.00	2.25	173.00	1530.77	21.44 S 2.67 W	0.50	-0.94
1686.00	2.75	189.00	1685.62	28.13 S 2.88 W	0.55	-1.85
1840.00	2.50	183.00	1839.46	35.13 S 3.64 W	0.24	-2.27
2026.00	3.00	178.00	2025.25	44.05 S 3.68 W	0.30	-3.72
2213.00	3.00	179.00	2211.99	53.83 S 3.42 W	0.03	-5.60
2396.00	2.75	174.00	2394.76	62.98 S 2.88 W	0.19	-7.66
2583.00	4.00	184.00	2581.44	73.95 S 2.87 W	0.74	-9.51
2836.00	3.50	192.00	2833.90	90.31 S 5.09 W	0.28	-10.05
2935.00	2.75	192.00	2932.75	95.59 S 6.21 W	0.76	-9.82
3167.00	3.00	214.00	3164.46	106.06 S 10.76 W	0.48	-7.08
3255.00	2.75	220.00	3252.35	109.59 S 13.41 W	0.44	-5.06
3290.00	2.50	226.00	3287.32	110.76 S 14.50 W	1.06	-4.18
3352.00	3.75	255.00	3349.22	112.23 S 17.43 W	3.19	-1.54
3414.00	5.25	276.00	3411.04	112.46 S 22.21 W	3.56	3.14
3475.00	7.75	277.00	3471.64	111.66 S 29.07 W	4.10	10.03
3537.00	10.00	284.00	3532.90	109.85 S 38.44 W	4.02	19.58
3752.00	14.00	287.00	3743.16	97.73 S 81.44 W	1.88	64.00
3905.00	13.75	287.00	3891.69	87.00 S 116.53 W	0.16	100.38
4089.00	13.25	286.00	4070.61	74.79 S 157.71 W	0.30	143.02
4244.00	13.00	286.00	4221.56	65.09 S 191.54 W	0.16	178.00
4431.00	13.00	285.00	4403.76	53.85 S 232.08 W	0.12	219.84
4618.00	13.00	285.00	4585.97	42.96 S 272.71 W	0.00	261.72
4834.00	13.00	286.00	4796.44	29.98 S 319.53 W	0.10	310.05
5052.00	13.00	287.00	5008.85	16.05 S 366.55 W	0.10	358.74
5267.00	13.00	287.00	5218.34	1.91 S 412.80 W	0.00	406.70
5484.00	13.00	287.00	5429.78	12.36 N 459.48 W	0.00	455.10
5669.00	13.00	287.00	5610.04	24.53 N 499.28 W	0.00	496.38
5830.00	14.00	287.00	5766.58	35.52 N 535.22 W	0.62	533.65
5861.00	14.75	287.00	5796.62	37.76 N 542.58 W	2.42	541.28
5955.00	15.50	288.00	5887.36	45.14 N 565.97 W	0.84	565.57
6137.00	15.50	287.00	6062.74	59.77 N 612.36 W	0.15	613.74
6363.00	15.75	285.00	6280.39	76.54 N 670.86 W	0.26	674.23
6549.00	15.25	284.00	6459.62	88.99 N 718.98 W	0.30	723.75
6754.00	15.00	282.00	6657.52	101.03 N 771.09 W	0.28	777.14
6977.00	15.25	278.00	6872.80	111.11 N 828.36 W	0.48	835.29
7163.00	15.00	276.00	7052.36	117.03 N 876.53 W	0.31	883.77
7342.00	13.75	286.00	7225.78	125.32 N 920.02 W	1.55	928.03
7405.00	13.75	286.00	7286.98	129.44 N 934.41 W	0.00	942.92
7528.00	13.50	288.00	7406.52	137.91 N 962.12 W	0.43	971.64

All data is in feet unless otherwise stated
Coordinates from PORTER 24A and TVD from wellhead (2206.00 Ft above mean sea level).
Vertical section is from wellhead on azimuth 279.60 degrees.
Declination is 0.00 degrees, Convergence is 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

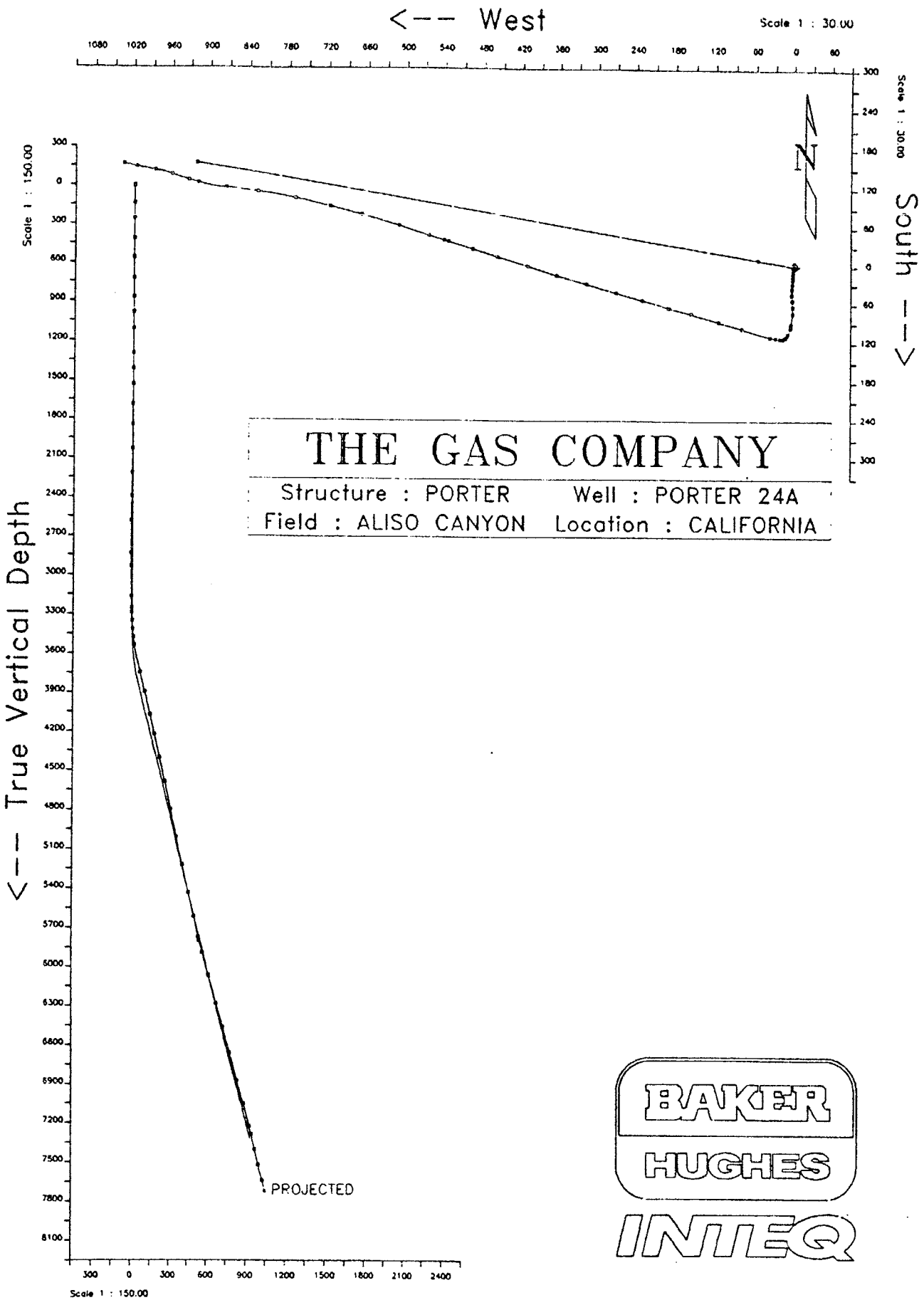
Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert. Depth	RECTANGULAR COORDINATES	Dogleg Deg/100Ft	Vert Sect	
7644.00	13.50	279.00	7519.32	144.21 N 988.37 W	1.81	998.58	
7768.00	14.00	282.00	7639.77	149.60 N 1017.34 W	0.70	1028.04	
7850.00	14.00	282.00	7719.34	153.72 N 1036.74 W	0.00	1047.86	PROJECTED

All data is in feet unless otherwise stated
Coordinates from PORTER 24A and TVD from wellhead (2206.00 Ft above mean sea level).
Vertical section is from wellhead on azimuth 279.60 degrees.
Declination is 0.00 degrees, Convergence is 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Comments in wellpath

MD	TVD	Rectangular Coords.	Comment
7850.00	7719.34	153.72 N 1036.74 W	PROJECTED

All data is in feet unless otherwise stated
Coordinates from PORTER 24A and TVD from wellhead (2206.00 Ft above mean sea level).
Bottom hole distance is 1048.08 on azimuth 278.43 degrees from wellhead.
Vertical section is from wellhead on azimuth 279.60 degrees.
Declination is 0.00 degrees, Convergence is 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ



BAKER HUGHES INTEQ

Vertical Section on 279.60 azimuth with reference 0.00 N, 0.00 E from PORTER 24A

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

No. T293-243

REPORT ON OPERATIONS

R.D. Phillips, Agent
Southern Calif. Gas Company
810 S. Flower St.
Los Angeles, CA. 90017

Ventura, California
October 25, 1993

Your operations at well "Porter" 24A, API No. 037-24143, Sec. 27, T. 3N, R. 16W, S.B.B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 10-13-93. Pete Wygle, representative of the supervisor, was present from 0330 to 0500. There were also present T. Wilson, Contractor's Rep.

Present condition of well: 13 3/8" cem 818'; 9 5/8" cem 7412'. TD 7412'.

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

DECISION:

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

tkc

WILLIAM F. GUERARD, Jr.
State Oil and Gas Supervisor

By Patrick J. Kinnear
Deputy Supervisor

OG109

API No. 037-24143 DIVISION OF OIL AND GAS 48 T 2S

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator So Cal Gas Co Well "Portal" 24A

Field Aliso CE County LA Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	10-13-93	R Wyatt	(0330 to 0500)	T. Wilson, contractor rep	
2nd			(to)		

Contractor CPS Rig # Contractor's Rep. & Title

Casing record of well: 13 3/8" cem 498'; 9 5/8" cem 7412' TD. ~~7512~~ 7412

OPERATION: Testing (inspecting) the blowout prevention equipment and installation.

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

Proposed Well Opns: New well . MACP: psi

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

REQUIRED BOPE CLASS: III B 5M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus
9 5/8	47 #	J-55	7412'	-	2739 sx of class G cem.	7350	-

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	-	Hydril	GK	11	5M	
R	3.5	Shaffer	LWS	"	"	/
R	csg	"	"	"	"	
S						

TEST DATA

Gal. to Close	Recovery Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
9.8					10-13	3000
2.3	/	/	/	/	"	4200
2.3	/	/	/	/	"	"

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3000 psi

Total Rated Pump Output 5 gpm

Distance From Well Bore 70 ft.

	Accum. Manufacturer	Capacity	Precharge
1	H & H	120 gal.	1000 psi
2		gal.	psi

CONTROL STATIONS

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

EMERG. BACKUP SYSTEM

				Press.	Wkg. Fluid
4	N_2 Cylinders	1	L=5' "	2100	5.3 gal.
	Other:	2	L= "	2000	6.3 gal.
		3	L= "	/	6.3 gal.
		4	L= "	/	6.3 gal.
		5	L= "		gal.
		6	L= "		gal.
			TOTAL:		gal.

HOLE FLUID MONITORING EQUIPMENT

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

TOTAL:

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press.	Connections: Weld	Connections: Flange	Connections: Thread	Test Press.
X	Fill-up Line							
✓	Kill Line		2	5M	✓	✓		4200
✓	Control Valve(s)	1		✓		✓		✓
✓	Check Valve(s)	1		✓		✓		✓
	Aux. Pump Connect.							
X	Choke Line		3	✓				✓
X	Control Valve(s)	1		✓	flex			✓
X	Pressure Gauge							
✓	Adjustable Choke(s)	2	2	✓				✓
	Bleed Line							
X	Upper Kelly Cock							✓
X	Lower Kelly Cock		3.5	5M				✓
✓	Standpipe Valve							✓
✓	Standpipe Press. Gauge							
X	Pipe Safety Valve		2 3/8 & 3 1/2	5M				✓
X	Internal Preventer		✓	✓				✓

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Gel	9.5	2500 bbl

REMARKS AND DEFICIENCIES: No deficiencies noted.

OGD9 (12/90/GSR1/2M)

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

No. T293-200

REPORT ON OPERATIONS

R.D. Phillips, Agent
Southern Calif. Gas Company
810 S. Flower St.
Los Angeles, CA. 90017

Ventura, California
August 10, 1993

Your operations at well "Porter" 24A, API No. 037-24143, Sec. 27, T. 3N, R. 16W, S.B.B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 8-7-93. P. Wygle, representative of the supervisor, was present from 2100 to 2300. There were also present R. Ellis, Contract Foreman.

Present condition of well: 13 3/8" cem 818'. TD 819.

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.

PK:PW:nr

WILLIAM F. GUERARD, Jr.
Acting State Oil and Gas Supervisor

By
Patrick J. Kinnear
Deputy Supervisor

OG109

API No. 037-24143

DIVISION OF OIL AND GAS

T 2S-3-20W

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator So. Cal Gas Co. Well Pacific Beach

Field Aliso Co. County LA Spud Date 8-5-93

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	8-3-93	R Wright	(2100 to 2212)	R. Ellis	contract foreman
2nd			(to)		

Contractor Kenai Drlg Co. Rig # 44 Contractor's Rep. & Title

Casing record of well: 13 3/8" cem 818', TD 819'.

OPERATION: Testing ~~(inspecting)~~ the blowout prevention equipment and installation

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

Proposed Well Opns: New well . MACP: psi

Hole size: 17 1/2 " fr. 0 ' to 819 ' , " to ' & " to '

REQUIRED BOPE CLASS: III B 3M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus
13 3/8	54.5	J-55	818		Cem w/ 600 sx class G, 12% gel, 2% CaCl2, followed by 200 sx class G, 2% CaCl2	752'	Surf

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	-	Shaffer	Wedge	13 3/8	2M	
B	4 1/2	Shaffer	3	✓	✓	
R	csg	✓	3	✓	✓	
S						

TEST DATA

Gal. to Close	Recovery Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
23.5					8-3	1.5M
3.6	/	/	/	/		2M
3.6						7M

TOTAL: 30.7

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3000 psi

Total Rated Pump Output 6.0 gpm

Distance From Well Bore 80 ft.

	Accum. Manufacturer	Capacity		Precharge	
1	Koomey	120	gal.	1000	psi
2			gal.		psi

CONTROL STATIONS

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

EMERG. BACKUP SYSTEM

			Press.	Wkg. Fluid
X	3 N_2 Cylinders	1 L=5½ "	2000	5.1 gal.
	Other:	2 L= ✓ "	✓	5.1 gal.
		3 L= ✓ "	✓	5.1 gal.
		4 L= "		gal.
		5 L= "		gal.
		6 L= "		gal.

TOTAL: 15.3 gal.

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press.	Connections: Weld	Flange	Thread	Test Press.
X	Fill-up Line							
X	Kill Line		3	3M	✓	✓		
X	Control Valve(s)	2		✓				
X	Check Valve(s)	1		✓				
X	Aux. Pump Connect.			✓				
X	Choke Line		✓	✓				
X	Control Valve(s)	2		✓				
X	Pressure Gauge							
X	Adjustable Choke(s)	2	2"/3"	3M/5M				
—	Bleed Line		—					
X	Upper Kelly Cock							
—	Lower Kelly Cock		—	—				
X	Standpipe Valve							
✓	Standpipe Press. Gauge							
X	Pipe Safety Valve		4.6	3M				
✓	Internal Preventer		✓	✓				

HOLE FLUID MONITORING EQUIPMENT

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

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Gel/Water	8.7	500 bbl

REMARKS AND DEFICIENCIES:

No deficiencies noted

OGD9 (12/90/GSR1/2M)

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

No. P293-220
Field Code 010
Area Code 00
New Pool Code 30
Old Pool Code --

PERMIT TO CONDUCT WELL OPERATIONS

GAS STORAGE

R.D. Phillips, Agent
Southern Calif. Gas Company
810 S. Flower St.
Los Angeles, CA. 90017

Ventura, California
July 8, 1993

Your proposal to drill well "Porter" 24A, A.P.I. No. 037-24143, Section 27, T. 3 N, R. 16W, S.B. B.&M., Aliso Canyon field, --- area, Sesnon-Frew pool, Los Angeles County, dated 7-6-93, received 7-8-93, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOG Class IIIB 3M requirements on the 7" casing, DOG Class IIIB 5M requirements on the 9 5/8" casing and maintained in operating condition at all times.
2. Drilling fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet.
4. If extensive, unplanned drill pipe operations occur (such as fishing, milling, etc.) and there is a possibility of casing damage, the casing must be pressure-tested prior to resuming normal operations. This Division must be notified to witness the test.
5. This office shall be consulted before sidetracking the well or running any additional casing.

Blanket Bond
PK:SF:nr

Engineer Steve Fields

Phone (805) 654-4761

WILLIAM F. GUERARD, Jr.
Acting State Oil and Gas Supervisor

By Patrick J. Kinnear
Patrick J. Kinnear
Deputy Supervisor

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.
OG111

6. The 13 3/8" casing is cemented with sufficient cement to fill behind this casing from the shoe to the ground surface.
7. The 9 5/8" casing is cemented with sufficient cement to fill behind this casing to at least 500 feet above the uppermost oil and/or gas zone or anomalous pressure interval, whichever is higher.
8. Requirements specified in our approval of the gas storage project dated 7-26-86 shall apply.
9. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
10. THIS DIVISION SHALL BE NOTIFIED:
    a. To witness a pressure test of the blowout prevention equipment prior to drilling out the shoe of the 13 3/8" and 9 5/8" 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.
    b. To witness a MIT Survey within three months after injection has commenced.

Faxed 7/6/93

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS
Notice of Intention to Drill New Well

C.E.Q.A. INFORMATION			
EXEMPT ☐ CLASS	NEG. DEC. ☐ S.C.H. NO.	E.I.R. ☐ S.C.H. NO.	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION ☑
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
7-10-6 25	SP	✓	BB	7-8-93	7-12-

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well Porter 24A, well type GS, API No. 037-24143 (Assigned by Division)

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

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

Not applicable, owned by Southern California Gas in fee

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

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

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

886' South and 1983' West of Station 84

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

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth:
150 feet South (Direction) and 1613 feet West (Direction)

Elevation of ground above sea level 2179 feet.

All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table, or Kelly Bushing) that is 23.5 feet above ground.

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#	K--55	0'	800'	800'	800'
9-5/8"	47#	N-80	0'	7800'	7800'	7800'
5-1/2"	17#	J-55	7700'	8200'	Gravel	Gravel

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

Intended zone(s) of completion Sesnon, 7800', 2600 psig (Name, depth, and expected pressure) Estimated true vertical depth 7000'

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

Name of Operator	Type of Organization (Corporation, Partnership, Individual, etc.)	
Southern California Gas Company	Corporation	
Address	**City**	**Zip Code**
P. O. Box 3249	Los Angeles	90051-1249
Telephone Number / **Name of Person Filing Notice**	**Signature**	**Date**
(213)244-2665 / E. S. Sinclair	E. S. Sinclair	7/6/93

This notice and 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.

OG 105 (9/83/GSR1/5M)

Information for compliance with the California Environmental Quality Act of 1970 (C.E.Q.A.).

If an environmental document has been prepared by the lead agency, please submit a copy of the document with this notice *or* supply the following information:

Lead Agency: _____

Lead Agency Contact Person: _____

Address: _____

_____

Phone: ( ) _____

FOR DIVISION USE ONLY

District review of environmental document (if applicable)? Yes ☐ No ☐

Remarks: _____

_____

_____

CRITICAL WELL

As defined in the California Administrative Code, 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 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.

Exceptions or additions to this definition may be established by the supervisor upon his own judgment or upon written request of an operator. This written request shall contain justification for such an exception.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS
Notice of Intention to Drill New Well

C.E.Q.A. INFORMATION			
EXEMPT ☐ CLASS____	NEG. DEC. ☐ S.C.H. NO.____	E.I.R. ☐ S.C.H. NO.____	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION ☐
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
4-11-95		Y	BB		7-7-93

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well Porter 24A, well type S, API No. 037-24143 (Assigned by Division)

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

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

Not applicable, owned by Southern California Gas in fee

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

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

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

886' South and 1983' West of Station 84

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

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth:
150 feet South (Direction) and 1613 feet West (Direction)

Elevation of ground above sea level 2179 feet.

All depth measurements taken from top of Kelly Bushing that is 23.5 feet above ground.
(Derrick Floor, Rotary Table, or Kelly Bushing)

PROPOSED CASING PROGRAM KB 2203

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
13-3/8"	54.5#	K-55	0'	800'	800'	800'
9-5/8"	47#	N-80	0'	7800'	7800'	7800'
5-1/2"	17#	J-55	7700'	8200'	Gravel	Gravel

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

Intended zone(s) of completion Sesnon, 7800', 2600 psig (Name, depth, and expected pressure) Estimated true vertical depth 7000'

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

Name of Operator	Type of Organization (Corporation, Partnership, Individual, etc.)	
Southern California Gas Company	Corporation	
Address	**City**	**Zip Code**
P. O. Box 3249	Los Angeles	90051-1249
Telephone Number / **Name of Person Filing Notice**	**Signature**	**Date**
(213)244-2665 E. S. Sinclair	E. S. Sinclair	7/6/93

This notice and 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.

OG 105 (9/83/GSR 1/5M)