OPERATOR So. Cal. Gas
LSE & NO SFZU SS-4-0
MAP 251

	(1)	(2)	( )	( )	( )	( )
TENTION	Drill GS	Supp to Notice	Rework	Plug & suspend	Redrill	Supp redrill
TICE DATED	7-15-80	10-16-80	4-12-93	4-12-94	8-28-95	10-12-95
REPORT NUMBER	280-232	280-373	293-143	294-106	P295-220	P295-245
CKED BY/DATE			PW/6-21-93			
P LETTER DATED	→	pmc 4/10/86		10/24/94		
MBOL	→		N/C		N/C	N/C

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
TICE	7-18-80		10-21-80				4-11-94		8-30-95		10-16-95	
STORY	→		2-5-81				2-18-95		3-1-96	→		
MMARY	CORRECTED →		10-17-86						3-1-96			
DIFL S/ELECTRIC LOG			12-30-82 12-10-80						Dual Ind GR/SP 2/14/96			
RECTIONAL SURV			2-5-81						Litho-Density Comp. Neutron 2/14/96			
RE/SWS DESCRIP			2-5-81						Sonic/GR 2-14-96 SONIC 2-14-96			
HER Caliper Mud log	12-10-80		1-17-81 1-19-81 2-24-81		GR-Coll 6-8-93 USI Image 5-4-94		CALIPER 12-8-94		Platform Express 2-14-96 Induction 2-14-96 Litho Density Comp Neutron GR, TEMP 2-14-96 SP PETROPHYSICAL 2-14-96			
CORDS COMPLETE	→		1-13-83	MS			2-23-95	PW	3-1-96	SPM	3-1-96	SPM

ENGINEERING CHECK

REPORTS ______
ERATOR'S NAME ______
LL DESIGNATION ______
[illegible] ______
[illegible] ______
[illegible] INSPECTION ______
[illegible] LETTER OK ______

CLERICAL CHECK

POSTED TO 121 ______ 170 MAILED ______ FINAL LETTER MAILED ______

RELEASED BOND ______

OPERATOR So Cal Gas
WELL NO. 15 STANDARD SESNON # 4-O
MAP

A.P.I. 037_22063
SECTION 29, T. 3 N, R. 16 W

INTENTION	REWORK					
NOTICE DATED	09/09/2005					
P-REPORT NUMBER	P205-156					
CHECKED BY/DATE						
MAP LETTER DATED						
SYMBOL						

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	09/09/05											
HISTORY	11/29/05											
SUMMARY												
E-LOG												
MUD LOG												
DIPMETER												
DIRECTIONAL												
CORE/SWS												
CBL												

ENGINEERING CHECK

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

RECORD'S COMPLETE ~~OK~~

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.

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DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4-0
A.P.I. No. 037-22063

Field: Aliso Canyon
County: Los Angeles
Surface Location: Sec. 28, T3N, R16W, S.B.B.&M.

Richard Jackson
(Person Submitting Report)
Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 11/16/2005
Signature: MTK

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
09/12/2005	MI Key Rig #447 (Manny Armenta, Toolpusher). Spotted Baker tanks and BOPE at well site. Removed well laterals.
09/13/2005	Continued unloading equipment. RU and tied down mast. RU choke manifold and kill lines.
09/14/2005	Opened well w/ 2500 psi tbg, 2450 psi csg. RU Welaco slickline. RIH w/ gauge ring and stopped @ 7931' - unable to pull free. Pumped 70 bbls HEC polymer down tbg and displaced pill w/ 30 bbls of 3% KCL. Killed well by pumping 300 bbls of 3% KCL - no circulation. Dropped cutter bar and pulled WL tools free. Installed BPV and ND prod tree. NU Class III BOP and accumulator lines. Removed BPV and closed well in.
09/15/2005	500 psi tbg, 0 psi csg. Cont. NU Class III BOP. Changed pipe rams. RU work floor. Circulated-out gas bubble. RU BOP test unit (Steve Fields of DOGGR District #2 waived the BOPE test and Inspector Fred Pineda apporved the BOP installation). Tested Hydril and pressure bled down from 3000 psi to 2400 psi in 20 minutes due to tbg hanger leak. Tested the pipe rams to 5000 psi and pressure bled down to 4200 psi in 20 minutes. Closed well in and secured rig.
09/16/2005	500 psi tbg, 0 psi csg. Pumped 40 bbls down csg and bled tbg to 0 psi. Pumped 30 bbls down tbg. Cont. testing BOPE but unable to get a good test due to tbg hanger leak. RD tester. Removed donut studs and unlanded tbg. Attempted to release tbg from packer @ 7900' and surfaced gas bubble. Circulated out gas. RU Tiger W/L. RIH w/ chemical cutter and cut 2 7/8" tbg string @ 7860'. RD W/L. Spotted pipe trailer. Closed well in and secured rig.
09/19/2005	0 psi tbg, 450 psi csg. Pumped 40 bbls of 3% KCL down tbg and bled csg to 0 psi. Pumped 70 bbls of XCD polymer down tbg and displaced polymer w/ 35 bbls of 3% KCL. Circulated well. POOH w/ 150 jts of 2 3/8" tbg to 3000' for kill string. Closed well in and secured rig.
09/20/2005	0 psi tbg & csg. Filled well w/ 36 bbls 3% KCL. Cont. POOH w/ 2 3/8" tbg laying down a total of 248 jts, GLM and SSD. Changed pipe rams to 3 1/2". Spotted pipe trailer. MU 7" csg scraper and bumper sub (BS) . MIH picking-up 3 1/2" tbg and stopped @ 3540'. Closed well in and secured rig.
09/21/2005	Tbg and csg on vacuum. Filled well w/ 28 bbls 3% KCL. Cont. MIH w/ 3 1/2" tbg to 7838' (2 3/8" tbg stub @ 7860'). Reversed circulated two tbg volumes. POOH to 3138' for kill string. Closed well in and secured rig.
09/22/2005	Tbg and csg on vacuum. Filled well w/ 40 bbls 3% KCL. POOH w/ 3 1/2" tbg. LD csg scraper and BS. MU 5 3/4" mill shoe, (2) jts 5 3/4" washpipe, (2) junk baskets, jars, and (4) 4 3/4" drill collars (DCs) on 3 1/2" tbg. RIH to 7865' and tagged fish. MU circulating head. Closed well in and secured rig.
09/23/2005	Tbg and csg on vacuum. Filled hole w/ 40 bbls 3% KCL. NU PGSR and PU power swivel. Broke circulation and worked over tbg stub @ 7865' taking 2800 foot-pounds torque. Unable to cont. due to excessive torque. LD power swivel and ND PGSR. POOH and LD 59 jts of 3 1/2" tbg. Closed well in and secured rig.
09/26/2005	Tbg and csg on vacuum. Filled hole w/ 52 bbls 3% KCL. Cont. LD 3 1/2" tbg. Stood-back DCs and washpipe and changed pipe rams to 2 7/8". RU drill pipe tongs. RIH w/ 5 3/4" flat-bottom mill shoe, (2) jts 5 3/4" washpipe and (2) 4 3/4" DCs on 2 7/8" drill pipe. Closed well in and secured rig.
09/27/2005	Drill pipe and csg on vacuum. Filled hole w/ 32 bbls of 3% KCL. Cont. PU 2 7/8" drill pipe and RIH. Tagged the top of the fish @ 7865'. NU circulating head. Closed well in and secured rig.
09/28/2005	Drill pipe and csg on vacuum. Filled hole w/ 40 bbls 3% KCL. PU power swivel and cleaned out from 7865' to the top of the Baker Model 'D' pkr @ 7900'. Milled pkr slips and pushed the pkr down to 7922'. Reverse circulated clean. LD power swivel and POOH to 2400' for kill string. Closed well in and secured rig.
09/29/2005	Drill pipe and csg on vacuum. Filled hole w/ 40 bbls of 3% KCL. POOH and LD washpipe and mill shoe. MU 5 3/4" overshot w/ grapple, BS, jars, (4) 4 3/4" DCs and intensifer on 2 7/8" drill pipe. RIH to the top of fish @ 7887'. Engaged fish and pulled 20,000# over string weight. POOH dragging fish slowly to 5000'. Closed well in and secured rig.
09/30/2005	0 psi drill pipe & csg. Filled well w/ 40 bbls of 3% KCL. Cont. POOH w/ 2 7/8" drill pipe and stood-back fishing tool BHA. Recovered 2 3/8" tbg stub, No-Go nipple w/ X-over, (1) jt 2 7/8" tbg and seal assembly but no pkr. MU spear, BS, jars, (4) 4 3/4" DCs, and intensifier on 2 7/8" drill pipe and RIH to 5000'. Closed well in and secured rig.
10/03/2005	Drill pipe and csg on vacuum. Filled hole w/ 60 bbls 3% KCL. RIH w/ spear to 7914' and engaged fish and POOH w/ pkr dragging. LD fish and BS, jars and spear. Recovered pkr mandrel but the slips and rubber were left in the hole. PU 45 degree cutoff and 65 jts 2 3/8" CS Hydril tbg and RIH on 2 7/8" drill pipe to 3500'. Closed well in and shut down.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4-0
A.P.I. No. 037-22063

Field: Aliso Canyon
County: Los Angeles
Surface Location: Sec. 28, T3N, R16W, S.B.B.&M.

Richard Jackson
(Person Submitting Report)
Title: Storage Field Engineer
(President, Secretary, or Agent)

Date: 11/16/2005

Signature: MTK

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
10/04/2005	0 psi drill pipe & csg. Filled hole w/ 38 bbls 3% KCL. RIH to the top of the liner @ 7944'. Mixed and pumped 100 bbl XC polymer pill. Squeezed 70 bbls and opened backside and loaded csg w/ 30 bbls. RIH to 8276' and reverse circulated two tbg volumes (well taking 1.0 BPM). RIH to 8584' and reverse circulated two tbg volumes (well taking 2.0 BPM). POOH to the 4 1/2" liner top @ 7944. Closed well in and secured rig.
10/05/2005	0 psi drill pipe & csg. Pumped 85 bbl calcium carbonate pill and displaced to liner. RIH to 9154' and tagged hard bridge and cleaned out to 9200'. Cont. RIH cleaning out fill and encountered hard bridge from 9750' to 9769'. Stopped RIH @ 9832 when drill pipe became plugged. POOH to 7413'. Closed well in and secured rig.
10/06/2005	0 psi drill pipe & csg. Filled hole w/ 40 bbls 3% KCL. RIH to 9832' and reverse circulated 90 bbls. POOH and stood-back 2 3/8" tbg. PU 3.900" tapered mill, (1) 3 1/8" DC, csg scraper, BS, jars and (2) 3 1/8" DCs on 2 7/8" drill pipe. RIH to 7900'. Closed well in and secured rig.
10/07/2005	0 psi drill pipe & csg. Filled well w/ 44 bbls 3% KCL. RIH w/ mill assembly to 8190'. RU power swivel and reamed from 8190' to 8322'. Cont. RIH reverse circulating clean @ 8500', 8700' and 9220'. POOH to 7920'. Closed well in and secured rig.
10/10/2005	0 psi drill pipe and 550 psi csg. Pumped 36 bbls of 3% KCL down drill pipe and bled down csg. Filled csg w/ 80 bbls 3% KCL. RIH to 9683'. PU power swivel and rotated through tight spot from 8683' to 9717'. Cont. RIH and tagged down @ 9830' and reverse circulated clean. POOH to 3500'. Closed well in and secured rig.
10/11/2005	0 psi drill pipe & csg. Filled well w/ 40 bbls of 3% KCL. POOH and LD (3) 3 1/8" DCs, jars, BS and mills. RIH to 3000' w/ 2 7/8" drill pipe. Stripped-off circulating head and RD. Loaded-out power swivel. Closed well in and secured rig.
10/12/2005	0 psi drill pipe & csg. Filled well w/ 60 bbls of 3% KCL. POOH w/ drill pipe. MU HES 4" RTTS packer w/ downhole gauges. RIH and set pkr @ 9720'. RU HES pump truck for injection/frac test. With unloader open, pumped 48 bbls of Clay-Fix. Closed unloader and pumped 48 bbls of 3% KCL at 5.0 BPM @ 3800 psi. Stepped down rate to 4.0 BPM @ 3500 psi, 3.0 BPM @ 2900 psi, 2.0 BPM @ 2200 psi, and finally 1.0 BPM @ 1800 psi. Shut down pumps watch for frac closure. Shut in well and rigged-out pump truck. Closed well in and secured rig.
10/13/2005	0 psi drill pipe, 150 psi csg. Filled well w/ 65 bbls 3% KCL. Mixed and pumped 70 bbl Hi-visc polymer pill (3 sks Duo-Vis). Released RTTS pkr and POOH and LD pkr and gauges. PU 7" RBP and RIH to 3141'. Closed well in and secured rig.
10/14/2005	0 psi drill pipe & csg. Filled well w/ 40 bbls 3% KCL. Set RBP @ 3139' and pressure tested annulus to 500 psi. POOH w/2 7/8" drill pipe. ND Class III BOP and tbg head. Replaced primary and (2) PS seals. NU tbg head and tested all seals to 5000 psi for 20 minutes. NU Class III BOP and tested to 3000 psi w/ rig pump. RIH w/ 2 7/8" drill pipe to 3149' and released RBP. Closed well in and secured rig.
10/17/2005	0 psi drill pipe, 500 psi csg. Filled well w/ 100 bbls 3% KCL. Closed well in and secured rig.
10/18/2005	0 psi drill pipe & csg. Filled well w/ 60 bbls 3% KCL. POOH w/ 2 7/8" drill pipe and LD RBP and setting tool. MU 2 7/8" armored wire-wrapped screen (3 3/4" OD) w/ 2 7/8" x 4 1/2" Burns liner hanger, running tool, BS, 2 3/8" pup jt, X-over sub, 65 jts 2 3/8" PH-6 tbg, X-over sub and 123 jts of 2 7/8" drill pipe. RIH w/ liner to 9753' and hung @ 9721'. POOH to 8134'. Closed well in and secured rig. 9721.63' (2.63') - 2 7/8" x 4 1/2" Burns hanger; 9724.26' (0.94') - 2 7/8" Blank pipe; 9725.20' (28.4') - 2 7/8" Armored screen; 9753.60' (1.40') - 2 7/8" Bullnose.
10/19/2005	0 psi drill pipe & csg. Filled well w/ 28 bbls 3% KCL. POOH and LD 160 jts of 2 7/8" drill pipe, 65 jts of 2 3/8" PH-6 tbg and liner setting tool. LD (4) 4 3/4" DCs. RIH w/ 2 7/8" drill pipe to 3000'. Closed well in and secured rig.
10/20/2005	0 psi drill pipe & csg. Filled well w/ 60 bbls of 3% KCL. POOH and LD 104 jts of 2 7/8" drill pipe. PU 7" HES PLT 23-29# pkr and RIH w/ 2 7/8" completion assembly to 4000'. Closed well in and secured rig.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4-0
A.P.I. No. 037-22063

Field: Aliso Canyon County: Los Angeles
Surface Location: Sec. 28, T3N, R16W, S.B.B.&M.

Richard Jackson Title: Storage Field Engineer
(Person Submitting Report) (President, Secretary, or Agent)

Date: 11/16/2005 Signature: MTK

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
10/21/2005	0 psi tbg & csg. Filled well w/ 30 bbls 3% KCL. Cont. RIH picking-up completion assembly. Spaced out tbg and set HES PLT 23-29# pkr @ 7880' w/ tbg in 10,000# compression. Pressure tested backside to 1500 psi for 20 minutes. Installed BPV and ND BOP. NU prod tree and removed BPV. Closed well in and secured rig. 20.0' (0.7') - 2 7/8" x 7" tbg hanger; 20.7' (5.77') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 26.47' (4375.73') - 139 jts 2 7/8" 6.5# N-80 EUE 8rd tbg; 4402.20' (4.25') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 4406.45' (6.11') - 2 7/8" BST GLMA-1.0 mandrel w/ 1" dummy valve; 4412.56' (2.24') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 4414.80' (3365.69') - 107 jts 2 7/8" 6.5# N-80 EUE 8rd tbg; 7780.49' (4.15') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 7784.64' (6.15') - 2 7/8" BST GLMA-1.0 mandrel w/ 1" dummy valve; 7790.79' (2.15') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 7792.94' (31.36') - 1 jt 2 7/8" 6.5# N-80 EUE 8rd tbg; 7824.30' (3.85') - 2 7/8" HES 'XD' SSD (2.313" ID) - Opens down; 7859.67' (6.23') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 7865.90' (2.18') - 2 7/8" HES On/Off tool (2.313" ID w/ 2.205" No-Go); 7868.08' (6.15') - 2 7/8" 6.5# N-80 EUE 8rd pup jt; 7874.23 (6.22') - 7" HES PLT 23-29# pkr (set in 10,000# compression); 7880.45' (0.44') - HES Re-Entry Guide;
10/24/2005	RDMO to Porter 69G well site. Transferred fluids and mud pump. Cleaned up location.
11/07/2005	MIRU HES coiled tbg (CT), acid & N2. Held pre-job safety meeting. RU BOPE and flow lines. Function test BOPE and pressure tested equipment to 3000 psi - all tested OK. Opened well w/ 2535 psig SIWHP. RIH w/ 1.5" coil pumping lease water @ 0.4 BPM. Hard-tag @ top of 4 1/2" liner @ 7936' (7944' on well schematic). Increased pumping rate to 1.0 BPM and attempted to get into the liner several times but without success. POOH w/ CT and checked the BHA @ surface (moved centralizer to the front of the BHA). RIH w/ CT pumping lease water @ 0.6 BPM and got inside the 4 1/2" liner. Started pumping 15% HCL/FE Acid @ 1.0 BPM w/ CT @ 9100' (Stage 1 - 23.8 bbls). Started displacing the acid across perfs w/ coil @ 9722'. Switched to Clayfix 5 w/ alcohol and continued diaplacement w/ CT @ 9630' . Finished displacement and raised CT to 7874' and shut down for 1.0 hour soak. RIH w/ CT pumping ClayFix 5 w/ alcohol (Stage 2 - 23.8 bbls) followed by straight ClayFix 5 (Stage 3 - 47.62 bbls) across the perfs. At 9754', opened well to Baker tank. Brought pump to idle and started pumping N2 @ 500 SCFPM increasing rate to 950 SCFPM (CT @ bottom of 2 7/8" inner liner set inside the 4 1/2" perforated liner). Raised the coil to 9722' and increased the N2 rate by steps from 700 SCFPM to a max. of 1500 SCFPM. Continued raising the coil while pumping N2 to 7500' (Stage 4). Shut down N2 and POOH. SIWHP @ 1897 psi. Pumped a total of 153 bbls of lease water during job. Closed master valve and RDMO.

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DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

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

No. **T206-115**

Report on Operations

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

Ventura, California
May 16, 2006

Your operations at well **"Standard Sesnon" 4-0,** API No. **037-22063,** Sec. **29**, T. **3N**, R.**16W**, S.B.B.&M. **Aliso Canyon** Field, in **Los Angeles** County, were witnessed on **09-15-2005**. **Fred Pineda,** representative of the supervisor, was present from **01330** to **1400**. There were also present **Mike Volkmar.**

Present condition of well: **16" cem 1296'; 10 ¾" cem 4852'; 7" cem 8104'; 4 ½" ld 7945'– 10,691', perf @ int 8183'-10,143'. TD 10,691'. ETD 10,593'.**

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

DECISION:

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

tkc

Hal Bopp
State Oil and Gas Supervisor

By _____
Bruce H. Hesson
Deputy Supervisor

API No. 037-22063-01 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 206-115

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator So. Cal. Gas company Well "Standard Sesson" 4-O Sec. 29 T. 03N R. 16W
Field Aliso Canyon County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	9/15/05	F. Pineda	(1330 to 1400)	Mike Volkmar	Consultant
2nd			(to)		

Contractor Key Rig # 447 Contractor's Rep. & Title

Casing record of well: 16 cem. 1,296'; 10 3/4" cem. 4852; 7" cem. 8104'; 4 1/2" ld. 7945 to 10,691', perf @ int. 8183' to 10'143'. TD 10691' ETD 10.593'

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

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

Proposed Well Opns: Rework . MACP: psi **REQUIRED BOPE CLASS:** III 5M

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

CASING RECORD OF BOPE ANCHOR STRING

Size	Weight(s)	Grade(s)	Shoe at	CP at	Cement Details	Top of Cement: Casing	Top of Cement: Annulus

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	—	Hydril		11"	5k	—
Rd	2 3/8	Shaffer		11"	5k	—
Rd	CSO	Shaffer		11"	5k.	—

TEST DATA

Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
						—
						—
						—

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 2750 psi
Total Rated Pump Output gpm 2/3 Fluid Level
Distance from Well Bore 70 ft.

	Accum. Manufacturer	Capacity	Precharge
1	Shaffer	80 gal.	1500 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
	N_2 Cylinders	1	L= "	2000	10 gal.
	Other:	2	L= "	1800	10 gal.
		3	L= "	1800	10 gal.
		(4)	L= "	1900	10 gal.
		5	L= "		gal.
		6	L= "		gal.
		TOTAL:			ga

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

TOTAL:

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press.	Connections: Weld	Connections: Flange	Connections: Thread	Test Press.
	Fill-up Line							
	Kill Line		2"	5k				—
X	Control Valve(s)	2		5k				—
X	Check Valve(s)	1		5k.				—
X	Aux. Pump Connect.			5k				—
X	Choke Line		3"	5k.				—
X	Control Valve(s)	7		5k.				—
X	Pressure Gauge							
X	Adjustable Choke(s)	2	3	5k				—
X	Bleed Line		2"					
	Upper Kelly Cock							
	Lower Kelly Cock							
	Standpipe Valve							
	Standpipe Press. Gau.							
X	Pipe Safety Valve		2 3/8	5k				—
X	Internal Preventer		2 3/8	5k				—

Hole Fluid Type	Weight	Storage Pits (Type & Size)
KCl mud	8.5	650 bbls (Baker tank)

REMARKS AND DEFICIENCIES:

OGD9 (9/00)

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

No. P205-156

PERMIT TO CONDUCT WELL OPERATIONS

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

Gas Storage

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

Ventura, California .
September 16, 2005

Your _____ proposal to rework well "Standard Sesnon" 4-0 ,
A.P.I. No. 037-22063 Sec. 29 , T. 3N , R. 16W , SB B.&M.,
Aliso Canyon field, ---------- area, Sesnon-Frew pool
Los Angeles County, dated 09/09/2005 received 09/09/2005 has been examined in conjunction with records filed in this office.

THE PROPOSAL, COVERING WORK ALREADY COMPLETED IN ACCORDANCE WITH PRIOR AGREEMENT.

SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

Hal Bopp, 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 P205-156

C.E.Q.A. INFORMATION (when redrilling or deepening only)			
Exempt ☐	Neg. Dec. ☐	E.I.R. ☐	Document not required by local jurisdiction ☐
Class ____	S.C.H. No.	S.C.H. No.	
See Reverse Side			

FOR DIVISION USE ONLY			
	Forms		SDP Well
Bond	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 *(Circle one)* well Standard Sesnon 4-0 *(Well designation)* API No. 037-22063

Sec. 29 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:
Please see attached program

GS

2. The total depth is: 10691 feet. The effective depth is: 10593 feet.

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

4. Present zone pressure: variable storage psi. Anticipated/existing new zone pressure: same psi.

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

(or)

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

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

The proposed work is as follows: *(A complete program is preferred and may be attached.)*
Frac stimulate previously stimulated interval and place sand control screen across existing stimulated perforations.
This program will not alter existing permanently installed casing.

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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	Telephone Number	
Southern California Gas Company	818 701 3251	
Address: 9400 Oakdale Av	City: Chatsworth	91313
Name of Person Filing Notice: Richard Jackson	Signature: [signature]	Date: 9-9-05

File in Duplicate

OG107 (7/97/GSR/5M)

COMPLETION/STIMULATION PROGRAM

24 August 2005

Standard Sesnon 4-0

DATE: 24 August 2005

Revisions: **29 Aug 05 RJ, 9-9-05 RJ**

OPERATOR: **Southern California Gas Company**

FIELD: **Aliso Canyon**

WELL: **Standard Sesnon 4-0**

API# 037-22063

CONTRACTOR: **Key 447**

OBJECTIVE: **Frac Stimulate and Complete well with Tight Liner**

ACCOUNT: **GWO xxxxx IO 300xxx**

ELEVATION: **Take all measurements from the original KB = 20' above GL.**

PRESENT CONDITIONS: Well was redrilled from shoe of surface pipe following re-entry/abandonment of original hole just after earthquake related re-entry in 1995. Well was perforated and frac stimulated 9739 – 9641 through 24) ½" holes. The remaining section was perforated in a section that was drilled within a sub section of the storage zone. The frac proppant has subsequently been produced back and the well is full of proppant. It is now programmed to clean out the well and perform frac stimulation to link up with the original frac and to run a perforated, gravel packed liner inside the cemented liner.

Casing:

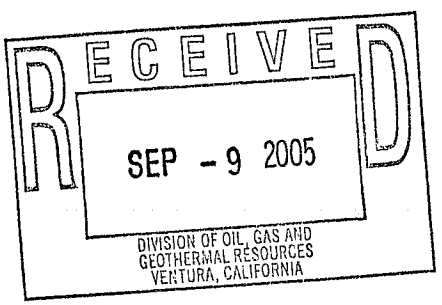
0' - 1296'	16"	75#	K-55	Cemented
0' - 4852'	10-3/4"	51#	N-80	Cemented
0' – 8100'	7"	29#	N-80	Cemented w/ 1398cf
7944'-10691'	4-1/2"	11.6#	N-80	Cemented/Perforated

1.2HPF - 8183' – 9700' in intervals

24 ½" holes 9739' – 9741' (frac'ed)

12) ½" holes 10141 – 10143 No breakdown

E.D. 10593



Tubing:

7865' approx.	2-3/8"	6.5#	N-80	EUE 8R

Packer

Baker Model "D"	7"	7908' see tubing detail

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.

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 not require approval from CaDOGGR a courtesy notice will be filed.

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. Consult HES frac supervisor for location and manifolding.

3) Move in pump with 100b circulating tank, shaker and mixer. Well crew to provide labor for killing well and installing kill equipment.

4) Rig up Wireline with full lubricator and run in well. Open sliding sleeve at 7831'. (Spicer (661) 322-4260 or 303-9145).

5) Connect pump to tubing and vent casing through choke manifold to Gas Co. system. Notify Aliso Operations prior to venting any gas to system.

6) Kill well per schedule: Maintain 500psi overbalance throughout kill. Dead head 80 barrels of polymer KCl/salt water down tubing to provide required overbalance. Use approx. 2#/barrel HEC polymer to achieve 60 sec minimum

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viscosity. Check wellhead pressure prior to pumping and calculate gradient using TVD=7790' for drilled depth of 8183''. Weight as required.

Rig work:

1) Move in Key #447 - light work over rig capable of 300,000#. Rig up with working floor.
2) Set BPV. Install Weatherford Class III BOPE directly on 11"-5000psi flange. Fit BOPE with 2-3/8" 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.
4) Install 1 jt of tubing in tubing hanger with Safety valve in top. Unland and release from Baker Model "D" packer at 7865'. Lay down 2-3/8 tubing and seals.
5) Run 7"-29# positive scraper on 3-1/2" tubing to top of packer. Reverse circulate clean.
6) Make up packer mill shoe and recover Model "D" packer.
7) Pick up 3-7/8" open bit on 2-3/8" Hydril tubing using 2) 3-1/8" drill collars. Clean out sand and fill to 9760' ED. Reverse clean. Sweep hole with high viscosity pill.
8) Run 4-1/2" 11.6# mill, scraper assembly:
   a) O.D. of mill assembly to be 3.9" with stiff spiral set mills separated by 10'.
   b) Rotate through entire length of liner to 9760'.
9) Reverse clean. Place pill across liner.
10) Pull to top of liner and change over to filtered KCl.
11) Run 4-1/2" 11.6# service packer to 9720'. Avoid collars and existing perforations.
12) Perform frac treatment per attached HES program with 20/40 sand.
13) Release packer and pull out of well.
14) Rerun bit assembly and clean out to 10500'. Place polymer pill across interval from max clean out depth to top of liner.
15) Run in well with 1 joint of 2-7/8" Wire wrapped liner on 3-1/2" tubing and 2-3/8 Hydril tail pipe per attached WEA completion program:
   a) Shroud O.D. of wire wrap.
   b) Centralize to 4" top and bottom and use cups on bottom.

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Status: Injection/Withdrawal Well

Flow Regime: Casing Flow

Elevation: 2886', KB 20.00'

Surface Location: 861' South and 7707' West of Station 84, Section 29, T3N, R16 V, S.B. B&M

Bottom Hole Loc.: 1088' South and 537' West of surface location at a TVD of 914 '.

History:

8-11-80 to 1-16-81: Well drilled and completed as an observation well. During drilli g operations, 2147' of drill pipe and tools were left in original hole from 5502' to 7649'.

5-10-93 to 5-20-93: Reperforated and installed gas lift system.

3-18-94 to 8-28-94: Plugged back to 4450' due to collapsed 7" casing at 7008' caus d by 1-17-94 earthquake. The plug back involved milling a window above the collapsed section, dri ing a 6-1/8" hole along side of the casing, re-entering the casing at 7666', retrieving the tubing, and then plugging from 9400' with cement. The well was prepped for redrill by cutting and pulling 7" ca ing from 5000'.

Plug back

Cement plug from 4450' to 5000'; 72 pcf abandonment mud from 5000' to 6871'. Ce nent plug from 6871' through sidetrack to 9400'. Workover mud 67 pcf from 9400' to 9610'. Previc us cement plug from 9610' to 9670'. Witnessed by DOG.

Redrill

9-15-95 to 10-21-95: Redrilled well from 10-3/4" shoe at 4852'. Drilled 9-1/2" hole from 4852' to 8140'. Set 7" 29# N80 & L80 casing from 0' to 8,100'. Drilled 6" hole from 8,100' t 10,691'. Ran 2745' 4-1/2" 11.6# N-80 LT&C blank liner. Top @ 7944' Bottom of liner at 10 ,689'. Bailing plate with two 3/4" holes welded in bottom joint 1 ft up from pin.

11/9/95 to 12/15/95: Shot twelve 1/2" holes from 10141' to 10,143'. Unable to brea down holes. Shot twenty-four 1/2" holes from 9739'-9741'. Hydraulically fractured well with 100 000 lbs. proppant sand and 60,000 gallons fluid. Last 25,000 lbs. of proppant was resin coated Fracture screened out at calculated tubing displacement. Initial well test of fracture shows 6.5 M MCFD with less than 100 psi drawdown. Perforated remaining well bore as shown. Initial test of p rforated interval shown approx. 22.4 MMCFD on 48/64" surface choke with 1" downhole choi e in tubing string. Completed well with 2-3/8" tubing. Total fluid lost to zone approximately 1,5(0 Bbls 2% KC fluid.

Volumes	Cu. Ft.	Bbl.	Zone Tops	MD	TVD
Tubing	172	31	M.P.	7793	7425'
Casing\Annulus	1405	250	S4	8230'	7839'
Liner	239	43	S6	8278	7881'
Total	1816	324			

TUBING:

2-3/8" N-80 EUE 8rd 4.7# I.D 1.995

2-7/8" N-80 EUE 8rd 6.50# I.D 2.441

Mechanical Details: See tubing detail for more information

1) Depth 7790' 2-3/8" MMA mandrel w/ 1.5" RA latch, dummy in mandrel. I.D 1.99: "

2) Depth 7831' Otis XD sliding sleeve (OPENS DOWN) I.D 1.875" O.D 3.00"

3) Depth 7865' Otis 1.791" XN nipple O.D 2.750"

4) Depth 7867' one joint 2-7/8" EUE 8rd N-80 6.5# tubing.

5) Depth 7899' to 7900' Baker locator sub and latch.

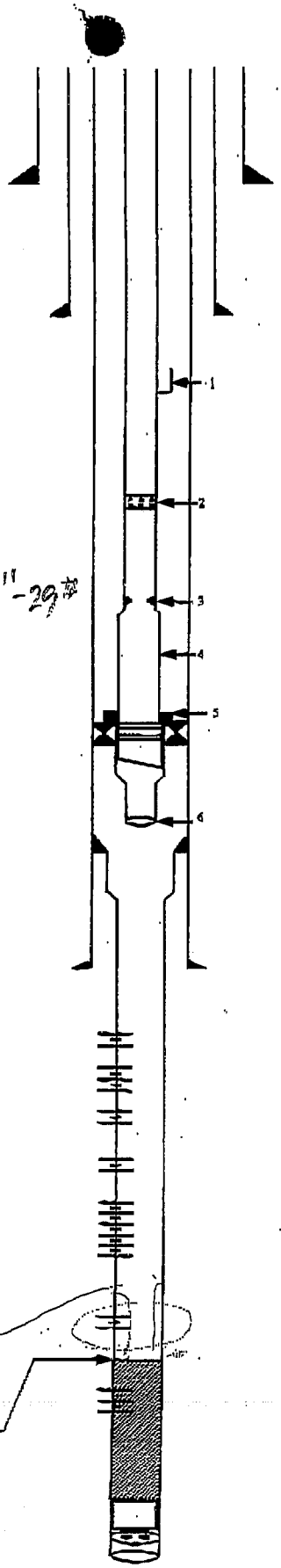
6) Depth 7908' Baker wire line guide shoe I.D 2.442" O.D 3.678".

Surface Casing:
0' - 1296': 16", 75# K55 Buttress, cmt'd w/ 1050 cu.ft. cement. (15.124" I.D., 14.936" Drift I.D.)

Int. Casing 0- to 4852' 10-3/4" 51# N80 Buttress cmt'd w/3075 c.f. (9.850" I.D., 9.694" Drift I.D.)
Split in 10-3/4" csg from 3116' to 3130',cmt'd with 12 Bbls cmt; leaks @ 500 psi

Production casing 7"-29#
0' - 8100': 7", N80 & L80 LT&C, cmt'd w/ 1398 c.f. (6.184" I.D., 6.059" Drift I.D.)
Baker Model "D" packer set at 7900' (3.25" I.D.)

Liner: 7944' - 10,691'
4-1/2", 11.6#, N80 LT&C
Cmt'd w/ 365 c.f.
(4" I.D., 3.875" drift I.D.)
Perforated 1.2 spf with 0.29" holes at 60 degree phasing at intervals:
8183' - 8194'
8228' - 8360'
8408'-8423'
8480'-8592'
8644'-8906'
8926'-9075'
9092'-9124'
9158'-9200'
9565'-9700'
9739' to 9741' 24- 1/2" holes (frac job)
TOP fill @ 9843'
Perfs 10,141' to 10,143'
12 -1/2" holes (unable to break down holes)
Effective Depth: 10,593'
1/2" bailing plate 10,688'
Bottom liner @ 10,689'



T.D. 10,691'

Jim Dayton, 10/30/95, revised 12/21/95
W:\ACS5-4-0 MECH.-SS 4-0.PUB

Department **Date**

Drilling: J. Hemmerly 12/20/95

Petroleum Engineering: 12/20/95

Region: 12/21/95

ALISO CANYON
Standard Sesnon
4-11

c) Run spring centralizers on bottom joint of 2-3/8" tubing to keep liner centralized going into liner top.

d) Hydraulically set liner at 9760' with top at 9720'. Release from liner and pull out of well.

16) Run in well with 1" X 2-3/8" X 3" tubing and perform clean out. Underbalanced cleanout is preferred.

17) Lay down tubing work string.

18) Set production packer at 7880':

a) 7" 26# HES G-6 production packer

b) 2-7/8" N-80 X 6' pup joint

c) 1 joint of 2-7/8" EUE 8R N-80 tubing

d) 2-7/8 X 2-3/8" XO

e) XN nipple (1.791" I.D.)

f) 1Jt 2-3/8" EUE N-80 tubing

g) 2-3/8" XD sliding sleeve (1.875" I.D.)(closed)(opens down)

h) 2-3/8" EUE 8R N-80 tubing as required.

i) Install Gas lift Mandrel at 3000'. Load with dummy valve.

19) Space out and set packer.

a) Land tubing in 10,000# compression.

b) Test packer to 1500psi for 20 minutes.

20) Install BPV and remove BOPE. Install tree and test to 5000psi. Remove BPV.

21) Release rig.

Post rig:

22) Clean location and replace laterals and controls. Inspect probes and replace as required.

23) Open sliding sleeve, install orifice valve (if required) and unload well.

24) Initially flow well up tubing through test trap at low rate to avoid potential sand erosion until the well is stabilized. Monitor for sand/proppant production.

25) Test well frequently to evaluate rate and sand production.

Richard Jackson Approved: M Kuncir
J Mansdorfer

Standard Sesnon 4-0 workover 8-2005

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April 1, 1994

While reviewing the condition of this well it was discovered that at about 1400 feet ±, damage to the casing was found. It was found after the 1994 Northridge earthquake. This was the only well that had any damage.

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DIVISION OF OIL AND GAS

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VENTURA, CALIFORNIA

API No. 037-22063-01

WELL SUMMARY REPORT

Operator	Well				
Southern California Gas Company	Standard Sesnon 4-0				
Field	**County**	**Sec.**	**T.**	**R.**	**B.&M.**
Aliso Canyon	Los Angeles	29	3N	16W	SB

Location (Give surface location from property or section corner, street center line and/or California coordinates)
861' South and 7707' West of Station 84, Section 29, T3N, R16W

Elevation of ground above sea level
2886'

Commenced drilling (date): 9/21/95
Completed drilling (date): 10/19/95
Commenced producing (date): 12/1/95
[x] Flowing [ ] Pumping [ ] Gas lift
Name of producing zone(s): Sesnon

Total depth: (1st hole) 7649' (2nd) 9670' (3rd) 10,691'
Present effective depth: 10,593'
Junk: None

Depth measurements taken from top of: [ ] Derrick Floor [ ] Rotary Table [X] Kelly Bushing
Which is 20 feet above ground

GEOLOGICAL MARKERS	DEPTH
Miocene/Pliocene Contact	7800'

Formation and age at total depth: Sesnon - Miocene

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

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)
16"	Surface	1296'	75#	K55, Buttress	New	20-1/2"	1050	
10-3/4"	Surface	4852'	51#	N80, Buttress	New	14-3/4"	3075	
7"	Surface	8104'	29#	N80, LT&C	New	9-1/2"	1445	
4-1/2"	7945'	10,691'	11.60#	N80, LT&C	New	6"	354	

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforation and method.)
4-1/2", 11.60#, N80, LT&C perforated 1.2 spf, 60 deg. phased, 1/2" holes as follows: 8183'-8194', 8228'-8360', 8408'-8423', 8480'-8592', 8644'-8906', 8926'-9075', 9092'-9124', 9158'-9200'. Perforated 12 spf from 9739'-9741'. Perf'd 6 spf from 10,141'-10,143'.

Was the well directionally drilled? If yes, show coordinates at total depth
[X] Yes [ ] No At 10,691 (md), btm. hole location is 1088' South and 537' West of Surface Location at 9144' TVD.

Other surveys
DIL/SP/GR, Den/Neut, Den/Sonic, GR/Temp/CCl, CBT

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	Title	
James Hemmerly	Storage Engineer	
Address	**City**	**Zip Code**
Box 3249, M.L. 23D1	Los Angeles, CA	90051
Telephone Number	**Signature**	**Date**
(213) 244-5470	J. Hemmerly	December 7, 1995

OG100 (10/85/DWRR/5M)

SUBMIT IN DUPLICATE

SUBMIT IN DUPLICATE
RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

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VENTURA, CALIFORNIA

History of Oil or Gas Well

Operator: Southern California Gas Company **Field:** Aliso Canyon **County:** Los Angeles
Well: Standard Sesnon 04-0 **Sec.:** 29, **T:** 3N, **R:** 16W, **S.B.B.& M.**

API No: 037-22063 **Name:** Rick Phillips (Person submitting report) **Title:** Agent (President, Secretary or Agent)

Date: December 15, 1995 **Signature:** J. Hemmerly
Jim Hemmerly for Rick Phillips

P.O. Box 3249, Los Angeles, California, 90051-1249 (Address) 213-244-5470 (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	
9/11/95	Move in and rig up Cleveland # 6 drilling rig.
9/13/95	Rig up Cleveland # 6 rig. Tested blind rams and 2" check valve. Ram door leaked and check valve leaked. Replaced ram door rubber and check valve. Tested blind rams and check valve to 3700 psi. Two 4" valves on mud cross bad and one 2" valve on choke manifold and one choke valve is bad. Attempt to test 5" pipe rams. Rams would not hold pressure.
9/14/95	Testing BOPE. Replaced two 4" valves on mud cross and 2" choke valve. One 4" valve and one 2" valve and choke valve would not test. Hydril bag would not test. Unable to test BOPE due to leaks. Wating on replacement parts at 6:00 am.
9/15/95	Testing BOPE. Unable to test due to leaks in API rings grooves and internal leaks in Hydril bag and double gate. Choke valve, one 4" valve on mud cross and one 2" valve on choke manifold will not test. Change out double gate. Sent Hydril bag in to have new ring grove cut. Replaced 2" valve on choke and choke valve and 4" valve on mud cross. Installed new rubbers in pipe rams and blind rams.
9/16/95	Test blind rams and choke manifold to 3700 psi for 20 min. Tested 5" pipe rams and choke manifold to 3700 psi for 20 min. Tested annular preventor to 2500 psi for 20 min. BOPE test approved by Fariba M. Neese with DOGGR. Installed bowl protector in 10-3/4" casing head. Fill well w/ 14 Bbls mud. Pressure test 10-3/4" casing to 1000 psi. Casing bled off to 800 psi in 40 sec. Repressured 10-3/4" casing to 1000 psi with same result. Made up 9-1/2" mill tooth bit on 60' of 6-3/4" drill collars. Pick up 5" drill pipe measuring in well. Tag cement top at 4442'.
9/17/95	Drilled soft cement from 4442' to 4482'. Drill hard cement from 4482' to 4762'. Pressure test 10-3/4" casing to 1000 psi. Casing would not hold. Pull out of well . Made up Baker 10-3/4" full bore packer. Located split in 10 3/4" casing from 3116' to 3130'. Pulled out of well. Packer set when pulling out and parted tool at 8rd thread at crossover to drill pipe. Made up 7-5/8" overshot with 4 5/8" grapple. Ran in well to 3075'. Worked overshot over packer. Pulled 30,000# over string wt#. Released fullbore packer. Pulled out of well and recovered packer. Running in well with open ended drill pipe.
9/18/95	Run in well with open ended drill pipe to 3157'. Preceeded cement with 10 Bbls of water. Mixed and pumped 158 cf of 15.7 ppg Class G cement slurry. Displaced with 2 Bbls water and 47 Bbls of mud. Pulled up to 2787'. Reversed out 1-1/2 drillpipe volumes. Closed pipe rams and squeezed 67 cf cement out split in 10-3/4" casing from 3116' to 3130'. Rate was 0. 6 Bbls min at final pressure of 1050 psi. Cement in place at 9:07 AM. Closed valve on drillpipe and waited on cement. Bled off drillpipe. Pulled out of well. Made up drilling assembly. Ran in well and tagged cement top at 2980'. Drill cement to 3184'. Pressure test 10-3/4" casing to 1000 psi. Bled off to 500 psi in 2 min. Held 500 psi with 8.6 ppg mud in well. Clean out from 4730' to 4740'. Drill hard cement from 4740' to 4822'. Cement soft from 4822' to 4852'. No cement below 4852'. Clean out to 5000'. Circ and condition mud at 5000'. Pull out of well.
9/19/95	Make up 8-1/4" x 16" Baker hole opener. Ran in well to 4852'. Open hole from 9-1/2" to 16" from 4852' to 4990'. Circ well clean. Pull out of well. Ran in well open ended to 4990' Preceed cement with 20 Bbls preflush and 10 Bbls fresh water. Mixed and pumped 341 cf of 17 ppg class G cement with .75% CFR-3 slurry. Displaced w/ 2 Bbls water and 68 Bbls mud. Cement in place at 7:56 pm. Pulled up to 4525'. Reversed 1-1/2 drill pipe volumes. Pull out of well. Made up drilling assembly. Ran in well to 4000'. Shut in well. Wait on cement.
9/20/95	Wait on cement. Rig on stand by.

Date	
9/21/95	Ran in well tag cement top at 4747'. Drill hard cement from 4747' to 4855'. Circulate well bore clean and pull out of well. Ran in well with 9-1/2" Hughes bit, mud motor, float sub, 9.375" stabilizer, nm collar, crossover, MWD tool, 5 joints heavy wt drill pipe, Bowen down jars, one joint heavy wt drill pipe, Bowen up jars, 33 joints, heavy wt drill pipe. Ran in well to 4855'. Orient mud motor. Drill from 4855' to 5083'.
9/22/95	Drilled ahead using MWD and mud motor from 5083' to 5738'.
9/23/95	Drill ahead with MWD and mud motor from 5738' to 6088'. Made wiper trip to 4852'. Ran in well to 6088' and drilled ahead to 6222'. Pull out of well for bit change. Found bit to be 1/8" out of guage. Make up bit #3; Smith F2; jets 3 - 13. Ran in well to 6162'.
9/24/95	Ream well bore from 6162' to 6222'. Drill ahead with MWD tool to 6575'. Made wiper trip to 5883'. Ran back in well to 6575'. Lost 95 Bbls mud on wiper trip. Drill ahead from 6575' adding sawdust and nut plug to mud system. Total loss of drilling fluid 250 Bbls. 6:00 am depth: 6829'. Hours on bit 22:45.
9/25/95	Drill ahead using MWD tool and mud motor from 6829' to 6884'. Circ 1/2 hr. Wipe well bore from 6884' to 4852'. Ran back in well to 6884'. Drilled ahead to 7102'. Encountering too much down drag in well bore; unable to slide and drill. Pull out to run three point roller reamer. Reran #1 bit on 9-1/2" three point roller reamer, cross over , 5 joints heavy wall drill pipe, down jars, one joint heavy wall drill pipe, up jars, 33 joints heavy wall drill pipe. Ran in well to 4853'. Slide from 4853' to 5000'. Ream from 5000' to 5609' at 6:00 am.
9/26/95	Ream from 5609' to 7102'. Reamed tight hole from 5787' to 5818'. Pulled out of well. Made bottom drilling assembly. 9-1/2" Hughes ATJ22; nozzles 0.410, Navidrill Mach 1 set 1.10 deg, float sub, stabilizer, monel collar, crossover sub, MWD tool, crossover, monel collar,crossover, 5 joints heavy wall drill pipe, Bowen down jars, one joint heavy wall drill pipe, Bowen up jars, 33 joints heavy wall drill pipe. Ran in well to 4800'. Slip and cut drilling line. Ran in well to 7102'. Drill ahead using mud motor and MWD tool from 7102' to 7197'.
9/27/95	Drill ahead from 7197' to 7445'. Wipe well bore from 7445' to 6470'. Drill from 7445' to 7719'. Wipe well bore from 7719' to 6789'. Drill ahead to 7734' at 6:00 am.
9/28/95	Drilled ahead from 7734' to 7836'. Pull out of well to check bit. Found bearings bad in number one cone. Made up 9.500" button type Smith bit on drilling assembly. Ran in well to 7776'. Ream from 7776' to 7836'. Drill ahead using mud motor and MWD tools from 7836' to 8077' at 6:00 am.
9/29/95	Drill using mud motor and MWD tool from 7836' to 8140'. Circ well bore clean. Gas show at this depth. Pull out of well. Made up 9.500" bit on 9.500" three point roller reamer. Ran in well to 7102'. Ream well bore from 7102' to 8140'. Circ well bore clean. Pulled out of well laying down 5" drill pipe.
9/30/95	Laying down 5" drill pipe. Change pipe rams to 3-1/2". Pressure test ram doors and TIW valve to 1500 psi. Made up 9.500" bit on 9.500" three point roller reamer on 5 joints of 3-1/2" heavy wt drill pipe. Picked up Bowen down jars, one joint 3-1/2" heavy wt drill pipe, Bowen up jars, 34 joints heavy wt drill pipe. Pick up 3-1/2" drill pipe . Ran in well to 8140'. Circ and condition mud for logs. Pull out of well. Install shooting flange and lubricator. Rigged up loggers. Run DIL/SP/GR from 8140' to 10-3/4" shoe (8166' - 4852' wireline depth).
10/1/95	Using Schlumberger ran LDT/CNT/GR logs from 8160' to 4852'. Ran in well with 9.500" bit on 9.500" roller reamer to 8145'. 3-1/2" drill pipe measurements are 5' longer than 5" drill pipe measurements. Circ and condition mud. Pull out of well. Change pipe rams to 7". Pressure test 7" pipe rams to 1500 psi. Rig up to run 7" casing. Ran 7" guide shoe, one joint 7" 29 # N-80 casing, float collar, Baler 7" XL-10 CRX ECP packer, 6' N-80 pup joint. Baker locked guide shoe, float collar, ECP packer, and 4 of joints 7" casing. Ran in well applying seal lube to 8rd threads.
10/2/95	Ran 7" 29# N-80 and L-80 casing. Ran in well to 8145'. Tagged bottom. Pulled casing shoe up to 8100'. Circulate and work casing. Using Halliburton services, preceed cement with 35 Bbls super mud flush, 10 Bbls water, 248 Bbls Class G cement with 0.6% Halad 322. Drop wiper plug. Mixed 9.2 Bbls packer cement with 1% Halad 322. Displaced with 301 Bbls mud and water. Lynes packer did not inflate. Cement in place at 12:11 am. Good circulation through cement job. Was able to reciprocate casing through cement job. Float collar held. Bled casing to 0 psi. Waited on cement 4 hours. Landed 7" casing with 180,000 lbs on slips.
10/3/95	Cut 7" casing off. Install 7" pack off unit and seal flange and 6" 5000# tubing head. Tested seal flange and tubing head to 5000 psi for 20 min. Install BOPE. Test 3-1/2" pipe rams and choke manifold to 3000 psi for 20 min. Made up 6" bit on 1210' of 3-1/2" heavy wt drill pipe. Ran in well tagged cement top at 7806'. Drill cement to 7910' at 6:00 am.
10/4/95	Drill cement from 7910' to 8080'. Pressure test 7" casing from 8080' to surface with 3000 psi. Bleed off 100 psi in first 5 min and held 2900 psi through 20 min test. Land 3-1/2" drill pipe in tubing hanger. Shut rig down at 11:00 am for repairs to BOPE.
10/5/95	Re-install 12" 5000# BOPE. Test BOPE to 3000 psi held. Drill out cement from 8080' to 8105'. Circ well bore clean. Pull out of well.

Date	
10/6/95	Pull out of well. Made up 6" Smith F-15 bit on 4-3/4" mud motor set 1.1 deg., 5.875" OD stablizer, 10' monel, 30' MWD tool, 3" alignasub, 30' monel, 6 joints heavy wt. drill pipe, Bowen down jars, one joint heavy wt drill pipe, Bowen up jars, 33 joints heavy wt drill pipe. Ran in well to 8105'. Drilled hard cement from 8105' to 8145'. Unable to drill past 8145'; mud motor stalls out. Worked one hour attemping to drill past this point. Pulled out to check tools. Bit showed no signs being run on metal. It looks to be motor failure. Change out mud motor. Ran in well to 8145'. Was unable to drill, mud motor would lock when tagging bottom. Pull out of well. No damage or marks on bit. Made up 6" concave mill on heavy wt drill pipe. Ran in well.
10/7/95	Ran in well with 6" concave junk mill. Ream from 8100' to 8145'. Mill from 8145' to 8149'. Found metal in cuttings and rubber and piece of plastic off ECP packer in returns. Pull out of well. Found two pieces of metal off float collar in mill. Made up 6" mill tooth bit on drilling assembly. Ran in well to 8149'. Using mud motor and MWD tool, drill and survey ahead from 8149' to 8407'.
10/8/95	Drill and survey ahead using mud motor and MWD tool from 8407' to 8471'. Pull out for bit change. Re-ran #6 bit. Ran in well. Drill ahead from 8481' to 8766'.
10/9/95	Drill ahead from 8766' to 8788'. Pull out well to check bit. Found bit to be 1/8" out of gauge. Ran in well with Hughes #9 bit; ATJS22. Ream from 8758' to 8788'. Drill ahead using mud motor and MWD tool from 8788' to 9235'.
10/10/95	Drill ahead from 9235' with mud motor and MWD tool. Drill ahead to 9266'. Pull out for bit change. Made up bit no # 10 6" Smith F-15. Change setting on mud motor to 0.9. Ran in well. Bit stopped at 8716'. Ream from 8716' to 8756'. Ran in well to 9226'. Guage ream from 9226' to 9266'. Drill ahead using mud motor and MWD tool from 9266' to 9520'. Make wiper trip to 8100'. Ran in well and drilled ahead from 9520'. Drill clay from 9266' to 9455'. Drop angle from 62 deg to 57 deg. Drilled to 9635' at 6:00 am. 10.5 hours on bit .
10/11/95	Drill ahead from 9635' to 9837'. Wipe bore hole to 8100'. Ran in well to 9837'. Drill ahead using mud motor and MWD tool from 9837' to 10,152'. Pull out of well for bit change.
10/12/95	Pull out of well. Install tubing hanger and back pressure valve in tubing head. Tested blind rams and choke manifold to 3000 psi. Tested 3-1/2" pipe rams and choke manifold to 3000 psi. Tested annular preventor to 2300 psi. BOPE test was witnessed by Fariba M. Neese with Divison of Oil and Gas. Made up bit #11. HTC ATJ-22. Ran in well with drilling assembly to 10,026'. Ream from 10,026' to 10,152'. Drill ahead using mud motor and MWD tool from 10,152' to 10,470' at 6:00 am.
10/13/95	Wipe bore hole from 10,470' to 8100'. Ran in well to 10,470'. Drill ahead using mud motor and MWD tool from 10,470' to 10,691'. T.D well at 4:00 pm. Circ well bore clean. Pull out of well . Lay down mud motor and MWD tools. Made up 6" point fixed hole opener and 3 point roller reamer. Ran in well to 8100'. Break circ. Ream well bore from 8130' to 8190'.
10/14/95	Reamed well bore with 6" fixed point hole opener and 3 point roller reamer from 8190' to 10,691'. Circ well bore clean . Pull out to run logs. Wait on loggers 3 hours. Run Density, Neutron, GR, Array Induction, Microlog from 8100' to 8800'. Unable to log past this point. Ran Array Induction log from 8100' to 8800'. Was unable to log past this point.
10/15/95	Ran Array Induction log from 8800' to 8100'. Log would not pass 8800'. Ran in well with 6" fixed hole opener and 3 point roller reamer to 10,691'. Well bore showed no signs of tight spots. Circ and condition mud 2 hours. Pull out of well. Made up logging tools on 3-1/2" drill pipe. Ran Density, Neutron, GR, Array Induction, Microlog. Ran in well to 8119'. Install side door sub. Pumping down cable to hook up with logging tools at 6:00 am.
10/16/95	Log 6" borehole on 3-1/2" drill pipe from 10,610' to 8600'. Ran Dipole Sonic log on wireline to 8828'. Stuck logging tools. Using rig and T- bar, work logging tools up bore hole 23'. Unable to move logging tools past this point. Order out wire line stripping tools.
10/17/95	Made up wire line stripping tools. Ran in well with 5-9/16" overshot. Stripped in well to 8702'. Line pulled free. Pulled wire line out of well. Left 450' to 700' of 15/32" OD wire line in well. Made up wire line crank spear on 3-1/2" drill pipe. Ran in well to 8220'. Worked crank spear down well bore to 8324'. Pulled 20,000 lbs over string wt. Pull out of well to check for wire line and logging tools. Recovered 100% of wire line. Wire line pulled out at rope socket.
10/18/95	Make up overshot on 3-1/2" drill pipe. Ran 10 stands 3-1/2" drill pipe 5 joints heavy wt. drill pipe, jars, 35 joints heavy wt drill pipe. Ran in well to 8798'. Circ and stage in well to 10,511'. Engage loggng tools at 10,511'. Pull out of well. Recovered 100% of logging tools. Made up 6" fixed point hole opener on 3 point roller reamer. Ran in well to 10631'. Ream from 10, 631' to 10,691'. Circ and condition mud. Pull out of well to run liner.

Date	
10/19/95	Ran 65 joints 4-1/2" 11.6# N-80 8rd liner with Baker Hyflo 2 hydraulic liner hanger. Ran in well to 10,691'. Circ and work liner 2 hours. Using Halliburton preceed cement with 18 Bbls super mud flush. Mixed and pumped 63 Bbls Class G cement with1% Halad-322. Displaced with 41 Bbls water and 55 Bbls mud. Bumped Baker plug at 10,601'. Pressured up to 1800 psi and set hanger. Pressured to 3000 psi and released from liner top at 7940'. Pulled up to 7639' and reversed out 1-1/2 drill pipe volumes. 5 Cubic ft cement returns. Pull out of well . Ran 6" mill tooth bit on 7" Baker scraper and tagged cement top at 7830'. 110' cement above liner top 20 c.f. Drill out cement to 7940'. Circ casing clean. Change over to 2% KCl water with 5 gals per 100 Bbls XC-102.
10/20/95	Lay down 3-1/2" drill pipe and heavy weight. Removed BOPE. Installed x-mas tree. Released rig at 8:00 a.m. 10/21/95.
11/9/95	Move in and rig up Pride 447 rig.
11/10/95	Check well for pressure. 0 pressure on well. Remove xmas tree. Install 6" Class III 5000# BOPE. Tested blind rams and choke manifold to 5000 psi for 20 min. Tested 3-1/2" pipe rams and choke manifold to 5000 psi for 20 min. Tested annular preventor to 3500 psi for 20 min. Shut in well.
11/13/95	Lay down mast and re-spot main beam. Set in sub base. Reset mud system. Rig up Pride #447 rig.
11/14/95	Wait 3 hours on sub from 2-3/8" reg to 2-3/8" CS Hydril. The sub Weatherford shipped to rig was bad. Ran in well with 3-3/4" bit on 4-1/2" Baker scraper and 58' of 3-1/8" drill collars. Measured and picked up 82 joints (2731') of 2-3/8" CS Hydril tubing. Measure and pick up 3-1/2", 9.3#, N80 EUE 8rd tubing. Ran in well to 7400'. Shut in well till am.
11/15/95	Ran in well picking up 3-1/2" tubing . Tagged cement top at 7940'. Rig down at 8:00 am due to rotary motor control. Drill firm cement from 7940' to 7955'. Ran in well to 8860'. Pick up kelly and clean out from 8860' to 8900'. Ran in well to 10, 468'. Clean out from 10,468' to 10,593'. Bit stopped. Could not drill past this point. Circ well bore clean. Pull up to 7940' with bit. Shut in well until am.
11/16/95	Pressure test 7" and 4-1/2" liner to 3200 psi for 20 min. Pulled out of well. Ran in well with Schlumberger USI tool but could not get past 8880' logging depth. Ran USI/Gamma Ray log from 8880' to 7066' (top of liner, logger's depth). Added two knuckle jts. to logging assembly and ran back in well. Could not get below 8910' logging depth. Pulled out of well. Ran in well with CBT/GR/CCL but could not go below 9004'. Pulled out of well. Removed CCL/GR tools. Ran in well with CBT and logged well from 10360' to 7966' (top of liner, logger's depth). Shut in well.
11/17/95	Wait on orders. Shut rig down till am.
11/18/95	Install lubricator on BOPE. Ran temperature log, gamma ray and collar locator from 10,170' to surface. Steve Fields with Divison of Oil and Gas waived witnessing temperature survey. Shot twelve 1/2" holes from 10,141' to 10,143'. Ran kill string to 3408'. Shut well in until Monday.
11/20/95	Fill well bore one Bbl. Pull out of well with kill string. Made Halliburtion 4-1/2" Rtts packer on 64' of 2-3/8" CS Hydril tubing, 63' of 3-1/2" tubing, Halliburtion LPRN valve, 63' of 3-1/2" tubing, Halliburtion RD circ valve, 3-1/2" tubing to surface. Set Halliburtion Rtts packer at 7970'. Hook up lines to choke manifold from tubing head. Hook up test lines to portable separator. Test all surface lines to 5000 psi with water. Inject gas down tubing to final pressure of 2650 psi. At 4:00 pm, open Halliburton down hole valve at 7874'. Bleed off gas through separator. Bleed tubing off to 0 pressure in two hours. No fluid rise in tubing. No fluid or gas to surface. Shot fluid level. Could not tell if fluid was above valve at 7810'. Shut in well.
11/21/95	Pressured annulus to 2500 psi and opened LPRN valve. Ran in well with piano wire and sinker bar to 7950' to verify operation of the LPRN valve. Pulled up to 7500'. Bled off annulus to 0 psi to close valve. Tagged valve at 7810' (7937' piano wire measurement) with sinker bar. Pulled out of well. Rigged up Halliburton frac equipment. Shut well in. Wait on Halliburton frac trucks.
11/22/95	Hook up frac trucks. Test surface lines to 8000 psi. Open down hole valve. Pressure down tubing to 8000 psi . Unable to pump in to perfed holes at 10,143'. Release packer at 7960'. Pull up to 7900'. Pressure test down annulus to 3000 psi. Pull out of well. Lay down tools. Shut in well.
11/24/95	Using Dia-Log, ran 2-1/8" dynastar perforators on two 8' weight-bars. Unable to work gun to target depth with tool stopping consistently at 10,126'. Ran 1-3/4" core barrel to 10,126' but was not able to work core barrel past 10,126'. Ran 2-1/8" dynastar perforators and perforated twelve 1/2" holes in the 4-1/2" liner from 9739' to 9741' (CBL & Temp. Log). Closed blind rams and pressured casing and liner to 3000 psi. Was unable to establish break down at 3000 psi. Ran 2-1/8" dynastar perforators and perforated twelve additional 1/2" holes from 9739' to 9741'. Closed blind rams and tested for breakdown to 3000 psi. Formation did not break down. Made up and ran in well with Halliburton RTTS packer on 60' of 2-3/8" CS Hydril tubing. Ran 3-1/2" tubing in well to 7966'. Set Halliburton packer in 4-1/2" liner at 7966'. Tested packer to 2000 psi down annulus. Closed in well.

Date

11/25/95 Rig up Halliburton pump trucks. Apply 2000 psi to tubing annulus and pressure test Halliburton lines to 8000 psi. Leaving 2000 psi on annulus, apply 5500 psi to tubing and perf's, then shut in tubing. Pressure dropped off at about 100 psi/minute over ten minutes. Bled-off pressure quickly to surge perf's, and pressured up to 6950 psi. Pressure dropped to 6500 psi and held while rate was increased to 1.5 Bbl/minute. Pressure dropped over eight minutes to 2560 psi while the rate was increased to 2.2 Bbl/minute. Total of 900 gallons of gel-fluid pumped. Bled off all pressures and secured well.

11/27/95 Apply 2000 psi to tubing annulus. Test surface lines to 8000 psi. Check for breakdown and prepare for mini-frac. Formation broke rapidly at 6950 psi. Pumped 162 Bbls at average 23 BPM and 6500 psi surface pressure. Completed breakdown test at 8:05 AM and started mini-frac. at 8:23 AM. Used data from mini-frac. to adjust main frac. model. Stage 1 through 3 were mini-frac, stages 4 through 10 were main frac.

Stage	Gallons	Weight ppg	Prop sacks	Job Prop. sacks	Tbg Pres psi	Calc. BHP psi	Rate BBl/Min
1	7119	8.60	0.0	0.0	2389	5869	16.7
2	9998	8.60	0.0	0.0	6163	7919	24.6
3	3518	8.60	0.0	0.0	215	4402	23.4
4	8330	8.60	0.0	0.0	5973	8340	24.1
5	18251	8.60	0.0	0.0	6815	8708	24.6
6	5126	10.14	144	144	6302	8473	25.6
7	6710	11.56	340	483	5318	8046	25.2
8	4923	12.38	313	796	5449	8418	25.3
9	1735	12.13	103	900	4914	7891	26.3
10	3865	8.38	0.0	900	4059	8114	24.7

Frac Completed at 12:17 PM. Shut well in and recorded pressure drops for one additional hour. Broke out Halliburton equipment. Bled annulus pressure off and secured well at 3:00 PM.

11/28/95 Check well bore pressure. Tubing 0 psi. Annulus 600 psi. Bleed off annulus pressure. Released Halliburtion packer. Pulled out of well. Made up 2809' of 2-3/8" CS Hydril on 3-3/4" bit. Ran in well. Tagged top of sand at 9225'. Cleaned out to 9530'. Circ well bore clean. Pull to liner top at 7940' and shut well in.

11/29/95 Clean out sand from 9530' to 9745'. Ran in well to 10,223'. Reverse circ well bore clean. Estimated sand returns of 48 cu.ft. Repair tubing board in derrick. Pull to kill string. Shut well in.

12/1/95 Pull kill string. Made up Halliburton 4-1/2" RTTS packer on 60' of 2-3/8" CS Hydril tubing, Halliburtion LPRN valve and circ valve. Ran in well with 3-1/2" tubing to 7961'. Set packer at 7961'. With down hole valve shut, filled tubing with 2850 psi of gas. Opened down hole valve at 11:40 am. Injected gas down tubing for one hour. Pressure stablized at 2875 psi. Started flow test through separator at 1:22 pm. At 5:00 pm flow rate of 3.4 MMCFD at 2350 psi. At 5:45 pm shut unit down to ice plugging unit. Hook up methanol pump. Shut in 3-1/4 hr pressure stabilized in tubing at 2575 psi. At 10:30 pm flowing well pressure of 2500 psi rate 2 MMCFD. Flow well till 2:30 am rate of 3.5 MMCFD at 2390 psi. Change choke setting to 12/64". Flowed well till 3:45 am. Separator froze up. Final rate 6.5 MMCFD at 2475 psi. Shut well in at 3:45 am.

12/2/95 Unable to flow well due to lines icing up. Final rate: 2.3 MMCFD at 2525 psi on choke setting of 8/64". Shut in well at 10:00 pm. Was unable to flow well due to ice in lines and test unit. Total fluid produced 70 Bbls.

12/3/95 Check tubing shut in pressure 2625 psi. Close down hole valve. Bleed off tubing. Fill tubing. Pump out circ valve. Circ well bore. Released packer at 7961'. Pull up to 7900'. Circ well bore. Pull to kill string. Shut well in.

12/4/95 Check well 0 psi. Pull out of well. Install shooting flange and lubricator. Set 4-1/2" Baker wire line set bridge plug at 9730'. Using wire line dump bailer, placed 5 lin ft of sand above bridge plug. Top of sand 7925'. Pressure tested 7" and 4-1/2" liner and bridge plug to 3000 psi for 20 min. Close in well.

Date

12/6/95 Ran 1517' of 2-7/8" Schlumberger perforating guns & 7" packer and PCT valve. Ran in well with 3-1/2" tubing. Set 7" packer at 7997'. Correlated guns on depth with gamma ray\collar log. Held safety meeting with crew and Schlumberger. Pressured tested all lines to 2600 psi with gas. Applied 1600 psi gas cushion inside 3-1/2" tubing. Pressured up annulus to 1500 psi and fired guns at 7:17 pm. Tubing pressure 2150 psi. at 7.30 pm. Began flowing well for 5-1/2 hours. Main line iced up. Shut in well at 1:00 pm. Tubing shut in pressure at 6:00 am of 2475 psi.

Perforation intervals are as follows:

From	To	Footage	Net	# of Shots
8183	8194	11	11	13
8195	8227	32		
8228	8360	132	132	157
8361	8407	46		
8408	8423	15	15	18
8424	8479	55		
8480	8592	112	112	133
8593	8643	50		
8644	8906	262	262	312
8907	8925	18		
8926	9075	149	149	177
9076	9091	15		
9092	9124	32	32	38
9125	9157	32		
9158	9200	42	42	50
9201	9564	363		
9565	9700	135	135	161
Total		1003	890	1059

12/7/95 Wire line set 1" down hole choke in XN nipple at 7713'. Shut in well head pressure 2475 psi. Started flowing well at 11:00 am. Flowed well from 11:00 am to 6:00 am. at 3.278 MMCFD on 23/64" choke at 2300 psi tubing pressure.

12/8/95 At 6:00 am increased choke size to 48/64". Petroleum Production testing could not handle this rate or rates above a 22/64" choke setting. This was do to unit and lines freezing. Released Petroluem Production Testing. At 11:00 am began flowing well from tubing to Gas Co. withdrawal line on 48/64" choke setting. Tubing pressure dropped from 2300 psi to 1450 psi in 10 min. Tubing pressure stabilized and stayed at 1450 psi throughout 5 hour flow test. Withdrawal rate at plant at 3:55 pm was 129.9 MMCFD. Closed in well at 4:00 pm. At 4:15 pm withdrawal rate at plant dropped to 101.5 MMCFD. At 5:00 pm withdrawal rate was 105.0 MMCFD. At 6:00 pm withdrawal rate at plant was 106.5 MMCFD. Estimated flow rate at well is 22.4 MMCFDon 48/64" choke setting at 1450 psi flowing tubing pressure.

12/9/95 Shut in tubing pressure 2300 psi. Kill well with 82 Bbls 63 pcf 2% KCl water. Pull out of well. Checked all guns. All perforations fired. Ran in well with Baker bridge plug reteving tool to liner top.

12/10/95 Ran in well and tagged fill at 9717'. Unable to reverse circulate due to well taking fluid. Unable to circulate fill out of well due to packing leaking in rotary swivel. Pull to liner top and shut rig down for repairs at 7:00 am. No parts available to repair swivel. Shut well in until Monday.

12/11/95 Check well 0 psi. Fill well with 17 Bbls. 2% KCl water. Ran in well and tagged top of sand at 9717'. Clean out from 9717' to 9730' top of bridge plug. Circ well bore clean. Released bridge plug. Ran bridge plug down well bore to 9740' and set down in fill. Pulled bridge up to 9670'. Bridge plug hung up. Circ and work pipe and pulled plug loose. Pull to kill string. Shut well in. Fluid lost to zone tripping and circ 142 Bbls.

12/12/95 Tubing pressure 0. Casing pressure 450 psi. Bleed off casing. Fill well with 64 Bbls. Pull out of well. Rubber missing off bridge plug. Made up 3-3/4" bit on 2808' of 2-3/8" CS Hydril tubing. Well flowing back through tubing. Stage in well to 7000'. Circ gas out of well bore. Ran in well and tagged fill at 9740'. Bit fell through at 9750'. Ran in well to 9843'. Pull to liner top due to bad weather. Unable to see in dense fog. Total fluid loss to zone 380 Bbls.

12/13/95 Check well. Zero psi on tubing, 525 psi on 7" casing. Bleed off casing. Pump 100 Bbls 2% kcl water without returns. Ran in well and tagged fill at 9823'. Stuck 3-3/4" bit at 9823'. Circulate and free bit. Circ bottoms up, losing fluid to zone at the rate of 3/4 Bbls per min. Total loss of fluid to zone 280 Bbls. Pull out of well. Ran in well with Baker Model "D" packer (3.25" I. D., 5.668" O.D.) and set packer at 7900'. Shut well in.

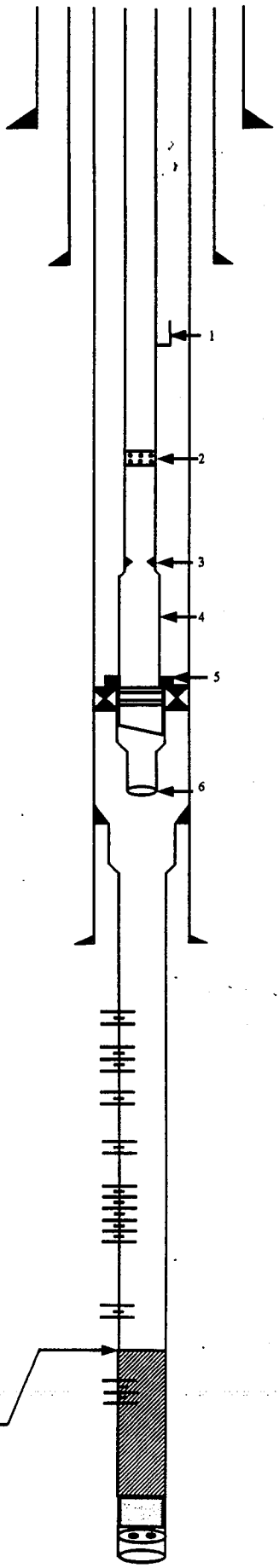
Date	
12/14/95	Check well; 475 psi on casing. Using Instrument Services, shot fluid level. Found fluid level in 7" casing at 3379'. Circ and kill well. Pull out of well laying down work string. Change pipe rams to 2-3/8". Made up Baker (2) 3.25" OD seals with latch and locator sub. One joint 2-7/8" N-80 tubing, Otis 1.791" no-go nipple, one joint 2-3/8" N-80 tubing, Otis XD slidding sleeve, one joint 2-3/8" N-80 tubing, BST MMA gas lift mandrel and 2-3/8" tubing to surface. Ran a total of 251 joints tubing. Spaced out and landed 10,000 lbs on packer at 7900'. Pulled 15,000 lbs over string wt to check latch. Shut in well.
12/15/95	Check well casing, 0 psi; tubing 1900 psi. Fill tubing with 2% KCl water. With tubing open, pressure test 7" casing and Baker packer at 7900' to 2000 psi for 20 min. Install back pressure plug in tubing hanger. Remove BOPE. Install x-mas tree. Test wellhead seals to 5000 psi. Remove back pressure plug. Shift sliding sleeve open. Rig down and plan move out to Montebello.

Surface Casing:
0' - 1296': 16", 75# K55 Buttress, cmt'd w/ 1050 cu.ft. cement. (15.124" I.D., 14.936" Drift I.D.)

Int. Casing 0- to 4852' 10-3/4" 51# N80 Buttress cmt'd w/3075 c.f. (9.850" I.D., 9.694" Drift I.D.)
Split in 10-3/4" csg from 3116' to 3130',cmt'd with 12 Bbls cmt; leaks @ 500 psi

Production casing
0' - 8100': 7", N80 & L80 LT&C, cmt'd w/ 1398 c.f. (6.184" I.D., 6.059" Drift I.D.)
Baker Model "D" packer set at 7900' (3.25" I.D.)

Liner: 7944' - 10,691'
4-1/2", 11.6#, N80 LT&C
Cmt'd w/ 365 c.f.
(4" I.D., 3.875" drift I.D.)
Perforated 1.2 spf with 0.29" holes at 60 degree phasing at intervals:
8183' - 8194'
8228' - 8360'
8408'-8423'
8480'-8592'
8644'-8906'
8926'-9075'
9092'-9124'
9158'-9200'
9565'-9700'
9739' to 9741' 24- 1/2" holes (frac job)
TOP fill @ 9843'
Perfs 10,141' to 10,143'
12 -1/2" holes (unable to break down holes)
Effective Depth: 10,593'
1/2" bailing plate 10,688'
Bottom liner @ 10,689'



T.D. 10,691'

Jim Dayton, 10/30/95, revised 12/21/95
W:\AC\SS-4-0 MECH.-SS 4-0.PUB

Status: Injection/Withdrawal Well

Flow Regime: Casing Flow

Elevation: 2886', KB 20.00'

Surface Location: 861' South and 7707' West of Station 84, Section 29, T3N, R16W, S.B. B&M

Bottom Hole Loc.: 1088' South and 537' West of surface location at a TVD of 9144'.

History:

8-11-80 to 1-16-81: Well drilled and completed as an observation well. During drilling operations, 2147' of drill pipe and tools were left in original hole from 5502' to 7649'.

5-10-93 to 5-20-93: Reperforated and installed gas lift system.

3-18-94 to 8-28-94: Plugged back to 4450' due to collapsed 7" casing at 7008' caused by 1-17-94 earthquake. The plug back involved milling a window above the collapsed section, drilling a 6-1/8" hole along side of the casing, re-entering the casing at 7666', retrieving the tubing, and then plugging from 9400' with cement. The well was prepped for redrill by cutting and pulling 7" casing from 5000'.

Plug back

Cement plug from 4450' to 5000'; 72 pcf abandonment mud from 5000' to 6871'. Cement plug from 6871' through sidetrack to 9400'. Workover mud 67 pcf from 9400' to 9610'. Previous cement plug from 9610' to 9670'. Witnessed by DOG.

Redrill

9-15-95 to 10-21-95: Redrilled well from 10-3/4" shoe at 4852'. Drilled 9-1/2" hole from 4852' to 8140'. Set 7" 29# N80 & L80 casing from 0' to 8,100'. Drilled 6" hole from 8,100' to 10,691'. Ran 2745' 4-1/2" 11.6# N-80 LT&C blank liner. Top @ 7944' Bottom of liner at 10,689'. Bailing plate with two 3/4" holes welded in bottom joint 1 ft up from pin.

11/9/95 to 12/15/95: Shot twelve 1/2" holes from 10141' to 10,143'. Unable to breakdown holes. Shot twenty-four 1/2" holes from 9739'-9741'. Hydraulically fractured well with 100,000 lbs. proppant sand and 60,000 gallons fluid. Last 25,000 lbs. of proppant was resin coated. Fracture screened out at calculated tubing displacement. Initial well test of fracutre shows 6.5 MMCFD with less than 100 psi drawdown. Perforated remaining well bore as shown. Initial test of perforated interval shown approx. 22.4 MMCFD on 48/64" surface choke with 1" downhole choke in tubing string. Completed well with 2-3/8" tubing. Total fluid lost to zone approximately 1,500 Bbls 2% KCl fluid.

Volumes	Cu. Ft.	Bbl.
Tubing	172	31
Casing\Annulus	1405	250
Liner	239	43
Total	1816	324

Zone Tops	MD	TVD
M.P.	7793'	7425'
S4	8230'	7839'
S6	8278'	7881'

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DIVISION OF GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

TUBING:
2-3/8" N-80 EUE 8rd 4.7# I.D 1.995
2-7/8" N-80 EUE 8rd 6.50# I.D 2.441

Mechanical Details: See tubing detail for more information

1) Depth 7790' 2-3/8" MMA mandrel w/ 1.5" RA latch, dummy in mandrel. I.D 1.995"

2) Depth 7831' Otis XD sliding sleeve (OPENS DOWN) I.D 1.875" O.D 3.00"

3) Depth 7865' Otis 1.791" XN nipple O.D 2.750"

4) Depth 7867' one joint 2-7/8" EUE 8rd N-80 6.5# tubing.

5) Depth 7899' to 7900' Baker locator sub and latch.

6) Depth 7908' Baker wire line guide shoe I.D 2.442" O.D 3.678".

Department	Date
Drilling: J. Hemmerly	12/21/95
Petroleum Engineering:	12/21/95
Region:	12/21/95

ALISO CANYON
Standard Sesnon 4-0

BAKER HUGHES INTEQ

WELL : STANDARD SESNON 4-0
COMPANY : SOUTHERN CALIFORNIA GAS COMPANY
SLOT :
FIELD : ALISO CANYON
Date: 12/95
Filename : SS4-0
No Interpolation

MD ft	INC deg	DIR deg	TVD ft	VS ft	LAT ft	DEP ft	BUILD °/100	TURN °/100	D'LEG °/100
4900	18.34	316.74	4852.30	-293.91	190.10	-292.80	0.0	0.0	0.0
4980	21.40	322.30	4927.54	-320.03	210.82	-310.36	3.8	6.9	4.5
5042	22.90	317.80	4984.96	-342.52	228.71	-325.38	2.4	-7.3	3.7
5103	24.50	314.90	5040.82	-365.65	246.43	-342.31	2.6	-4.8	3.2
5165	26.80	311.40	5096.71	-390.42	264.75	-361.91	3.7	-5.6	4.4
5227	29.00	307.90	5151.50	-416.47	283.23	-384.25	3.5	-5.6	4.4
5289	29.30	308.30	5205.65	-443.24	301.87	-408.02	0.5	0.6	0.6
5351	29.80	307.90	5259.58	-470.35	320.73	-432.08	0.8	-0.6	0.9
5414	30.30	309.00	5314.12	-498.41	340.35	-456.79	0.8	1.7	1.2
5508	30.60	309.70	5395.15	-541.12	370.56	-493.62	0.3	0.7	0.5
5568	30.90	306.10	5446.72	-568.25	389.39	-517.82	0.5	-6.0	3.1
5662	31.40	305.40	5527.17	-610.40	417.80	-557.28	0.5	-0.7	0.7
5726	30.30	307.20	5582.11	-639.00	437.22	-583.74	-1.7	2.8	2.2
5819	30.50	307.90	5662.33	-680.52	465.90	-621.05	0.2	0.8	0.4
5912	31.80	308.60	5741.92	-723.23	495.68	-658.82	1.4	0.8	1.5
6005	31.20	309.30	5821.21	-766.64	526.23	-696.61	-0.6	0.8	0.8
6098	30.50	309.30	5901.05	-809.37	556.43	-733.52	-0.8	0.0	0.8
6161	30.30	310.00	5955.39	-838.02	576.78	-758.06	-0.3	1.1	0.6
6214	30.10	309.00	6001.20	-861.95	593.73	-778.63	-0.4	-1.9	1.0
6276	30.00	309.30	6054.86	-889.74	613.34	-802.71	-0.2	0.5	0.3
6366	30.10	309.30	6132.77	-930.12	641.88	-837.58	0.1	0.0	0.1
6429	30.10	309.30	6187.27	-958.44	661.89	-862.03	0.0	0.0	0.0
6491	29.80	310.00	6240.99	-986.26	681.64	-885.87	-0.5	1.1	0.7
6583	30.10	310.00	6320.71	-1027.66	711.17	-921.05	0.3	0.0	0.3
6643	30.30	310.00	6372.56	-1054.87	730.57	-944.17	0.3	0.0	0.3
6736	29.90	309.00	6453.02	-1096.73	760.23	-980.16	-0.4	-1.1	0.7
6799	30.00	309.00	6507.61	-1124.85	780.03	-1004.60	0.2	0.0	0.2
6893	29.90	307.90	6589.06	-1166.58	809.21	-1041.35	-0.1	-1.2	0.6
6956	29.00	307.60	6643.92	-1193.96	828.17	-1065.84	-1.4	-0.5	1.4
7018	28.30	307.90	6698.32	-1220.23	846.37	-1089.35	-1.1	0.5	1.2
7049	27.90	307.90	6725.67	-1233.15	855.34	-1100.87	-1.3	0.0	1.3
7111	27.80	307.20	6780.49	-1258.70	872.99	-1123.83	-0.2	-1.1	0.6
7141	27.60	305.80	6807.05	-1270.88	881.29	-1135.04	-0.7	-4.7	2.3
7205	26.00	301.60	6864.18	-1295.36	897.31	-1159.02	-2.5	-6.6	3.9
7269	23.50	296.30	6922.30	-1316.86	910.32	-1182.41	-3.9	-8.3	5.2
7332	21.80	294.90	6980.44	-1335.44	920.81	-1204.28	-2.7	-2.2	2.8
7392	19.10	291.40	7036.66	-1350.91	929.09	-1223.53	-4.5	-5.8	4.9
7453	16.30	284.50	7094.77	-1363.43	934.87	-1241.12	-4.6	-11.3	5.7
7513	14.30	273.60	7152.65	-1372.19	937.45	-1256.67	-3.3	-18.2	5.8
7575	13.70	261.90	7212.82	-1377.84	936.89	-1271.58	-1.0	-18.9	4.7

BAKER HUGHES INTEQ

WELL : STANDARD SESNON 4-0
COMPANY : SOUTHERN CALIFORNIA GAS COMPANY
SLOT :
FIELD : ALISO CANYON
No Interpolation

Date: 12/95
Filename : SS4-0

MD ft	INC deg	DIR deg	TVD ft	VS ft	LAT ft	DEP ft	BUILD °/100	TURN °/100	D'LEG °/100
7638	12.50	249.20	7274.19	-1380.35	933.42	-1285.34	-1.9	-20.2	4.9
7699	12.90	238.30	7333.71	-1379.88	927.50	-1297.31	0.7	-17.9	4.0
7760	14.40	232.00	7392.99	-1377.22	919.25	-1309.08	2.5	-10.3	3.5
7822	14.80	220.40	7453.00	-1372.02	908.47	-1320.29	0.6	-18.7	4.8
7852	15.10	214.40	7481.99	-1368.36	902.33	-1324.98	1.0	-20.0	5.3
7913	15.40	208.40	7540.84	-1359.34	888.64	-1333.33	0.5	-9.8	2.6
7948	15.40	202.10	7574.59	-1353.32	880.25	-1337.29	0.0	-18.0	4.8
7974	15.60	196.50	7599.64	-1348.30	873.70	-1339.58	0.8	-21.5	5.8
8037	16.60	183.50	7660.19	-1333.93	856.59	-1342.53	1.6	-20.6	5.9
8093	19.20	176.10	7713.48	-1318.22	839.41	-1342.40	4.6	-13.2	6.2
8158	22.80	172.30	7774.16	-1296.13	816.26	-1339.98	5.5	-5.8	5.9
8224	26.50	169.00	7834.14	-1269.54	789.12	-1335.45	5.6	-5.0	6.0
8289	30.30	167.90	7891.31	-1239.40	758.84	-1329.25	5.8	-1.7	5.9
8350	33.80	166.90	7943.00	-1207.71	727.26	-1322.18	5.7	-1.6	5.8
8414	37.50	165.60	7995.00	-1171.05	691.04	-1313.29	5.8	-2.0	5.9
8477	41.00	164.10	8043.78	-1131.71	652.58	-1302.86	5.6	-2.4	5.8
8545	44.90	163.40	8093.54	-1085.85	608.11	-1289.89	5.7	-1.0	5.8
8632	47.00	162.30	8154.03	-1023.81	548.37	-1271.44	2.4	-1.3	2.6
8665	48.50	161.00	8176.22	-999.52	525.19	-1263.75	4.5	-3.9	5.4
8760	52.50	163.10	8236.63	-926.70	455.46	-1241.20	4.2	2.2	4.5
8867	58.80	160.50	8296.99	-838.92	371.62	-1213.55	5.9	-2.4	6.2
8952	63.40	158.00	8338.06	-764.68	302.07	-1187.17	5.4	-2.9	6.0
9016	64.10	155.20	8366.37	-707.29	249.40	-1164.37	1.1	-4.4	4.1
9113	63.20	153.80	8409.42	-620.39	170.95	-1126.95	-0.9	-1.4	1.6
9208	62.60	153.00	8452.70	-535.89	95.33	-1089.09	-0.6	-0.8	1.0
9306	60.30	152.90	8499.54	-449.91	18.67	-1049.94	-2.3	-0.1	2.3
9401	59.00	152.90	8547.54	-368.02	-54.31	-1012.60	-1.4	0.0	1.4
9462	58.60	152.70	8579.14	-315.91	-100.72	-988.75	-0.7	-0.3	0.7
9526	58.00	153.90	8612.77	-261.51	-149.36	-964.28	-0.9	1.9	1.9
9590	57.10	154.50	8647.11	-207.52	-197.98	-940.78	-1.4	0.9	1.6
9654	57.50	155.00	8681.68	-153.67	-246.70	-917.80	0.6	0.8	0.9
9717	57.30	156.00	8715.63	-100.59	-294.99	-895.79	-0.3	1.6	1.4
9843	57.40	156.40	8783.60	5.49	-392.06	-852.98	0.1	0.3	0.3
9907	57.90	155.80	8817.85	59.55	-441.49	-831.08	0.8	-0.9	1.1
9969	60.40	155.50	8849.64	112.78	-489.98	-809.13	4.0	-0.5	4.1
10033	60.60	155.70	8881.15	168.48	-540.70	-786.12	0.3	0.3	0.4
10097	60.30	156.60	8912.72	224.15	-591.62	-763.61	-0.5	1.4	1.3
10192	61.70	155.90	8958.78	307.23	-667.67	-730.14	1.5	-0.7	1.6
10255	64.60	154.50	8987.23	363.43	-718.68	-706.56	4.6	-2.2	5.0
10351	65.70	154.90	9027.57	450.53	-797.44	-669.33	1.1	0.4	1.2

BAKER HUGHES INTEQ

: Date: 12/95

WELL : STANDARD SESNON 4-0

COMPANY : SOUTHERN CALIFORNIA GAS COMPANY Filename : SS4-0

SLOT :

FIELD : ALISO CANYON

No Interpolation

MD	INC	DIR	TVD	VS	LAT	DEP	BUILD	TURN	D'LEG
ft	deg	deg	ft	ft	ft	ft	°/100	°/100	°/100
10383	66.60	155.40	9040.51	479.80	-824.00	-657.03	2.8	1.6	3.2
10414	67.00	155.60	9052.72	508.29	-849.93	-645.22	1.3	0.6	1.4
10477	68.20	155.70	9076.73	566.54	-902.99	-621.20	1.9	0.2	1.9
10508	69.20	156.00	9087.99	595.42	-929.34	-609.39	3.2	1.0	3.3
10540	69.70	155.70	9099.22	625.38	-956.68	-597.13	1.6	-0.9	1.8
10635	74.10	155.00	9128.73	715.66	-1038.73	-559.47	4.6	-0.7	4.7
10691	74.10	155.00	9144.07	769.51	-1087.54	-536.71	0.0	0.0	0.0

Origin of Bottom Hole Closure SLOT

Bottom Hole Closure 1213 ft 206.27°

LAST SURVEY PROJECTED

RECEIVED
FEB 1 4 1996
DIVISION OF OIL, GAS AND
GEOTHERMAL RESOUR
VENTURA, CALIFORN

ALISO CANYON WELL SS 4-O

JOINT	SPACING	TOTAL DEPTH 7"CASING	SUB TOTAL DETAIL	MISC. DATA & DESC.
1		8100.00		
	0.77	8099.23	0.77	7" 29 # casing guide shoe 8rd L-T-C
1	39.96	8059.27	40.73	7" 29 # N-80 casing 8rd L-T-C
	1.73	8057.54	42.46	7" 29 # 8rd L-T-C float collar
	15.90	8041.64	58.36	Lynes 7"XL-10 CRX ECP packer
	6.10	8035.54	64.46	7" 29 # N-80 PUP JOINT 8rd L-T-C
2	37.77	7997.77	102.23	7" 29 # N-80 casing 8rd L-T-C
3	41.52	7956.25	143.75	7" 29 # N-80 casing 8rd L-T-C
4	42.11	7914.14	185.86	7" 29 # N-80 casing 8rd L-T-C
5	35.67	7878.47	221.53	7" 29 # N-80 casing 8rd L-T-C
6	40.93	7837.54	262.46	7" 29 # N-80 casing 8rd L-T-C
7	41.89	7795.65	304.35	7" 29 # N-80 casing 8rd L-T-C
8	39.87	7755.78	344.22	7" 29 # N-80 casing 8rd L-T-C
9	35.89	7719.89	380.11	7" 29 # N-80 casing 8rd L-T-C
10	41.36	7678.53	421.47	7" 29 # N-80 casing 8rd L-T-C
11	39.72	7638.81	461.19	7" 29 # N-80 casing 8rd L-T-C
12	42.02	7596.79	503.21	7" 29 # N-80 casing 8rd L-T-C
13	39.91	7556.88	543.12	7" 29 # N-80 casing 8rd L-T-C
14	39.96	7516.92	583.08	7" 29 # N-80 casing 8rd L-T-C
15	40.63	7476.29	623.71	7" 29 # N-80 casing 8rd L-T-C
16	40.88	7435.41	664.59	7" 29 # N-80 casing 8rd L-T-C
17	39.03	7396.38	703.62	7" 29 # N-80 casing 8rd L-T-C
18	41.31	7355.07	744.93	7" 29 # N-80 casing 8rd L-T-C
19	39.57	7315.50	784.50	7" 29 # N-80 casing 8rd L-T-C
20	38.76	7276.74	823.26	7" 29 # N-80 casing 8rd L-T-C
21	39.16	7237.58	862.42	7" 29 # N-80 casing 8rd L-T-C
22	41.06	7196.52	903.48	7" 29 # N-80 casing 8rd L-T-C
23	41.17	7155.35	944.65	7" 29 # N-80 casing 8rd L-T-C
24	40.22	7115.13	984.87	7" 29 # N-80 casing 8rd L-T-C
25	38.97	7076.16	1023.84	7" 29 # N-80 casing 8rd L-T-C
26	40.45	7035.71	1064.29	7" 29 # N-80 casing 8rd L-T-C
27	40.03	6995.68	1104.32	7" 29 # N-80 casing 8rd L-T-C
28	40.04	6955.64	1144.36	7" 29 # N-80 casing 8rd L-T-C
29	40.96	6914.68	1185.32	7" 29 # N-80 casing 8rd L-T-C
30	40.84	6873.84	1226.16	7" 29 # N-80 casing 8rd L-T-C
31	43.07	6830.77	1269.23	7" 29 # L-80 casing 8rd L-T-C
32	39.92	6790.85	1309.15	7" 29 # N-80 casing 8rd L-T-C
33	40.24	6750.61	1349.39	7" 29 # N-80 casing 8rd L-T-C
34	33.28	6717.33	1382.67	7" 29 # N-80 casing 8rd L-T-C
35	40.30	6677.03	1422.97	7" 29 # N-80 casing 8rd L-T-C
36	40.16	6636.87	1463.13	7" 29 # N-80 casing 8rd L-T-C
37	40.84	6596.03	1503.97	7" 29 # N-80 casing 8rd L-T-C
38	39.65	6556.38	1543.62	7" 29 # N-80 casing 8rd L-T-C
39	41.87	6514.51	1585.49	7" 29 # N-80 casing 8rd L-T-C
40	40.78	6473.73	1626.27	7" 29 # N-80 casing 8rd L-T-C
41	40.65	6433.08	1666.92	7" 29 # N-80 casing 8rd L-T-C

42	40.36	6392.72	1707.28	7" 29 # N-80 casing 8rd L-T-C
43	34.93	6357.79	1742.21	7" 29 # N-80 casing 8rd L-T-C
44	38.98	6318.81	1781.19	7" 29 # N-80 casing 8rd L-T-C
45	39.19	6279.62	1820.38	7" 29 # N-80 casing 8rd L-T-C
46	41.55	6238.07	1861.93	7" 29 # N-80 casing 8rd L-T-C
47	37.46	6200.61	1899.39	7" 29 # N-80 casing 8rd L-T-C
48	42.37	6158.24	1941.76	7" 29 # N-80 casing 8rd L-T-C
49	40.97	6117.27	1982.73	7" 29 # N-80 casing 8rd L-T-C
50	38.79	6078.48	2021.52	7" 29 # N-80 casing 8rd L-T-C
51	40.61	6037.87	2062.13	7" 29 # N-80 casing 8rd L-T-C
52	39.53	5998.34	2101.66	7" 29 # N-80 casing 8rd L-T-C
53	40.68	5957.66	2142.34	7" 29 # N-80 casing 8rd L-T-C
54	37.18	5920.48	2179.52	7" 29 # N-80 casing 8rd L-T-C
55	37.98	5882.50	2217.50	7" 29 # N-80 casing 8rd L-T-C
56	41.16	5841.34	2258.66	7" 29 # N-80 casing 8rd L-T-C
57	38.35	5802.99	2297.01	7" 29 # L-80 casing 8rd L-T-C
58	37.87	5765.12	2334.88	7" 29 # L-80 casing 8rd L-T-C
59	37.88	5727.24	2372.76	7" 29 # L-80 casing 8rd L-T-C
60	38.22	5689.02	2410.98	7" 29 # L-80 casing 8rd L-T-C
61	38.40	5650.62	2449.38	7" 29 # L-80 casing 8rd L-T-C
62	43.03	5607.59	2492.41	7" 29 # L-80 casing 8rd L-T-C
63	37.99	5569.60	2530.40	7" 29 # L-80 casing 8rd L-T-C
64	38.84	5530.76	2569.24	7" 29 # L-80 casing 8rd L-T-C
65	39.20	5491.56	2608.44	7" 29 # L-80 casing 8rd L-T-C
66	38.26	5453.30	2646.70	7" 29 # L-80 casing 8rd L-T-C
67	37.92	5415.38	2684.62	7" 29 # L-80 casing 8rd L-T-C
68	38.30	5377.08	2722.92	7" 29 # L-80 casing 8rd L-T-C
69	41.11	5335.97	2764.03	7" 29 # N-80 casing 8rd L-T-C
70	41.29	5294.68	2805.32	7" 29 # N-80 casing 8rd L-T-C
71	37.11	5257.57	2842.43	7" 29 # N-80 casing 8rd L-T-C
72	37.34	5220.23	2879.77	7" 29 # N-80 casing 8rd L-T-C
73	40.06	5180.17	2919.83	7" 29 # N-80 casing 8rd L-T-C
74	39.94	5140.23	2959.77	7" 29 # N-80 casing 8rd L-T-C
75	41.23	5099.00	3001.00	7" 29 # N-80 casing 8rd L-T-C
76	41.22	5057.78	3042.22	7" 29 # N-80 casing 8rd L-T-C
77	41.74	5016.04	3083.96	7" 29 # N-80 casing 8rd L-T-C
78	41.18	4974.86	3125.14	7" 29 # N-80 casing 8rd L-T-C
79	39.70	4935.16	3164.84	7" 29 # N-80 casing 8rd L-T-C
80	40.34	4894.82	3205.18	7" 29 # N-80 casing 8rd L-T-C
81	42.01	4852.81	3247.19	7" 29 # N-80 casing 8rd L-T-C
82	39.87	4812.94	3287.06	7" 29 # N-80 casing 8rd L-T-C
83	42.04	4770.90	3329.10	7" 29 # N-80 casing 8rd L-T-C
84	40.92	4729.98	3370.02	7" 29 # N-80 casing 8rd L-T-C
85	40.03	4689.95	3410.05	7" 29 # N-80 casing 8rd L-T-C
86	38.90	4651.05	3448.95	7" 29 # N-80 casing 8rd L-T-C
87	40.51	4610.54	3489.46	7" 29 # N-80 casing 8rd L-T-C
88	39.47	4571.07	3528.93	7" 29 # N-80 casing 8rd L-T-C
89	39.95	4531.12	3568.88	7" 29 # N-80 casing 8rd L-T-C
90	41.73	4489.39	3610.61	7" 29 # N-80 casing 8rd L-T-C

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91	40.69	4448.70	3651.30	7" 29 # N-80 casing 8rd L-T-C
92	39.85	4408.85	3691.15	7" 29 # N-80 casing 8rd L-T-C
93	38.11	4370.74	3729.26	7" 29 # N-80 casing 8rd L-T-C
94	41.33	4329.41	3770.59	7" 29 # N-80 casing 8rd L-T-C
95	40.85	4288.56	3811.44	7" 29 # L-80 casing 8rd L-T-C
96	38.06	4250.50	3849.50	7" 29 # N-80 casing 8rd L-T-C
97	38.01	4212.49	3887.51	7" 29 # N-80 casing 8rd L-T-C
98	39.21	4173.28	3926.72	7" 29 # N-80 casing 8rd L-T-C
99	43.64	4129.64	3970.36	7" 29 # L-80 casing 8rd L-T-C
100	41.51	4088.13	4011.87	7" 29 # N-80 casing 8rd L-T-C
101	39.82	4048.31	4051.69	7" 29 # N-80 casing 8rd L-T-C
102	38.11	4010.20	4089.80	7" 29 # N-80 casing 8rd L-T-C
103	38.33	3971.87	4128.13	7" 29 # N-80 casing 8rd L-T-C
104	40.45	3931.42	4168.58	7" 29 # N-80 casing 8rd L-T-C
105	39.32	3892.10	4207.90	7" 29 # N-80 casing 8rd L-T-C
106	40.58	3851.52	4248.48	7" 29 # N-80 casing 8rd L-T-C
107	40.21	3811.31	4288.69	7" 29 # N-80 casing 8rd L-T-C
108	38.76	3772.55	4327.45	7" 29 # N-80 casing 8rd L-T-C
109	39.84	3732.71	4367.29	7" 29 # N-80 casing 8rd L-T-C
110	38.40	3694.31	4405.69	7" 29 # N-80 casing 8rd L-T-C
111	37.84	3656.47	4443.53	7" 29 # N-80 casing 8rd L-T-C
112	40.49	3615.98	4484.02	7" 29 # N-80 casing 8rd L-T-C
113	38.05	3577.93	4522.07	7" 29 # N-80 casing 8rd L-T-C
114	43.98	3533.95	4566.05	7" 29 # L-80 casing 8rd L-T-C
115	42.90	3491.05	4608.95	7" 29 # L-80 casing 8rd L-T-C
116	38.82	3452.23	4647.77	7" 29 # L-80 casing 8rd L-T-C
117	44.64	3407.59	4692.41	7" 29 # L-80 casing 8rd L-T-C
118	43.21	3364.38	4735.62	7" 29 # L-80 casing 8rd L-T-C
119	43.54	3320.84	4779.16	7" 29 # L-80 casing 8rd L-T-C
120	41.37	3279.47	4820.53	7" 29 # L-80 casing 8rd L-T-C
121	42.49	3236.98	4863.02	7" 29 # L-80 casing 8rd L-T-C
122	39.18	3197.80	4902.20	7" 29 # L-80 casing 8rd L-T-C
123	38.98	3158.82	4941.18	7" 29 # L-80 casing 8rd L-T-C
124	38.03	3120.79	4979.21	7" 29 # L-80 casing 8rd L-T-C
125	38.68	3082.11	5017.89	7" 29 # L-80 casing 8rd L-T-C
126	38.67	3043.44	5056.56	7" 29 # L-80 casing 8rd L-T-C
127	38.83	3004.61	5095.39	7" 29 # L-80 casing 8rd L-T-C
128	38.62	2965.99	5134.01	7" 29 # L-80 casing 8rd L-T-C
129	36.44	2929.55	5170.45	7" 29 # L-80 casing 8rd L-T-C
130	38.18	2891.37	5208.63	7" 29 # L-80 casing 8rd L-T-C
131	38.33	2853.04	5246.96	7" 29 # L-80 casing 8rd L-T-C
132	38.00	2815.04	5284.96	7" 29 # L-80 casing 8rd L-T-C
133	36.75	2778.29	5321.71	7" 29 # L-80 casing 8rd L-T-C
134	38.05	2740.24	5359.76	7" 29 # L-80 casing 8rd L-T-C
135	36.54	2703.70	5396.30	7" 29 # L-80 casing 8rd L-T-C
136	36.80	2666.90	5433.10	7" 29 # L-80 casing 8rd L-T-C
137	38.33	2628.57	5471.43	7" 29 # L-80 casing 8rd L-T-C
138	37.74	2590.83	5509.17	7" 29 # L-80 casing 8rd L-T-C
139	38.86	2551.97	5548.03	7" 29 # L-80 casing 8rd L-T-C

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140	38.85	2513.12	5586.88	7" 29 # L-80 casing 8rd L-T-C
141	38.38	2474.74	5625.26	7" 29 # L-80 casing 8rd L-T-C
142	37.81	2436.93	5663.07	7" 29 # L-80 casing 8rd L-T-C
143	38.10	2398.83	5701.17	7" 29 # L-80 casing 8rd L-T-C
144	37.70	2361.13	5738.87	7" 29 # L-80 casing 8rd L-T-C
145	36.14	2324.99	5775.01	7" 29 # L-80 casing 8rd L-T-C
146	38.67	2286.32	5813.68	7" 29 # L-80 casing 8rd L-T-C
147	38.44	2247.88	5852.12	7" 29 # L-80 casing 8rd L-T-C
148	38.57	2209.31	5890.69	7" 29 # L-80 casing 8rd L-T-C
149	38.14	2171.17	5928.83	7" 29 # L-80 casing 8rd L-T-C
150	38.37	2132.80	5967.20	7" 29 # L-80 casing 8rd L-T-C
151	38.39	2094.41	6005.59	7" 29 # L-80 casing 8rd L-T-C
152	38.53	2055.88	6044.12	7" 29 # L-80 casing 8rd L-T-C
153	36.22	2019.66	6080.34	7" 29 # L-80 casing 8rd L-T-C
154	37.67	1981.99	6118.01	7" 29 # L-80 casing 8rd L-T-C
155	39.31	1942.68	6157.32	7" 29 # L-80 casing 8rd L-T-C
156	37.93	1904.75	6195.25	7" 29 # L-80 casing 8rd L-T-C
157	37.97	1866.78	6233.22	7" 29 # L-80 casing 8rd L-T-C
158	38.37	1828.41	6271.59	7" 29 # L-80 casing 8rd L-T-C
159	37.23	1791.18	6308.82	7" 29 # L-80 casing 8rd L-T-C
160	38.36	1752.82	6347.18	7" 29 # L-80 casing 8rd L-T-C
161	38.50	1714.32	6385.68	7" 29 # L-80 casing 8rd L-T-C
162	38.48	1675.84	6424.16	7" 29 # L-80 casing 8rd L-T-C
163	38.65	1637.19	6462.81	7" 29 # L-80 casing 8rd L-T-C
164	38.64	1598.55	6501.45	7" 29 # L-80 casing 8rd L-T-C
165	37.64	1560.91	6539.09	7" 29 # L-80 casing 8rd L-T-C
166	38.13	1522.78	6577.22	7" 29 # L-80 casing 8rd L-T-C
167	38.63	1484.15	6615.85	7" 29 # L-80 casing 8rd L-T-C
168	38.52	1445.63	6654.37	7" 29 # L-80 casing 8rd L-T-C
169	38.44	1407.19	6692.81	7" 29 # L-80 casing 8rd L-T-C
170	37.68	1369.51	6730.49	7" 29 # L-80 casing 8rd L-T-C
171	38.88	1330.63	6769.37	7" 29 # L-80 casing 8rd L-T-C
172	39.08	1291.55	6808.45	7" 29 # L-80 casing 8rd L-T-C
173	38.37	1253.18	6846.82	7" 29 # L-80 casing 8rd L-T-C
174	38.39	1214.79	6885.21	7" 29 # L-80 casing 8rd L-T-C
175	38.80	1175.99	6924.01	7" 29 # L-80 casing 8rd L-T-C
176	41.19	1134.80	6965.20	7" 29 # L-80 casing 8rd L-T-C
177	38.17	1096.63	7003.37	7" 29 # L-80 casing 8rd L-T-C
178	38.98	1057.65	7042.35	7" 29 # L-80 casing 8rd L-T-C
179	38.11	1019.54	7080.46	7" 29 # L-80 casing 8rd L-T-C
180	37.95	981.59	7118.41	7" 29 # L-80 casing 8rd L-T-C
181	38.12	943.47	7156.53	7" 29 # L-80 casing 8rd L-T-C
182	38.50	904.97	7195.03	7" 29 # L-80 casing 8rd L-T-C
183	37.66	867.31	7232.69	7" 29 # L-80 casing 8rd L-T-C
184	38.67	828.64	7271.36	7" 29 # L-80 casing 8rd L-T-C
185	38.67	789.97	7310.03	7" 29 # L-80 casing 8rd L-T-C
186	38.16	751.81	7348.19	7" 29 # L-80 casing 8rd L-T-C
187	37.57	714.24	7385.76	7" 29 # L-80 casing 8rd L-T-C
188	38.84	675.40	7424.60	7" 29 # L-80 casing 8rd L-T-C

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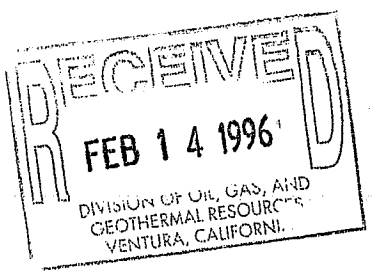
189	38.48	636.92	7463.08	7" 29 # L-80 casing 8rd L-T-C
190	38.61	598.31	7501.69	7" 29 # L-80 casing 8rd L-T-C
191	38.22	560.09	7539.91	7" 29 # L-80 casing 8rd L-T-C
192	38.36	521.73	7578.27	7" 29 # L-80 casing 8rd L-T-C
193	38.44	483.29	7616.71	7" 29 # L-80 casing 8rd L-T-C
194	37.48	445.81	7654.19	7" 29 # L-80 casing 8rd L-T-C
195	38.12	407.69	7692.31	7" 29 # L-80 casing 8rd L-T-C
196	38.51	369.18	7730.82	7" 29 # L-80 casing 8rd L-T-C
197	37.46	331.72	7768.28	7" 29 # L-80 casing 8rd L-T-C
198	38.41	293.31	7806.69	7" 29 # L-80 casing 8rd L-T-C
199	37.88	255.43	7844.57	7" 29 # L-80 casing 8rd L-T-C
200	37.85	217.58	7882.42	7" 29 # L-80 casing 8rd L-T-C
201	37.81	179.77	7920.23	7" 29 # L-80 casing 8rd L-T-C
202	38.43	141.34	7958.66	7" 29 # L-80 casing 8rd L-T-C
203	38.46	102.88	7997.12	7" 29 # L-80 casing 8rd L-T-C
204	38.42	64.46	8035.54	7" 29 # L-80 casing 8rd L-T-C
205	37.09	27.37	8072.63	7" 29 # L-80 casing 8rd L-T-C
206	8.37	19.00	8081.00	7" 29 # L-80 casing 8rd L-T-C
	19.00	0.00	8100.00	Let down to casing head

Thread lube applyed to 8rd threads.
Casing landed with 180,000 LBS on slips.
Note Joint No # 116 dressed threads in box.
note Joint No # 120 dressed threads on pin.
Botton 4 Joint of 7" casing threads baker locked.
Shoe and float collar and Lines packer are baker locked.
9-3/8" caliper stablizer installed on shoe joint below 7" collar.
Scratcher placement two per joint NO# 1-2-3-4-5-6
Centralizer placement one per joint around collors 2 to 29.
Centralizer placement one per joint around collors 31-33-35-37-39
41-43-45-47-49-51-53-55-57-59-61-63-65-66-67-68-69-70-71-72-73-74
75-76-77-78-79.
Jim Dayton 10-3-1995.



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

No. P295-245

PERMIT TO CONDUCT WELL OPERATIONS

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

GAS STORAGE

James D. Mansdorfer, Agent
Southern California Gas Company
555 W. 5th Street
Los Angeles, CA. 90013-1011

Ventura, California
October 16, 1995

Your supplementary proposal to redrill well "Standard Sesnon" 4-0, A.P.I. No. 037-22063-01, Section 29, T. 3N, R. 16W, S.B. B.&M., Aliso Canyon field, ---------- area, Sesnon-Frew pool, Los Angeles County, dated 10/12/95, received 10/16/95, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Requirements specified in permit No. P295-220 dated Sept. 11, 1995 shall apply.
2. The 4-1/2" liner shall be set to at least 100' above the 7" shoe.
3. Wire line operations are conducted through at least a 3M lubricator during completion operations.
4. Requirements specified in our approval of the GAS STORAGE project dated July 26, 1989 shall apply.
5. A temperature survey shall be run fom 5800'± to surface prior to any injection/withdrawal operation.
6. This office shall be consulted before sidetracking the well or running any additional casing.
7. THIS DIVISION SHALL BE NOTIFIED:
   a. To witness the running of the temperature survey prior to conducting injection/withdrawal operations. 10 days

NOTE: The temperature survey is required to properly monitor water injection operations in the upper zones. This is required because of a failure to properly plug the original hole in this well.

Blanket Bond
SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

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

By _____
Patrick J. Kinnear
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 (Modified 1993)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

SUPPLEMENTARY NOTICE

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

DIVISION OF OIL AND GAS

Ventura Calif.

A notice to you dated August 28, 19 95, stating the intention to

redrill (Drill, rework, abandon), Standard Sesnon 4-0 (Well name and number), API No. 037-22063-01;

Sec. 29, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon Field,

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

The present condition of the well is as follows:

Total depth 10,200 (current drilling measured depth)

Complete casing record including plugs and perforations:

0' - 1296': 16", 75#, K55;
0' - 4852': 10-3/4", 51#, N80;
0' - 8100': 7", 29#, N80 & L80, LT&C, cemented from 8100' to above 4852' (calculated top of cement.)

We now propose

to continue drilling 6" hole from 10,200' to a maximum depth of 10,700' (measured depth), 9100' (tvd).

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

Address Box 3248 M.L. 23D1 (Street)

Los Angeles, CA 90051 (City) (State) (Zip)

Telephone Number (213) 244-5470

Southern California Gas Company (Name of Operator)

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

By James Hemmerly (Name)

Signature [signature] (Date) 10/12/95

OG123 (3/82/GSR1/5M)

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

No. T295-173

Report on Operations

James D. Mansforfer, Agent
Southern California Gas Co.
555 W. 5th Street
Los Angeles, CA 90013-1011

Ventura, California
October 13, 1995

Your operations at well "Standard Sesnon" 4-0, API No. 037-22063,
Sec. 29, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County,
were witnessed on 10-12-95. Fariba Neese, representative of
the supervisor, was present from 0800 to 1200. There were also present
Jim Dayton, Drilling Rep.
Present condition of well: 16" cem 1296'; 10 3/4" cem 4852'; 7" cem 8100'. TD 10,152'.

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

DECISION:

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

REMARKS AND DEFICIENCIES:

Failure to Notify this Division to test BOPE prior to drilling out shoe of 7" casing.

svl

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

By _____

Patrick J. Kinnear
Deputy Supervisor

OG109 (Modified 1993)

API No. 037-22063-01 DIVISION OF OIL AND GAS T 295-173

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator Southern California Gas Company Well "Standard Sesnon" 41-O
Field Aliso Canyon County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	10/12/95	F. Neese	(0800 to 1200)	Jim Dayton	Drilling Rep.
2nd			(to)		

Contractor Cleveland Rig # 6 Contractor's Rep. & Title
Casing record of well: 16" cem 1296'; 10 3/4" cem 4852'; 7" cem 8100'. TD 10152'.

OPERATION: ~~Testing~~ (inspecting) the blowout prevention equipment and installation.
DECISION: The blowout prevention equipment and its installation on the 7 " casing are approved.

Proposed Well Opns: Redrill . MACP: psi
Hole size: " fr. ' to ' , " to ' & " to '

REQUIRED BOPE CLASS: 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
10 3/4"	51#	N-80			248 bbls Neat + 9.2 bbls Neat (PKr)		
7"	29#	N-80	8100		Drilled to 10152'		

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A		Annular - Hydril	GK	6"	5000	
R		Pipe Rams	SL	↓	↓	
CSO		Blind Rams	-	↓	↓	

TEST DATA

Gal. to Close	Recovery Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
					10/12	2500
					10/12	3000
					10/12	3000

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3000 psi
Total Rated Pump Output gpm
Distance From Well Bore 50 ft.

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

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

EMERG. BACKUP SYSTEM			Press.	Wkg. Fluid
✓ N_2 Cylinders	1	L= "	2000	gal.
Other:	2	L= "	1800	gal.
	3	L= "	2200	gal.
	4	L= "		gal.
	5	L= "		gal.
	6	L= "		gal.
		TOTAL:		gal.

TOTAL:

AUXILIARY EQUIPMENT

	No.	Size (in.)	Rated Press.	Connections: Weld	Flange	Thread	Test Press.
✓ Fill-up Line							
✓ Kill Line		3"	5000		✓		3000
✓ Control Valve(s)	2		↓		✓		↓
✓ Check Valve(s)	1				✓		
Aux. Pump Connect.					✓		
✓ Choke Line		4"			✓		
✓ Control Valve(s)	7				✓		↓
✓ Pressure Gauge						✓	
✓ Adjustable Choke(s)	2	2"			✓		3000
✓ Bleed Line		2"			✓		
✓ Upper Kelly Cock							↓
✓ Lower Kelly Cock			5000				
✓ Standpipe Valve							↓
✓ Standpipe Press. Gauge							
✓ Pipe Safety Valve		3 1/2"	5000				3000
✓ Internal Preventer		3 1/2"	5000				3000

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

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Gel Mud	9.0	800 bbls

REMARKS AND DEFICIENCIES: OK

1) Failure to Notify this Division to test BOPE prior to drilling out shoe of 7" CASING

OGD9 (8/92/GSR1/3M)

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

No. T295-170

Report on Operations

James D. Mansforfer, Agent
Southern California Gas Co.
555 W. 5th Street
Los Angeles, CA 90013-1011

Ventura, California
October 2, 1995

Your operations at well "Standard Sesnon" 4-0, API No. 037-22063, Sec. 29, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 9-16-95. Fariba Neese, representative of the supervisor, was present from 1200 to 1600. There were also present Jim Dayton, Drilling Rep.
Present condition of well: 16" cem 1296'; 10 3/4" cem 4852'; 7" cem 8121', cut & pulled from 5000', milled out 7000'-7250', sidetracked csg 7008'-7690', re-entered 7" csg @ 7690'; 5 1/2" cem 8076'-9650', perfs @ int 8140'-9590'. TD 9670'. Plugged w/cem 9670'-9610', 9396'-6871', 5108'-4450'.

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

DECISION:

The blowout prevention equipment and its installation on the ~~7~~ 10 3/4" casing are approved.

svl

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

By Patrick J. Kinnear

Patrick J. Kinnear
Deputy Supervisor

OG109 (Modified 1993)

API No. 037-22063-01 DIVISION OF OIL AND GAS T 2S-17O

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator Southern California Gas Company Well "Standard Season" 24-O
Field Aliso Canyon County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	9/13/95	F. Neese	(2000 to 0100)	Jim Dayton	Drilling Rep
2nd	9/16/95	F. Neese	(1200 to 1600)	Jim Dayton	Drilling Rep

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

Casing record of well: 16" cem. 1296'; 10 3/4" cem 4852'; 7" cem. 8121', cut & pulled from 5000', milled out 7000'-7250'; sidetracked csg 7008'-7690', re-entered 7" csg @ 7690'; 5 1/2" cem 8076-9650, perfs @ int 8140-9590'. T.D. 9670'. Plugged w/ cem. 9670-9610, 9396-6871, 5108-4450'.

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

DECISION: The blowout prevention equipment and its installation on the 10 3/4" casing are approved.

Proposed Well Opns: Redrill . MACP: psi

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

REQUIRED BOPE CLASS: 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
16"	75 #	K-55	1296		1050ft3		
10 3/4"	51#	N-80	4852		3075ft3 Plug @ 5120'-4450'		

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A		Hydril Annular	GK	12 1/2	5000	
RD	5"	Shaffer Pipe Rams	SL	12 1/2	↓	
CSO	–	Shaffer Blind Rams	–	–	↓	

TEST DATA

Gal. to Close	Recovery Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
					9/16	2500
					↓	↓

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3000 psi
Total Rated Pump Output gpm
Distance From Well Bore 50 ft.

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

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

EMERG. BACKUP SYSTEM			Press.	Wkg. Fluid
3	N_2 Cylinders	1 L= "	2200	gal.
	Other:	2 L= "	1750	gal.
		3 L= "	2500	gal.
		4 L= "		gal.
		5 L= "		gal.
		6 L= "		gal.
		TOTAL:		gal.

TOTAL:

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press.	Connections: Weld	Flange	Thread	Test Press.
✓	Fill-up Line							
✓	Kill Line		2			✓		2500
✓	Control Valve(s)	2				✓		
✓	Check Valve(s)	1				✓		
✓	Aux. Pump Connect.					✓		
✓	Choke Line		2			✓		
✓	Control Valve(s)	5				✓		
✓	Pressure Gauge						✓	
✓	Adjustable Choke(s)	2	2			✓		
/	Bleed Line		2			✓		
/	Upper Kelly Cock							/
/	Lower Kelly Cock							/
/	Standpipe Valve							/
✓	Standpipe Press. Gauge							
✓	Pipe Safety Valve		5"					2500
✓	Internal Preventer		5"					2500

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

Hole Fluid Type	Weight	Storage Pits (Type & Size)
88-90 Gel	Mud	800 bbls

REMARKS AND DEFICIENCIES: OK

OGD9 (8/92/GSR1/3M)

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

No. P295-220

PERMIT TO CONDUCT WELL OPERATIONS

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

GAS STORAGE

James D. Mansdorfer, Agent
Southern California Gas Company
555 W. 5th Street
Los Angeles, CA. 90013-1011

Ventura, California
September 11, 1995

Your proposal to redrill well "Standard Sesnon" 4-0, A.P.I. No. 037-22063-01, Section 29, T. 3N, R. 16W, S.B. B.&M., Aliso Canyon field, ---------- area, Sesnon-Frew pool, Los Angeles County, dated 8/28/95, received 8/30/95, 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 IIIB3M requirements is installed on the 10-3/4" and 7" 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. The 7" 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.
4. The 4-1/2" liner shall be set to at least 100' above the 7" shoe.
5. An approved blowout prevention and control plan is on file with this office prior to commencing operations.
6. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet.
9. Wire line operations are conducted through at least a 3M lubricator during completion operations.
10. Requirements specified in our approval of the GAS STORAGE project dated July 26, 1989 shall apply.
11. A temperature survey shall be run fom 5800'± to surface prior to any injection/withdrawal operation.

Blanket Bond
SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

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

By _____
Patrick J. Kinnear
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 (Modified 1993)

12. This office shall be consulted before sidetracking the well or running any additional casing.
13. THIS DIVISION SHALL BE NOTIFIED:
    a. To witness a pressure test of the blowout prevention equipment prior to drilling out the shoe of the 10-3/4" casing and prior to drilling out of the shoe of the 7" 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 the running of the temperature survey prior to conducting injection/withdrawal operations.

NOTE: The temperature survey is required to properly monitor water injection operations in the upper zones. This is required because of a failure to properly plug the original hole in this well.

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

Notice of Intention to Rework Well

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

FOR DIVISION USE ONLY		
BOND	FORMS	
	OGD114	OGD121
BB	✓	✓

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well Standard Sesnon 4-0 (Well designation), API No. 037-22063-01

Sec. 29, T. 3N, R. 16W, SB B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth 9670' (4450' Plugged back depth)

2. Complete casing record, including plugs and perforations (present hole)

   (see attached)

3. Present producing zone name none ; Zone in which well is to be recompleted Sesnon

4. Present zone pressure n/a ; New zone pressure 2900 psi

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

   (or)

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

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

The proposed work is as follows:

(see attached)

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Note: If well is to be redrilled, show proposed new bottom-hole coordinates and true vertical depth.

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

Address Box 3249 M.L. 23D1 (Street)
Los Angeles, CA 90051 (City) (State) (Zip)
Telephone Number (213) 244-5470

Southern California Gas Company (Name of Operator)
By James Hemmerly (Name-Printed)
(Name-Signature) 8/28/95 (Date)
Type of Organization Corporation (Corporation, Partnership, Individual, etc.)

OG107 (8/87/DWRR/5M)

Standard Sesnon 4-0, Aliso Canyon, Notice of Intention to Redrill Information

Complete casing record, including plugs and perforations (present hole)

0' - 1296':	16", 75# K55;
0' - 4852':	10-3/4" 51#, N80; Plugged back from 5000' (open hole) to 4450';
5000' - 8121':	7", 23# & 26#, N80, Collapsed casing @ 7008', Sidetracked 7008' - 7056' (cemented); 7008' - 7292' (cemented); 7008' to 7666' (re-entered 7" casing), plugged back from 8076' (top of 5-1/2" liner hanger) to 6871'; Mud plug from 6871' - 5000'
8076' - 9650':	5-1/2", 20#, K55, liner, plugged from 9400' - 8076' (top of liner).

The proposed work is as follows:

1. Move in-rig up drilling rig.
2. Install BOPE.
3. Run in well w/ 9-1/2" bit and drill out cement to 10-3/4" casing shoe at 4852'.
4. Kick of cement plug and directionally drill 9-1/2" hole to approximately 7650' (Tvd), 8040' (Md).
5. Record Dual Induction, GR, SP, Caliper Logs from 7650' to 4852'.
6. Run 7", 29#, L80, LT&C casing from 7650' to surface. Cement from 7650' to 4652'.
7. Drill out 7" casing w/ 6" bit and directionally drill 6" hole from 7650' (Tvd), 8040' (Md) to 8886' (Tvd), 10,142' (Md).
8. Record Dual Induction, GR, SP, Caliper logs from 8886' (Tvd) to 7650' (Tvd)
9. Run in well and cement 2200' of 4-1/2" 11.60# liner from 10,142' (Md) to 7942' (Md)
10. Change drill mud to 2% KCl workover Fluid.
11. Underbalance perforate w/ two 1/2" SPF from 10141' (Md) - 8200' (Md).
12 Wireline set packer at approximately 7900' and complete with 2-7/8" 6.5#, tubing.
13. Remove BOPE, install wellhead equipment.
14. Rig down-move out drilling rig.

Proposed Bottom Hole Location: Approximately 650' south and 730' west of surface location at a TVD of 8886' from ground elevation.

↳ 9100 TVD
10700 MD

J. Hemmerley called on 10/12/95 to ask for approval to deepen to

↳ Will send Supplemental Notice

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VENTURA, CALIFORNIA

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA

DEPARTMENT OF CONSERVATION

MAILED 2/15

DAN

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator: Southern California Gas Company **Field:** Aliso Canyon **County:** Los Angeles
Well: Standard Sesnon 4-0 **Sec:** 29 **T** 3N **R:** 16W , SB **B. & M.**

A.P.I. No.: 037-22063 **Name:** M. A. Woiemberghe (Person submitting report) **Title:** Agent (President, Secretary or Agent)

Date: February 15, 1995 **Signature:** D S Newlee
For Mike Woiemberghe

P.O. Box 3249, Los Angeles, California, 90051-1249 (Address) 213-244-2660 (Telephone Number)

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

Date

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03/18/94 Moved in and rigged up.

03/19/94 Moved in and rigged up.

03/21/94 Waited on plant to pressure withdrawal line. Killed well. Pumped 391 bbls of 2% KCl water. Lost 81 bbls.

03/22/94 Tubing pressure at 60 psig, casing pressure at 0 psig. Filled well with 12 bbls KCl water. Installed back pressure valve in tubing hanger. Removed xmas tree. Installed Class III 7-1/16, 5000 psi BOPE. Tested 2-7/8" pipe rams, blind rams and choke manifold to 4000 psi. Tested Hydril bag to 3500 psi. Pulled tubing string 41,000 lbs over string weight. Unable to move Otis RN packer at 8009'. Ran free point to 7025'. Showed 2-7/8" tubing had movement at this depth.

03/23/94 Filled well with 13 bbls KCl water. Changed pipe rams to 1-1/4". Well started flowing back through 2-7/8" tubing. Circulated gas and oil out of well. Made up Bobco tubing roller. Picked up and ran 1-1/4" CS Hydril tubing in well. Tubing roller stopped at 7009'. Rolled tubing at 7009'.

03/24/94 Filled well with 11 bbls KCl water. Using Bobco tubing roller, rolled 2-7/8" tubing from 7009' to 7011'. Ran tubing roller 8 hours. Pulled out of well. Left Bobco tubing roller in well. Tubing roller parted below top sub.

03/25/94 Filled well with 7 bbls KCl water. Laid down 1-1/4" tubing. Changed pipe rams to 2-7/8". Pressure tested ram doors to 2500 psi with rig pump. Worked 2-7/8" tubing string pulling 130,000'. Moved tubing up well 11-1/2". Unable to move tubing further. Used wireline chemical cutter and cut 2-7/8" tubing at 6922'.

03/26/94 Filled well with 20 bbls KCl water. Pulled out of well. Picked up 6 joints of 2-3/8" CS Hydril tubing with 45 degree cut on bottom joint. Ran in well. Tubing tail stopped at 6955'. Circulated well and ran 1-11/16" O.D. video camera on wireline to 7009'. Unable to see due to unclear fluid. Pulled out of well with camera.

03/28/94 Circulated gas out of well bore. Pulled out of well. Made up 193' of 2-3/8" flush joint tubing. Ran in well to 6987'. Tubing would not pass 6987'. Ran video camera, found 2-3/8" tubing went inside 2-7/8" tubing. Pulled tubing tail 12' above top of 2-7/8" tubing fish. Bullheaded 20 bbls water down tubing with annulus closed in. Pressured up to 750 psi. Located top of 2-7/8" tubing with camera. Casing looked good above top of tubing fish. Pulled video camera out of well. Worked tubing string down well to 7023'. Circulated 4 bbls/min down tubing at 450 psi. Closed well when 2-3/8" tubing pump rate fell to 0.25 bbl/min at 1500 psi. .

03/29/94	Circulated well at 7018'. Pulled tubing to 7016'. Ran 1-11/16" OD video camera to 7013' wireline depth. Camera showed fill in well bore beside 2-7/8" tubing. Checked 7" casing from 7013' to 6960'. Casing and casing collars looked good. Unable to clean out past 7018' with 2-3/8" tubing tail. Video showed 2-7/8" tubing was held off side of 7" casing, making it too tight to pass with 2-3/8" FJ tubing. Laid down 2-7/8" tubing to 3000'. Unloaded and measured 2-7/8" drill pipe.
03/30/94	Filled well with 20 bbls KCl water. Pulled out of well laying down 2-7/8" tubing. Made up 5-5/8" x 4-7/8" ID wash over shoe with 4-1/16" guide ring inside shoe. Ran 173' of 5-1/2" x 4-7/8" ID wash pipe, bumper sub, jars and 121' of 4-3/4" OD collars. Picked up 2-7/8" drill pipe. Ran in well with 5-5/8" OD wash over shoe. Shoe stopped at 1461'. Worked pipe. Shoe fell through at 1461'. Ran in to 3000'. Annulus pressure between 7" and 10-3/4"; casing was 400 psi. Bled off gas.
03/31/94	Filled well with 40 bbls KCl water. Established circulation between 7" casing and 10-3/4" casing. Pulled kill string. Installed shooting flange. Ran Dialog minimum ID caliper log from 6900' to surface. Log showed 7" casing parted at 1445'. Driller's depth at 1461'. Ran in and set bridge plug at 5978'. Pulled out of well to 3139'.
04/01/94	Pulled kill string. Removed 7-1/16" BOPE and tubing head. Unlanded 7" casing. Installed and tested 10" 5000 psi BOPE to 2700 psi with rig pump. Speared 7" casing. Laid down 7" 23# buttress N-80 casing. Laid down 34 joints. Found 7" buttress casing collar wrapped around 7" casing collar on 20th joint pulled.
04/02/94	Made up 8-3/8" OD sizing tool. Ran in well to 1452'. Milled and dressed 7" 23# casing. Made up 8-3/8" OD x 7" 23# Bowen casing bowl. Ran 38 joints 7" 23# N-80 8rd casing. Worked casing bowl over top of 7" stub. Pulled 140,000 lbs and landed 7" casing on slips in well head. Pressure tested between 7" and 10-3/4" annulus to 5000 psi. Cut and removed 7" casing cut off. Removed 10" 5000 psi BOPE. Installed pack off above slips and snap ring. Installed seal flange and tubing head. Installed 6" 5000 psi BOPE. Tested BOPE to 2700 psi with rig pump. Tested 7" casing to 1500 psi. Pressure tested seal flange and tubing head to 5000 psi.
04/04/94	Ran in well to 5978'. Pulled bridge plug. Made up 5-5/8" x 4-7/8" ID wash over shoe on 172' of 5-1/2" OD wash pipe. Ran in well. Shoe stopped at 7012'. Changed well over to 63 lb/cf KCl polymer fluid. Milled at 7012' for 1-1/2 hours.
04/05/94	Milled at 7012'. Gas coming back annulus. Circulated and killed well. Milled from 7012' to 7013' for 2 hours. Pulled out of well. Laid down 5-1/2' wash pipe. Made up 5" wash over shoe on 118' of 5" OD wash pipe. Ran in well to 6959'.
04/06/94	Washed over from 7013' to 7020'. Ran mill shoe 7-1/2 hours. Pulled to 5243'. Well flowing back annulus and drill pipe. Shut in casing pressure 400 psi. Shut in drill pipe pressure 400 psi. Circulated and killed well. Ran in well to 6927'.
04/07/94	Drill pipe pressure 650 psi. Casing pressure 500 psi. Circulated and killed well. Pulled out of well. Mill shoe showed internal wear only. Made up new 5" x 4-5/16" ID wash over shoe on 140' of 5" wash pipe. Ran in well to 6962'.
04/08/94	Ran in well. Wash over shoe stopped at 7015'. Last mill shoe was run to 7020'. Washed over 2-7/8" tubing from 7015' to 7020', 4-1/2 hours. Washed over from 7020' to 7025', 3-1/2 hours. Tripped to change mill shoe.
04/09/94	Pulled out of well. Recovered 78' of 2-7/8" tubing inside of wash pipe, and 9' of 7" casing 3-1/2' wide. Showed that the 7" casing had collapsed around the 2-7/8" tubing. Made up 5-3/4" OD x 4-5/16" ID wash over shoe on 87' of 5-1/2" OD wash pipe. Ran in well. Washed over from 7012' to 7026'. Milled 4 hours.
04/11/94	Checked well, no pressure. Ran in and tagged fill at 7021'. Cleaned out to 7026'. Milled from 7026' to 7029'. Pulled out to change mill shoe. Ran in with kill string to 3000'.
04/12/94	Pulled kill string. Made up 5-3/4" x 5-13/16" OD mill shoe, ID 4" x 5", 1 joint 5-3/4" OD wash pipe 5" ID, 60' of 5-3/4" OD collars, bumper sub, jars, 121' of 4-3/4" OD drill collars. Ran in well to 7008'. Changed well over to 68 lb/cf clay base mud. Milled from 7008' to 7014' (3 hours milling).

04/13/94 Milled with washover from 7014' to 7017'. Milled for 3-3/4 hours .led out to change washover shoe. Made up new 5-13/16" x 5-3/4" OD shoe. Ran in well to 6930'.

04/14/94 Milled from 7017' to 7027'. Ran wash over shoe 8-3/4 hours. Pulled to kill string.

04/15/94 Pulled out of well. Wash over shoe showed that it had tubing or casing up inside of it. Made up new wash over shoe 5-13/16" x 5-3/4" x 3-1/2" ID, 1 joint of 5-3/4" OD wash pipe, 60' of 5-3/4" drill collars, bumper sub, jars and 121' of 4-3/4" drill collars. Gauge milled from 7016' to 7027'. Milled from 7027' to 7029'. Ran mill for 5-1/2 hours. Pulled one stand.

04/16/94 Pulled out of well. Changed wash over shoe. Ran in well to 7029'. Milled with wash over shoe from 7029' to 7037'. Milled 8' in 5 hours. Pulled 1 stand.

04/18/94 Washed over with mill shoe from 7037' to 7042' for 3-3/4 hours. Pulled out of well. Wash over shoe showed it was milling on casing or tubing. Made up 5-5/8" x 4-13/16" ID shoe on 57' of 5-1/2" OD wash pipe. Ran in well to 6933'.

04/19/94 Using a 5-5/8" x 4-13/16" ID wash over shoe, milled from 7042' to 7055'. Milled 5-1/2 hours. Pulled out of well. Made up outside cutter on 2 joints of 5-1/2" wash pipe. Ran in well to 5253'.

04/20/94 Ran in well with 2-7/8" outside cutter. Cleaned out form 7043' to 7056'. Unable to locate 2-7/8" tubing. Pulled out of well. Made up and ran 5-1/2" OD impression block. Ran in well to 7056'. Set 15,000 lbs on impression block. Pulled to kill string.

04/21/94 Pulled kill string. Impression block showed we were in open hole. Installed shooting flange. Using Schlumberger, ran 5-7/16" OD junk basket from 0 to 7056'. Ran Schlumberger sonic imaging tool and surveyed from 7056' to 5656'. Ran kill string to 3047'.

04/22/94 Rig idle.

04/23/94 Pulled kill string. Made-up 6-1/8" junk mill, bit sub, 6-1/8" stabilizer, 10' lead collar, 6-1/8" stabilizer, 30' 4-3/4" drill collar, 6-1/8" stabilizer, 30' 4-3/4" drill collars, bumper sub, jars, and 121' of 4-3/4" drill collars. Ran in well to 7009'. Milled from 7009' to 7028'. Pulled up to 7009', slid kelly down hole, mill stopped at 7020'. Picked back up but was unable to set back down at 7020'. Milled past 7" stub, went out into open hole.

04/25/94 Cleaned out from 7044' to 7056'. Circulated well clean at 7056'. Pulled out of well. Installed shooting flange. Rigged up wireline. Ran 2" OD sinker bar from 0' to 7044'. Ran Baker Enteq gyro survey from 0' to 7044'. Ran kill string to 2052'.

04/26/94 Pulled kill string. Installed shooting flange. Using Schlumberger, ran UBI/GPIT logs from 7056' to 7000'. Unable to tell if 7" stub was on low side or high side of well bore.

04/27/94 Pulled kill string. Made up 6-1/8" pilot mill and 6-1/8" string mill on locked drilling set up. Ran in well to 6923'. Shut rig down at 12:00 p.m. for repairs on mud pump.

04/28/94 Milled with taper mill from 7009' to 7020'. Milled 7-3/4 hours. Milled past top of stub at 7020'. Slid mill down well to 7032'. Pulled to kill string.

04/29/94 Pulled out of well. Made up 6-1/8" concave pin wheel mill. Ran in well to 7009'. Milled from 7009' to 7025'. Was unable to locate 7" casing stub. Lowered mill down well to 7041'. Pulled out of well to kill string.

04/30/94 Pulled kill string. Made up and ran 5" x 4-3/8" ID shoe on 29' of 5" OD wash pipe with cross over to 2-7/8" drill pipe. Ran in well to 7030'. Changed well over to fresh water. Ran downhole video camera from 7030' to 7008'. Showed partial casing from 7008' to 7014.5'. Could not see casing below 7014.5'. Shale running in well bore. Filled well with shale from 7030' to 7017'. Pulled up to 6872'.

05/02/94 Pulled out of well. M ıp 180' of 2-3/8" CS tubing on 2-7/8" drill p Ran in well. Cleaned out from 7017' to 7056'. Circulated well bore clean. Rigged up cementers and mixed 50 cu.ft. of Class G cement (16.7 ppg). With tubing tail at 7056', pumped 50 cu.ft. of cement. Displaced with 171 cu.ft. of water. Cement in place at 3:12 p.m. Pulled tubing tail up to 6971'. Reversed out 14 cu.ft. of cement. Pulled up to 6851'.

05/03/94 Ran in well and tagged top of cement at 6983'. Changed well over to 68 lb/cf clay base mud. Pulled out of well. Made up 6-1/8" mill on 4-3/4" OD Mach 3 mud motor, two 6-1/8" stabilizers, 30' drill collars, 6-1/8" stabilizer and six 4-3/4" drill collars. Ran in well to 6979'.

05/04/94 Milled hard cement from 6983' to 7008'. Time milled from 7008' to 7024'. Pulled out of well.

05/05/94 Pulled out of well. Mill was 1/4" out of gauge. Made up new mill 6-1/8" mill on mud motor. Gauge reamed from 7008' to 7024'. Milled from 7024' to 7035'. Pulled out of well. Mill showed mill pattern on bottom and that junk had worked beside mill. Mill pattern on 2-7/8" tubing indicated tubing not round. Made up 5-5/8" OD impression block on two 6-1/8" stabilizers and 30' of drill collars. Ran in well to 2000'.

05/06/94 Ran in well with impression block to 7035'. Set 20,000 lbs down on impression block. Pulled out of well. Impression block showed it had set down in tight casing or tight open hole. Made up 6-1/8" OD concave junk mill on 4-3/4" mud motor. Ran in well to 7035'. Milled from 7035' to 7039' (4' in 2-1/2 hours). Pulled up to 6951'.

05/07/94 Milled from 7039' to 7045' (two hours milling time). Pulled out of well. Mill showed good metal wear pattern on bottom. Ran 5-5/8" OD impression block to 7045'. Set 14,000 lbs down on impression block. Pulled out of well. Impression block showed metal marks to center. Appeared to be rolled up tubing. Ran in well with kill string.

05/09/94 Pulled kill string. Made up 6" x 3-1/2" OD mill shoe with 3-1/2" OD mill inside. Ran in well. Milled from 7046' to 7056'. Pulled to kill string.

05/10/94 Pulled out of well. Wash over shoe did not show that tubing had gone up inside it. Made up 6-1/8" concave mill on mud motor. Ran in to 7056'. Milled from 7056' to 7070' (14' in 3-1/4 hours milling). Pulled out to kill string.

05/11/94 Pulled out of well with 6-1/8" concave mill. Mill showed it had been milling on metal. Good round mill pattern. Installed shooting flange. Using Schlumberger, ran UBI casing image log from 7077' to 6933'. Driller's depth 7067' to 6923'. Made up 6-1/8" concave junk mill on 4-3/4" mud motor. Ran in well to 6177'.

05/12/94 Ran in well to 7065'. Gauge milled from 7065' to 7070' (3-1/4 hours)'. Milled from 7070' to 7077' (3-1/2 hours). Brace for fan on pump engine failed. Pulled 2 stands. Shut well in for repairs to fan brace on pump engine.

05/13/94 Repaired rig from 6:00 am to 11:00 am. Ran in well to 7070'. Milled from 7070' to 7080' (2-1/4 hours). Pulled out of well. Mill showed it had been running on metal. Made up 6" x 3-1/2" ID wash over shoe on mud motor. Ran in well to 7088'.

05/14/94 Washed over tubing from 7080' to 7085" Dressed tubing off from 7080' to 7083'. Pulled out of well. Good mill pattern inside mill shoe. Made up 5-9/16" OD over shot on 2-7/8" drill with safety joint 120' above over shot. Ran in well to 7083'. Worked over top of tubing. Pulling 8,000# over string weight, moved tubing up well 10'. Lowered drill string back to 7083'. Attempted to reverse out KCL water at bottom of well. Pack off in over shot not holding. Reversing past over shot.

05/16/94 Filled well with 4 bbls mud. Circulated well clean. Rigged up Santa Paula wireline. Ran 1-1/2' sinker bar. Stopped at 7083'. Unable to enter 2-7/8" tubing. Ran 1-1/2 impression block to 7083'. Showed small mark on one side. Pulled out of well with over shot. No tubing had been inside of it. Made up 4-11/16" OD over shot.

05/17/94 Ran in well to 7083'. Unable to work 4-11/16" overshot past 7083'. Pulled out of well. Made up 6-1/8" concave mill on 4-3/4" OD mud motor. Ran in well. Remilled from 7078' to 7083'. Milled from 7083' to 7093'. Pulled two strands.

05/18/94 Pulled out of well. Made up 5-1/8" x 4-3/8" ID shoe on 58' of 5" OD wash pipe. Bumper sub, jars, and 182' of 4-3/4" drill collars. Ran in well to 7093'. Washover from 7093' to 7100' Milled 7' in 4 hours. Pulled out to check mill shoe.

05/19/94 Pulled out of well. Wa ver shoe appeared to be running in formation. ade up 6-1/8" concave mill on mud motor with locked-up drilling assembly. Gauge reamed from 7092' to 7100'. Milled from 7100' to 7103.5'. No metal in this area. Hit metal at 7103.5'. Milled from 7103.5' to 7107'. Pulled 3 stands.

05/20/94 Ran in to 7070'. Reamed to 7107'. Milled 7107' to 7117'. Pulled out to change mud motor. Mill appeared to be running on metal and is in-gage . Reran same mill on mud motor to 6870'.

05/21/94 Milled from 7117' to 7140' (23' in 11 hours). Pulled up to 6865'.

05/23/94 Milled from 7140' to 7147' in 3-3/4 hours. Pulled out to check mill. Mill pattern on bottom of mill showed it was milling on casing and tubing. Checked mud motor. Appeared to be bad. Made up 5-5-8" OD impression block on 2-7/8" drill pipe. Ran in well to 7145". Impression block would not go past this point. Set 20,000 lbs down on impression block at 7145". Pulled to kill string.

05/24/94 Pulled out of well. Impression block showed formation; no metal marks. Made up 6-1/8" concave mill on 4-3/4" mud motor. Ran in well with locked up milling hook up. Tagged fill at 7133'. Cleaned out fill from 7133' to 7147'. Raised mud weight from 68 lb/cf to 72 lb/cf. Milled to 7159'. Milled 12' in 7 hours. Pulled up to 6824'.

05/25/94 Ran in well and tagged fill at 7155', 4' fill in well bore. Milled from 7159' to 7180' in 10-3/4 hours. Added 3 lbs/bbl of soltex to mud system to stabilize running shale. Pulled up to 6824'.

05/26/94 Ran in well to 7180' (no fill in well bore). Milled from 7180'. Small gas show at 7196'. Milled 24' in 11-1/4 hours. Lost 3-1/2 bbls of mud to well bore. Pulled up to 6794'.

05/27/94 Filled well with 1 bbl mud. Slipped and cut drilling line. Pulled out of well. Mill showed that it had been milling on casing and tubing. Center part of mill was starting to core out. Made up 3 bladed 6-1/8" mill on mud motor. Ran in well to 7201' (3' fill). Milled from 7204' to 7212'.

05/28/94 Ran in well to 7212' (no fill in well bore). Milled from 7212' to 7221' (9' in 7-3/4 hours). Mill stopped milling (drill set too stiff). Pulled to kill string.

05/30/94 Filled well with 2-1/2 bbls mud. Pulled out of well. 6-1/8" mill was in gauge. Mill appeared it was running on 2-7/8" tubing in center of mill. Made up 5-1/8" OD wash over shoe on 61' of 5" OD wash pipe. Ran bumper sub, jars and 182' of 4-3/4" drill collars. Ran in well to 7221'. Washed over from 7221' to 7225'. Shoe stopped at 7225'. Pulled out of well to check washover shoe. Shoe appeared to be running on formation. Made up 6-1/8" 5 bladed concave mill on 4-3/4" mud motor with locked milling assembly. Ran in well to 6888'.

05/31/94 Ran in well and tagged fill at 7207'. Cleaned from 7207' to 7221'. Milled from 7221' to 7231'. Milled for 8-3/4 hours. Mud motor failed. Pulled out of well to check mud motor.

06/01/94 Pulled out of well. Mill showed full mill pattern on bottom of mill. Changed out mud motor. Ran in with 6-1/8" mill. Ran in well to 6888'. Repaired bad weight indicator.

06/02/94 Filled well with 1 bbl mud. Ran in to 7232' (no fill). Milled from 7232' to 7242 (7-1/2 hours). Pulled out to check mill. Ran in well with 2-7/8" drill pipe to kill string.

06/03/94 Pulled kill string. Installed shooting flange and lubricator. Ran Schlumberger UBI/GR log from 7236' to 6913'. Made up 6-1/8" concave mill on 4-3/4" mud motor with locked milling hook up. Ran in well to 6888'.

06/04/94 Ran in well to 7242'. No fill in well bore. Milled from 7242' using mud motor. Milled to 7267'. Milled 11 hours (25', 2.27' per hour). Pulled up to 6888'.

06/06/94 Filled well with 2 bbls mud. Ran in well, found tight spot at 7261'. Worked through tight spot. Milled from 7267' to 7269'. Could not mill past 7269' due to high torque. Pulled out of well. Made up 5-1/8" x 5" wash over shoe on 29' of 5" OD washpipe. Ran bumper sub, jars and 181' of 4-3/4" OD drill collars. Ran in well to 7269'. Milled with wash over shoe from 7269' to 7271' - 2 hours milling. Pulled up to 6888'.

06/07/94 Filled well with 5 bbls l. Pulled out of well. Wash over shoe showe ght bevel on bottom and looked like metal marks 2' up inside shoe. Made up 6 bladed concave 6-1/8" mill on 4-3/4" mud motor with locked up milling hook up. Ran in well to 7252'. Gauge milled from 7252' to 7269'. Milled from 7269' to 7274'. Milled 5' in 4-1/2 hours. Pulled to 6888'.

06/08/94 Filled well with 6 bbls mud. Ran in to 7269' (no fill). Milled from 7274' to 7284'. Milled 10' in 4-3/4 hours. Pulled out to check mill. Mill in gauge showed mill pattern on bottom. Outside of mill was rounded off. Made up 5-1/8" OD wash over shoe on 1 joint of 5" OD wash pipe. Ran bumper sub, jars and 181' of 4-3/4" drill collars. Ran in well to 6897'.

06/09/94 Filled well with 3 bbls mud. Ran in well to 7284'. Washed over from 7284' to 7292'. Washover shoe stopped at 7292'. With washover shoe at 7289', ran 1.52 OD swedge on wireline to 7273'. Swedge showed some marks. Ran 1-5/8" OD IB block to 7273'. Showed some marks on IB block. Drillers depth is 11' deeper than wire line depth. Pulled out of well with drill pipe. Found 3' shale and sand inside drill pipe. Ran in well and opened with 2-7/8" drill pipe to 3038'.

06/10/94 Filled well with 61 bbls mud. Pulled kill string. Installed shooting flange. Using Baker Inteq, ran gyro survey form 7275' to 6000'. Surveys showed 4° drop of angle from 7000' to 7275'. Ran in well with open-ended 2-7/8" drill pipe to 6919'.

06/11/94 Rigged up wireline and ran production logging tools inside 2-7/8" drill pipe. Tools stopped at 7065'. Temperature survey was run from 6919' to 7065' with no change in temperature. Injected iodine 131 tracer at 6960'. Injected in well with 62 bbls mud. Unable to trace iodine in well bore. Logging tools failed. Ran in well with 2-7/8" drill pipe to 7290'. No fill in well bore. Pulled up to 6919'.

06/13/94 Ran in well to 7290' (no fill). Pulled out of well. Installed shooting flange and lubricator. Using Schlumberger, ran dual induction SFL with linear correlation log from 7295' to 6865'. Filled well with 90 bbls mud. Ran in well to 6919' with 2-7/8" drill pipe.

06/14/94 Rig idle.

06/15/94 Rig idle.

07/01/94 Filled well 53 bbls mud. Tagged fill at 7277'. Cleaned out well to 7292'. Circulated hole clean. Pulled out of well. Rigged up wireline and ran Vector Magnetics Wellspot survey from 7276' to 7030'. Made up 537' of 2-3/8" CS tubing tail on 2-7/8" drill pipe. Ran in well to 7283'. Rigged up cementers. Pumped 20 bbls fresh water followd by 101 cu.ft. of class G cement with .15% CFR-2, and .8% CFR-3. Displaced with 3.5 bbls. fresh water and 26.5 bbls mud. Cement in place at 10:37 pm. Pulled up to 6769'. Reversed out 1-1/2 drill pipe volumes. Pulled out of well laying down 2-7/8" drill pipe. Laid down 18 joints of 2-3/8" CS tubing.

07/02/94 Laid down 6" O.D. drill collars. Changed pipe rams to 3-1/2". Made up 6-1/8" mill tooth bit on 60' of 4-3/4" drill collars. Picked up 10 joints of heavy weight drill pipe. Measured and picked up 3-1/2" drill pipe. Tagged cement top at 6806'. Drilled soft cement from 6806' to 6819'. Drilled hard cement from 6819' to 7020'. Circulated wellbore clean. Pulled out of well.

07/03/94 Made up 6-1/8" bit on mud motor, 6-7/8" stabilizer, orient sub, 31' monel, flow sub, 6-1/8" stabilizer, 30' monel, 59' 4-3/4" drill collars, 2 joints HWDP, 4-3/4" drilling jars, 241' HWDP. Ran in well to 7020'. Oriented mud motor and drilled ahead using MWD. Drilled from 7020' to 7202'.

07/04/94 Ran gyro from 7165' to 6900'. Drilled ahead from 7202'. Drilled to 7290'. Unable to build angle. Pulled out of well. Ran Vector Magnetics well spot from 7289' to 7140'. Well spot indicated bit was on top of 7" casing. Ran in well with drilling assembly to 7290'. Drilled ahead using MWD. Drilled from 7290' to 7302'.

07/05/94 Drilled ahead from 7302' using MWD tools. Rig was down 1 hour to repair mud pump. Drilled ahead to 7430'. Ran gyro from 7394' to 7000'. Drilled ahead from 7430' to 7462'. Ran Vector Magnetics well spot from 7442' to 7240'. Well spot showed bit is above and on high side of 7" casing. Made up drilling set up. Ran in well.

07/06/94 Drilled ahead using M :ool to 7492' and contacted casing. Gauge re d wellbore from 7390' to 7492'. Circulated well bore clean. Pulled out of well. Ran well spot from 7491' to 7461'. Well spot showed bit was on left side of casing. Ran in well with mud motor and drilling hookup. Rigged up steering tool. Tool failed. Rigged up MWD tool.

07/07/94 Using MWD, oriented and drilled ahead from 7491' to 7554'. Circulated wellbore clean. Pulled out of well. Ran well spot from 7547' to 7405'. Showed sidetrack is in contact with casing 148 degrees right of high side. Ran in well with drilling assembly on mud motor. Drilled ahead from 7554' to 7570'. Circulated wellbore clean. Pulled out of well. Rigged up to run well spot.

07/08/94 Ran well spot from 7566' to 7488'. Made up 6-1/8" concave mill on mud motor set at 1.85°. Using steering tool, milled from 7570' to 7582'. Pulled out of well. Ran well spot from 7581' to 7520'. Well spot showed mill cutting into 7" casing.

07/09/94 Made up 6-1/8" concave mill on mud motor set at 1.4°. Made up drilling set up and ran in well to 7570'. Gauge reamed from 7570' to 7582'. Milled window from 7582' to 7597'. Pulled out of well. Ran well spot. Tools stuck in window of 7" casing. Unable to pull tools free.

07/10/94 Ran 4-11/16" OD overshot with no grapple inside to strip over tools. Cut wireline at surface. Ran in well stripping over 7/16" wireline. Ran in to 7422'. Line weight went up to 4500 lbs. Worked drill pipe while stripping in well to 7535'. Line pulled free. Pulled wireline out of well. Left 150' of bridle and well spot tool in well. Made up 7" crank rope spear and ran in well with bumper sub and jars.

07/11/94 Ran in well with wire rope crank spear. Located top bridle. Recovered bridle but left 2" x 9' well spot tool in well. Ran in well with 5-5/8" mill on 4-3/4" Mach III mud motor. Mill stopped at 7062'. Pulled out of well. Made up 6-1/8" round bottom mill on 6-1/8" string mill, 60' of 4-3/4" drill collars, 6-1/8" string mill, 60' of 4-3/4" drill collars. Ran in well. Mill stopped at 7062'. Reamed through tight spot. Reamed well bore from 7062' to 7280'.

07/12/94 Reamed well bore from 7280' to 7567'. Circulated well clean. Pulled out of well. Made up 6-1/8" concave mill on 4-3/4" mud motor, 2 joints of 3-1/2" drill pipe, 2 joints heavy weight drill pipe, jars and 8 joints of heavy weight drill pipe. Ran in well to 7567'. Cleaned out from 7567' to 7597'. Time milled from 7581' to 7597'. Unable to enter bottom of window at 7597'. Lost 200 psi of pump pressure. Pulled out to check tools.

07/13/94 Pulled out of well. Made up 5-5/8" concave junk mill on 4-3/4" mud motor, two joints heavy wall drill pipe, drilling jars and 8 joints of 3-1/2" heavy wall drill pipe. Ran in well to 7582'. Time milled from 7582' to 7597'. Gauge reamed window from 7582' to 7597'. Milled from 7597' to 7607'. Circulated well bore clean. Pulled out of well. Made up washover shoe 5-1/2" OD x 3-1/2" ID with mill inside on 4-3/4" mud motor and 10 joints of heavy wall drill pipe. Ran in well to 7604'. Unable to get past 7604'. Mud motor binding at top of window. Pulled out of well.

07/14/94 Made up and ran 5-1/2" x 3-1/2" washover shoe with mill inside on two joints of 3-1/2" drill pipe, 2 joints of heavy wall drill pipe, jars, and 8 joints of heavy wall drill pipe. Ran in well to 7070'. Rotated and worked past 7070'. Ran in to 7607'. Could not work past 7607'. Pulled out of well. Ran in well with washover shoe (cutrite on shoe bottom). Washed over from 7607' to 7611'. Pulled out of well.

07/15/94 Pulled out of well. 5-1/2" washover shoe had no marks inside. Ran 6-1/8" concave mill. Mill stopped at 7070'. Reamed from 7070' to 7136'. Ran in to 7601'. Remilled from 7601' to 7611'. Milled from 7611' to 7616'. Milled for 4-1/2 hours. Pulled out of well. Found 3/4" x 39" long sliver of 7" casing stuck in bottom of mill. Ran in well with 6-1/8" mill to 7616'. Milled from 7616' to 7618'. Milled for 3-1/2 hours.

07/16/94 Milled from 7618' to 7626' for 8-1/2 hours. Pulled out of well. Mill showed 1-3/4" pattern in center mill. Made up 6-1/8" 5 bladed mill. Ran in well to 7617'. Mill slid down well to 7626'. Unable to rotate mill past 7617'. Pulled out of well. Made up 6-1/8" concave mill. Ran in well to 7625' and milled.

07/17/94 Remilled from 7625' t 26'. Milled from 7626' to 7634'. Mill rate w. ow (23 min/per ft). Pulled out of well. Made up 5-1/2" x 3-1/2" OD washover shoe. Ran in well to 7634'. Washed over from 7634' to 7637.5'. Pulled out of well. Washover shoe showed mill marks on inside of mill. Center of mill had a 4" cut in center of mill. Made up 4-11/16" OD overshot with 2-7/8" grapple. Ran 62' of 3-1/2" drill pipe, 61' of heavy weight drill pipe, bumper sub, jars, and 241' of heavy weight drill pipe. Ran in well. Worked over top of fish. Slid overshot down to 7638'. Pulled 20,000 lbs over string weight. Pulled free. Pulled out of well.

07/18/94 Pulled out of well with 4-11/16" OD overshot with no recovery. Grapple showed metal marks inside. Showed tubing not to be uniform in size. Made up 6-1/6" econo mill. Ran in well. Milled from 7635' to 7636' for 3 hours. Milled from 7636' to 7647'.

07/19/94 Milled from 7647' to 7650'. Pulled out of well. Center of mill cut out. Made up 5-1/2" x 3-1/2" OD washover shoe with 3-1/2" OD mill inside. Ran in well to 7650'. Milled tubing down from 7650' to 7653'. Pulled out of well. Found 1/2" hole through center of mill.

07/20/94 Ran in well with 4-11/16" OD overshot with 2-7/8" grapple. Ran in to 7653'. Worked over top of fish down to 7657'. Pulled out of well. Recovered 3" x 2.95' of 7" casing inside over shot. Ran kill string to 2000'.

07/21/94 Pulled kill string. Made up 5-1/2" OD impression block on 3-1/2" drill pipe. Ran in well to 7653' with impression block, set down with 2000 lbs, fell through and then set down at 7658'. Set 10,000 lbs down on impression block. Pulled out of well. No marks on bottom of IB. Impression block was packed with mud and iron cuttings. Made up 6-1/8" bladed concave mill on 60' of 4-3/4" drill collars, 2 joints of heavy weight drill pipe, drilling jars, and 8 joints of heavy weight drill pipe. Ran in well. Mill stopped at 7514'. Worked mill past 7514'. Ran in to 7651'. Unable to clean out passed this point due to high torque. Pulled out of well. Made up 4-5/8" OD entry sub on 3-1/2" drill pipe. Ran in well to 7579'. Circulated well clean. Rigged up slickline.

07/22/94 Ran slickline 1-1/2" sinker bars to 7665'. Tools stuck at 7604' while pulling up. Dropped flat bottom go devil tool down wire. Freed tools and pulled out, leaving, 18.91' of 1-1-2" tools in well. Ran 5-5/8" concave mill on 4-3/4" mud motor set at 1.4°, orienting sub, monel, 60' of heavy weight drill pipe, 4-3/4" jars, 8 joints of heavy weight drill pipe. Ran in well to 7595'. Ran steering tool inside drill pipe with tool face up. Slid motor down wellbore from 7595' to 7598'. No metal in top side of 7" casing. Turned tool face down to low side. Timed mill from 7595' to 7599'. Milled to 7603'. Stopped due to high torque. Unable to mill. Shut off rig pump and set 4000 lbs on shoulder at 7603'. Pulled out of well.

07/23/94 Made up 5-1/2" x 3-1/2" OD washover shoe on 4-3/4" mud motor set at .78°. Ran in well to 5073'. Changed out drilling line and traveling blocks. Ran in well to 7603'. Located shoulder at 7603'. Milled at 7603'. Unable to get passed 7603'. Pulled out of well. Mill showed marks 3" inside. Made up 5-5/8" junk mill on 4-3/4" mud motor. Ran in well.

07/24/94 Ran in well to 7603'. Ran in with steering tool. Milled from 7603' to 7611'. Milled for 5-1/2 hours. Pulled out of well. Made up 5-1/2" x 3-1/2" OD washover shoe with 3-1/2" OD mill inside. Ran in well to 7576'. Ran steering tool.

07/25/94 Washed over from 7611'. Unable to washover past 7611'. Pulled out of well. Made up 6-1/8" concave mill. Pin on mill broke off on rig floor. Removed pin from box on mud motor. Made 6-1/8" 5 bladed concave mill on mud motor set at 0.78°. Ran in well to 7572'. Ran in with steering tool. Remilled from 7599' to 7611'. Milled from 7611' to 7612-1/2'. Pulled out of well. Made up 6-1/8" X 5-1/2" washover shoe on mud motor. Ran in well.

07/26/94 Ran in well with 6-1/8" OD x 3-½" ID washover shoe on mud motor set at 0.45°. Ran in to 7576' with steering tool. Slid shoe down to 7613.5". Shoe went down 18" past 7612.5". Pulled out of well to check tool. Changed motor setting to 0°. Ran in well with 6-1/8" x 3½" ID wash over shoe. Washed over from 7612.5" to 7618.5". Pulled out of well. Found 3½" x 10¼" part of 7" buttress casing collar inside shoe. Made up 5-1/8" x 5½" x 3½" ID washover shoe on mud motor set at 0.45°. Ran in well.

07/27/94 Ran in well to 7576'. Ran steering tools. Oriented and milled from 7603'. Time milled from 7603' to 7619'. Milled for 8-1/2 hours. Pulled out of well. Made up 6-1/8" concave mill on 6-1/8" string mill, 30' drill collars, 6-1/8" string mill, 30 drill collars, 2 joints of heavy weight drill pipe, jars, and 8 joints of heavy weight drill pipe. Ran in to 7000'. Broke circulation. Ran in to 7585'. Reamed from 7585' to 7619'. Milled from 7619' to 7623', and reamed from 7623' to 7633'.

07/28/94 Milled from 7633' to 7 . Mill stopped at 7655'. Tools stuck. Work ols loose. Milled at 7650'. Unable to mill past 7650'. Pulled out to check mill. Made up 6-1/8" 5 bladed concave mill. Ran in well. Milled from 7650' to 7662'. Milled for 8-1/2 hours. Pulled out of well.

07/29/94 Pulled out of well. Found mill 1/4" out of gauge. Milled was 100% dull. Made up 6-1/8" concave mill. Ran in well. Gauge milled from 7652' to 7662'. Milled from 7662' to 7672'. Milled for 5-1/2 hours. Pulled out of well. Mill looked like it bent while milling formation. Made up 6-1/8" 5 bladed mill on 302' of 3-1/2" heavy weight drill pipe. Ran in well to 7619'. Gauge milled from 7619' to 7657'. Found metal at 7657'. Milled from 7657' to 7672'. Unable to find metal shoulder. Milled from 7072' to 7677'. Cement in returns at 7677'.

07/30/94 Pulled out of well. Made up 6-1/8" mill tooth bit on 302' of heavy weight drill pipe. Drilled from 7677'. Unable to make footage with bit. Pulled out of well. No broken teeth on bit. Made up 6-1/8" concave bladed mill on 4-3/4" mud motor. Ran in well to 7651'. Milled from 7651'. Unable to mill past 7651'. Milled for 5-1/2 hours. Pulled out of well. Found mill to be 100% dull. Made up 6-1/8" concave mill. Ran in well on 4-3/4" mud motor.

07/31/94 Ran in well to 7651'. Milled from 7651'. Milled to 7659', 8' for 6 hours milling time. Pulled out of well to change mill. Mill appeared to be running loose on junk and tubing , 1/16" under gauge. Made up 6-1/8" pin wheel mill with rough cut-rite on outside. Ran in well with 4-3/4" mud motor. Milled from 7659' to 7667'. Milled 8' in 4-1/2 hours. Pulled out of well. Made up 6-1/8" concave 5 bladed mill on 4-3/4" mud motor.

08/01/94 Ran in well with 5 bladed concave mill on 4-3/4" mud motor. Milled from 7653' to 7674'. Milled for 11-3/4 hours. Pulled out to check mill. Found 2-1/2" hole in center of mill with 2-7/8" tubing inside of mill 2-1/2" long by 1-1/2" wide. Made up 5-1/2" washover shoe on 4-3/4" mud motor. Ran in well to 7664'. Washed over from 7674' to 7677'.

08/02/94 Washed over from 7674' to 7679'. Pulled out of well. Found 26" of 2-7/8" tubing inside of shoe. Ran in well with 5-1/2" x 3-1/2" ID washover shoe on 4-3/4" mud motor. Washed over from 7676' to 7678'. Pulled out of well. Found 13" of 2-7/8" tubing inside shoe. Made up 6-1/8" flat bottom mill on mud motor. Ran in well. Milled from 7674'.

08/03/94 Milled from 7674' to 7676'. Milled for 5-1/2 hours. Pulled out to check mill. Milled 100% dull, showed it was running on loose junk. Made up 5-9/16" x 4-1/2" x 3-15/16" ID washover shoe on 31' of 4-1/2" OD wash pipe. Ran in well to 7676'. Washed over from 7676' to 7677'. Pulled out of well. Made up 5-1/2" OD washover shoe on 31' of 5-1/2" OD wash pipe. Ran in well.

08/04/94 Ran in well with 5-1/2" OD wash pipe. Washed over from 7677' to 7678'. Pulled out of well. Mill shoe 100% dull. Made up 6-1/8" flat bottom mill on 60' of 4-3/4" drill collars. Ran in well. Milled from 7676' to 7681'. Pulled mill. Made up 6-1/8" concave mill. Ran in well. Milled from 7681' to 7682'.

08/05/94 Milled from 7682' to 7687'. Ran mill 7 hours, milled 6'. Pulled out of well to check mill. Made up and ran 6-1/8" deep throat Piranna mill. Ran in well. Milled from 7687' to 7689.5', for 8 hours. Pulled out of well.

08/06/94 Pulled out of well. Mill looked new and appeared that no weight had got to mill. Made up 6-1/8" piranna mill. Ran 6-1/8" string mill, 10' lead collar, 6-1/8" string mill. 30' 4-3/4" drill collar, 6-1/8" string mill, 30', 4-3/4" drill collar, 2 joints heavy weight drill pipe, 4-3/4" jars, 8 joints heavy weight drill pipe. Ran in well. Reamed from 7604' to 7617'. Reamed 13' in 7 hours.

08/07/94 Reamed from 7617' to 7679'. Could not ream further than 7679'. Pulled out of well. Mill was completely worn and showed 2-7/8" tubing pattern. Made up 6-1/8" piranna mill, 2 joints HWDP, 4-3/4" jars, 8 joints HWDP. Ran in well to 7684'. Milled from 7684' to 7689'. Milled 5" in 2-1/2 hours. Unable to mill past 7689'. Pulled out of well.

08/08/94 Pulled out of well. 6-1/8" mill appeared it was running on loose junk at 7689'. Made up 5-1/2" OD guide shoe on 4-11/16" OD overshot dressed with 2-7/8" grapple. Ran over shot on locked up milling hook up. Ran in well to 7689'. Unable to work over tubing. Pulled out of well. Made up 6-1/8" 5 bladed mill on locked milling hook up. Ran in well to 7621'. Gauge milled from 7621' to 7687'. Milled from 7687' to 7690'.

08/09/94 Milled from 7689' to 7690'. Unable to mill past 7689'. Pulled up to 6337'. Shut in well. Waited for instructions.

08/10/94 Filled well 1 bbl mud. ıed out of well. Mill showed that it had been ıing on metal and cement. Made up 4-11/16" OD over shot on 15' of 3-1/2" drill pipe with 3 degree bend in it. Ran in well. Worked over shot from 7610' to 7692". Unable to engage tubing. Ran 1-1/2" sinker bars with drill pipe. Hung up at 7673'. Unable to get tools past overshot. Pulled out of well. Checked to see if 1-1/4" wire line tools would pass through bent joint of 3-1/2" drill pipe. Tools passed bent joint but stopped at grapple in over shot. Made up 5-3/4" OD over shot with 2-7/8" grapple and wall hook on bent 19'of 3-1/2" drill pipe pup. Ran in well to 7658'. Worked overshot from 7658' to 7663'. Unable to work overshot past 7663'. Pulled out of well to check tools.

08/11/94 Pulled out to check overshot. Overshot had heavy metal scratches on outside. Made up 4-3/4" reentry sub on 14' of bent 3-1/2" drill pipe. Ran in well with 3-1/2" drill pipe. Drill pipe stopped at 7663'. Worked pipe and rotated. Worked past 7663'. Ran in to 7690'. Circulated well clean. Pulled up to 7670'. Using slickline, ran 22' of 1-1/2" sinker bars with blind box on bottom. Ran in to 7677'and unable to run further. Pulled tools. Added knuckle joints to sinker bars. Ran in to 7677'. Unable to pass this point. Ran drill pipe to 7685'. Ran impression block on 22' of 1-1/2" sinkers bars. Ran in with IB and stopped at 7677'(wireline off in depth). Impression block had metal shavings on bottom of block. Pulled out of well. Made up 6-1/8" bladed concave mill. Ran bit sub, 6-1/8" string mill, 10' lead collar, 6-1/8" string mill, 60' 4-3/4" drill collars, 60' heavy wt drill pipe, 4-3/4" jars and 241' of 3-1/2" heavy wt drill pipe. Ran in well to 7663'. Heavy milling from 7663' to 7665' for 3 hours.

08/12/94 Milled from 7665 to 7666'. Ran mill a total of 7-1/ hours, milled 3'. Pulled out to check tools and mill. Found 2-7/8" tubing pattern on mill and 1" x 7" piece of 2-7/8" tubing inside mill. Ran in well with 30' of 5-1/2" OD wash pipe to 7666'. Slid from 7666' to 7686'. Milled for 2 hours with wash over shoe from 7686' to 7687'. Pulled out to check tools. Wash pipe had no signs of tubing being inside. Made up 6-1/8" concave mill, 10' lead collar, 6-1/8" string mill, 60' of 4-3/4" drill collars, 2 joints of heavy weight drill pipe, 4-3/4" jars, 8 joints of heavy weight drill pipe. Ran in well. Mill did not stop at 7666'. Gauge reamed from 7656' to 7686'. Mill did not take any weight reaming from 7656' to 7686'.

08/13/94 Gauge milled from 7686' to 7690' (3-3/4 hours). Pulled out of well. Mill looked like running on loose junk. Made up 5-3/4" OD overshot with 2-7/8" grapple with wall hook on bottom. Ran in well with 3-1/2" drill pipe to 7663'. Engaged 2-7/8" tubing fish at 7666'. Pulled out of well. Recovered 10 joints of 2-7/8" tubing and 12' cut off, 2-7/8" MMA gas lift mandrel, Otis 2.205' XN No-Go nipple, 4' of 2-7/8" pup joint, Otis 7" RH packer, crossover 2-3/8" EUE to 2-7/8" EUE, Otis 2-3/8" sliding sleeve, 45 joints of 2-3/8" EUE 8rd tubing, Otis 1.791' NoGo nipple, Otis locator sub and 4' of seals.

08/14/94 Made up 45° 3-1/2" drill pipe cut off with 3° bend. Ran in well to 7000'. Circulated well. Ran in well to 7666'. Circulated gas out of well. Worked 3-1/2" drill pipe inside 7" casing. Ran in to 7726'. Circulated and conditioned mud.

08/15/94 Circulated and worked 3-1/2" drill pipe at 7725'. Waited on coiled tubing unit. Picked up more 3-1/2" drillpipe and tagged liner top at 8077'. Pulled up to 7725'. Circulated and waited on coil tubing unit.

08/16/94 Rigged up 1-1/2" coiled tubing unit. Ran in to 9400'. Unable to get through Otis packer at 9400'. Fariba M. Neese with D.O.G. waived cementing of bottom zone. Rigged up cementers and with 1-1/2" tubing at 9399', mixed and pumped 40.5 bbls of 15.8 lb/gal slurry Class G cement with 0.8% CO32, 0.6% R-3, 0.2% FL52. Displaced with 15.5 bbls fresh water. Estimated top of cement at 7800'. Cementing was witnessed by Fariba M. Neese with D.O.G. Cement in place at 7:21 p.m. At 5:00 a.m., ran in to 7829'. Cement too soft to tag. Surface sample of cement still soft. Waited on cement.

08/17/94 Circulated well at 7829'. Soft cement in returns at 5:00 a.m. Ran in well to 8076', no hard cement. Pulled up to 7800'. Circulated and worked pipe. At 2:30 p.m., ran in well to 7894'. Cement not hard. Circulated an treat cement out of mud system. At 3:00 a.m. tagged top of cement at 7895', 185' above liner top at 8076'. Tagging of cement at 7895' was witnessed by Fariba M. Neese with D.O.G. Fariba M. Neese approved not laying mud plug from 7895' to 7666'. Pulled out of well.

08/18/94 Pulled out of well. Made up 4-1/16" OD overshot with 5-1/2" OD guide shoe with 2" grapple. Ran bumper sub, 60' of 4-3/4" drill collars. Ran in to 7684'. Pump pressure at 650 psi. Worked over fish. Pump pressure went to 1800 psi. Pulled out of well. Recovered well spot tool. Rope socket damaged. Tool looked good. Picked up 758' of 2-3/8" drillpipe with 3° bend in bottom pup joint. Crossed over to 3-1/2" drillpipe. Ran in well to 7895'. Circulated well bore clean. Rigged up cementers and pumped 10 bbls of fresh water, followed by 117 cu.ft. of 15.9 lb/gal slurry. Displaced with 53.5 bbls of mud. Cement in place at 1:58 a.m. Pulled drillpipe to 7348'. Reversed out 1-

1/2" drill pipe volume. ace of cement in returns. Placed 2nd cemen g at 7348'. Preceded cement with 10 bbls of water. Mixed and pumped 139 cu.ft. 15.9 lb/gal slurry. Displaced with 48.5 bbls mud. Cement in place at 3:17 a.m. Pulled up to 6566'. Reversed out 1 casing volume. Witnessing of pumping of cement was waived by Fariba M. Neese with D.O.G. Waited on cement.

08/19/94 Tagged cement at 6871'. Pumped 74 bbls of 72 lb/cf abandonment mud from 6871' to 5000'. Tagging of cement plug and mudding of well was witnessed by Pete Wygle with D.O.G. Pulled up to 5000'.

08/20/94 Pulled out of well. Ran Dialog stuck pipe log. Tools failed. Made up pressure cutter on 60' of 4-3/4" drill collars. Ran in well to 5000'. Cut 7" 26# casing. Pulled out of well. Cutter blades had good pattern. Ran kill string.

08/22/94 Displaced KCl water from between 7" and 10-3/4" annulus (228 bbls). Recovered 147 bbls of clean KCl water. Pulled kill string. Removed 7-1/16" BOPE and tubing head and 7" seal flange. Unlanded 7" casing. Removed slips and pack off. Installed 10" 5000 psi BOPE. Engaged 7" casing with spear. Worked casing 260,000 lbs to 180,000 lbs for 2 hours. Casing would not move. Released spear.

08/23/94 Ran Dialog freepoint. Showed 7" casing stuck below 4800'. Ran 5-3/4" OD jet cutter. Cut casing at 4802'. Pulled out laying down 7" casing. Laid down 84 joints of 7" casing.

08/24/94 Laid down 7" casing. Changed pipe rams to 3-1/2". Made up 7" Bowen spear with cup type pack off on bottom. Ran bumper sub, jars and 120' of 6-1/2" OD drill collars. Ran in well to 4802'. Circulated and jarred on 7" casing. Jarred 100,000 lbs over string weight for 1-1/2 hours, 7" casing pulled free. Pulled out of well.

08/25/94 Pulled out of well with 7" casing fish. Unlatched spear and laid down five joints (197') for a total of 5000' of 7" casing recovered. Pulled out of well and ran in with 9-7/8" bit to shoe at 1852'. Conditioned mud then reamed 9-7/8" bit to casing stub at 5000'. Tagged same. Pulled to shoe and conditioned mud for hole opening.

08/26/94 Continued out of well with bit. Made up 8" x 16" hole opener and ran in to 4855'. Opened hole from 4855' to 4998' to 16". Circulated bottoms up and started out of well to 3747'.

08/27/94 Pulled out of well with hole opener. Made up 8.33' of bent 45° cut-off drill pipe and ran in to top of 7" casing stub at 5,000'. Worked pipe to 5060' and circulated bottoms up. Attempted to work pipe to 5650', but could not get past 5120'. Apparently 3-1/2" drill pipe was outside of 7" casing. Attempted to re-enter 7" casing for 2-1/2 hours. D.O.G. representative Fariba Neese approved setting of cement plug from 5108', apparently outside of 7" casing. Pumped 10 bbls of water flush, 364 cu.ft. of 17 ppg high density cement with CFR-3 friction reducer. Displaced with 166 cu.ft. of mud and 20 cu.ft. of water. Pulled to 4415' and reversed out approximately 50 cu.ft. of cement. Pulled out of well laying down excess drill pipe. Ran in well and tagged cement at 4450'. Cement is 200' high and may be strung out over the 16" open hole interval. Pulled out of well.

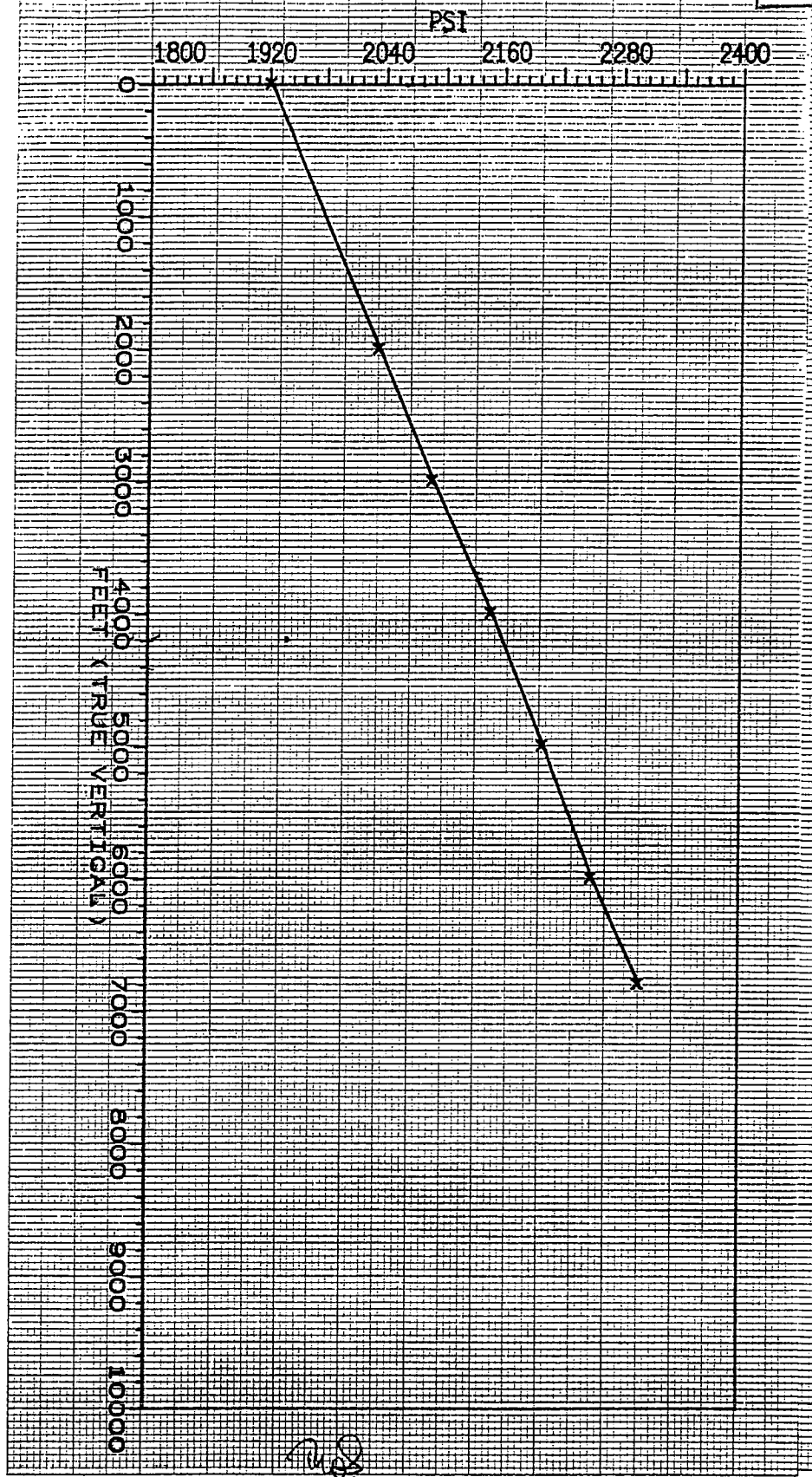
08/28/94 Ran in well and pulled out laying down drillpipe. Removed floor and BOPE. Installed tree and attempted test. Fixed leaks in tree and re-tested to 750 psi. Released rig.

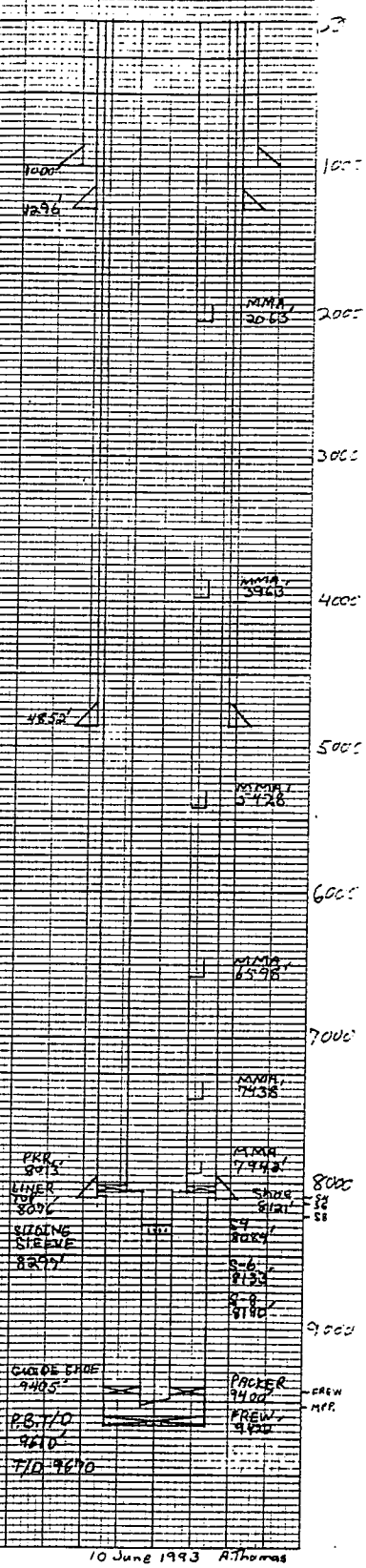
Aliso Canyon
SS-4-D

SS-4-D 03-04-94

RECEIVED
FEB 08 1994
DIVISION OF OIL, GAS, AND
GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

REC'D S.O.
MAY 16 1994





10 June 1993 A. Thomas

5/6/94

46 1512

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM.
KEUFFEL & ESSER CO. MADE IN U.S.A.

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

No. T294-223

Report on Operations

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

Ventura, California
September 7, 1994

Your operations at well "Standard Sesnon" 4-0, API No. 037-22063, Sec. 29, T. 3N, R. 16W, S.B. B.&M. Aliso Canyon Field, in Los Angeles County, were witnessed on 8-19-94. Pete Wygle, representative of the supervisor, was present from 1800 to 2000. There were also present J. Dayton, Contract Operator's Rep.
Present condition of well: 16" cem 1296'; 10 3/4" cem 4852'; 7" cem 8121', parted @ 1445' (repaired w/csg bowl), milled out 7000'-7250', sidetracted csg 7008'-7690', reentered 7" csg @ 7690'; 5 1/2" cem 8076'-9650', perf @ ints 8140'-8556' & 9482'-9590'. TD 9670'. Plugged w/cem 9670'-9610', & 9396'-6871'.

The operations were performed for the purpose of abandonment.

DECISION:

The plugging operations as witnessed and reported are approved.

Note: Failure to place cement plug from 5560'-5650' may result in increased monitoring requirements for future injection projects in this area.

svl

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

By _____
Patrick J. Kinnear
Deputy Supervisor

OG109 (Modified 1993)

SF T294-223

DIVISION OF OIL AND GAS
Cementing/Plugging Memo

Operator Southern Calif. Gas Company **Well No.** "Standard Sesson" 4-0
API No. 037-22063 **Sec.** 29, **T.** 3, **R.** 16, S.B. **B&M**
Field Aliso Canyon, **County** Los Angeles. **On** 8-19-94,
Mr./Ms. P. Wygle, **representative of the supervisor, was present from** 1800 **to** 2000.
There were also present J. Dayton, contract operator's rep.

Casing record of well: 16" cem 1296'; 10¾" cem 4852'; 7" cem 8121', parted @ 1495' (repaired w/csg bowl), milled out 7000'-7250', sidetracked csg 7008'-7695', recentered 7" csg @ 7650'; 5½" cem 8076'-9650', perf @ intls 8140'-8556' & 9482'-9590'. TD 9670'. Plugged w/cem 9670'-9610', & 9396'-6971'.

The operations were performed for the purpose of abandonment

☒ **The plugging/cementing operations as witnessed and reported are approved.**

☐ **The location and hardness of the cement plug @_____' is approved.**

Hole size:_____" fr._____' to_____', _____" to_____' & _____" to_____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

Casing/tubing recovered:_____" shot/cut at_____', _____', _____' pulled fr._____';
_____" shot/cut at_____', _____', _____' pulled fr._____'.

Junk (in hole):

Hole fluid (bailed to) at_____'. Witnessed by_____

Mudding	Date	Bbls.	Displaced	Poured	Fill	Engr.

Cement Plugs		Placing	Placing Witnessed		Top Witnessed			
Date	Sx./cf	MO & Depth	Time	Engr.	Depth	Wt/Sample	Date & Time	Engr.
8/17/94	200 sx	EOT @ 9395'	1800	FMN	7895	3½ D.P.	8/18/94 0400	FMN
	256 cf	v 7895	—	rptd	6871	8K dp	8/19/94 1900	DRW

plotted type.

Note: Failure to place cement plug from 5560'-5650' must result in increase monitoring requirements for future injection projects in this area.

OGD10 (10/90/GSR1/5M)

ME .DUM OF TELEPHONE OR PERSONAL /ERSATION

Ventura, Calif.

8/27 19 94

Operator So Calif. Gas Company Well No. 55-4-0

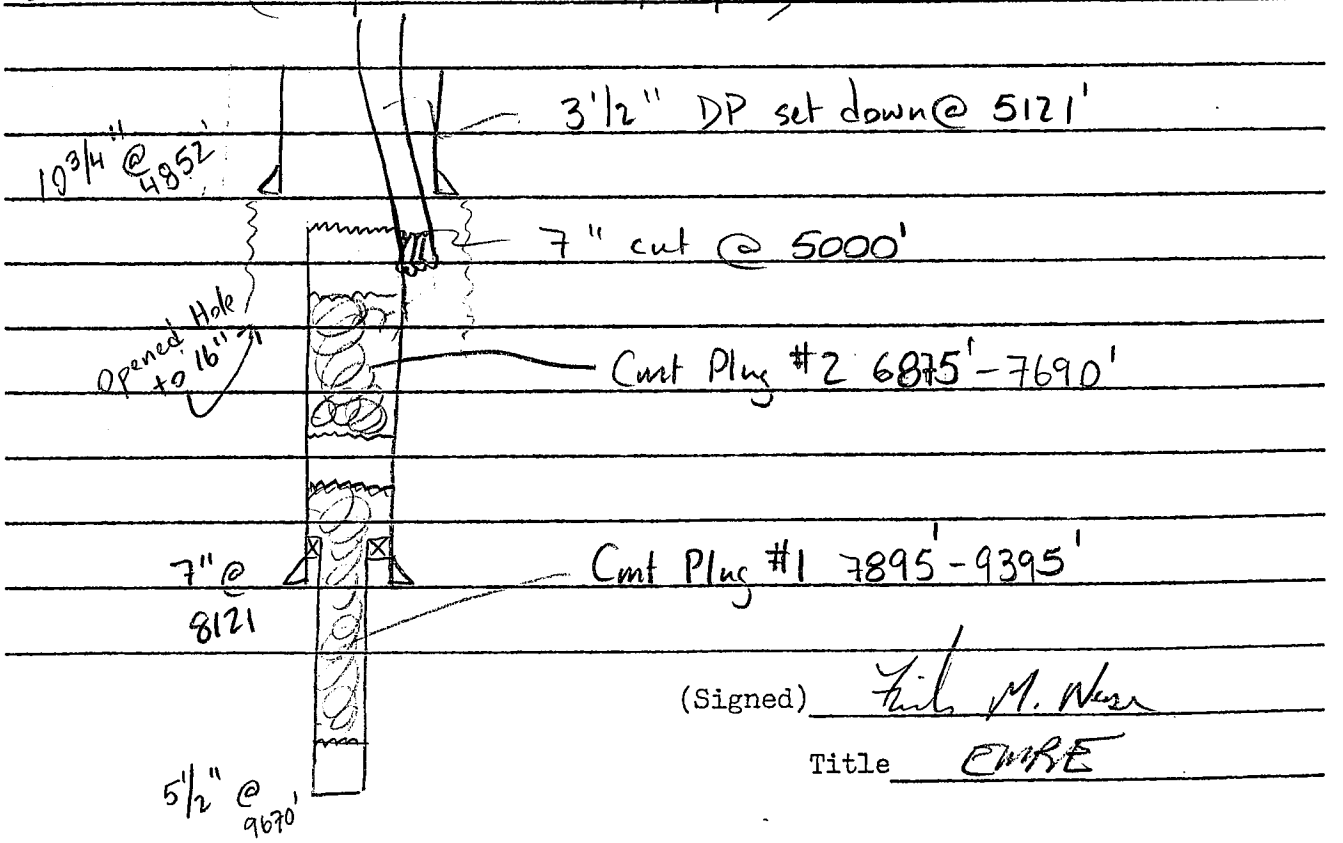
Field Aliso Canyon Sec. T. R. B&M

A personal telephone conversation was held, concerning above well, with Mr. Ian Binmore

(213) 651-7721 for above operator on 8/27 19 94 at 10⁰⁰ A.M.

Details of the conversation were as follows:

Permit calls for Upper most interval plug @ 5550'-5650'. So. Cal. Gas inadvertently cut 7" csg @ 5000' prior to setting this plug. An attempt was made to re-enter the 7" csg w/ 3½" D.P. in order to cement combine UMI & Kickoff plug resulting in a plug from 5650' to ±4600'. After several attempts the deepest they could get was 5121' and they believe they are outside of the 7" csg (see below) in the 16" (open) x 7" annulus. Approval was given to cement from 5110 to ± 4600' (as per SAF 8/27/94)



(Signed) Kirk M. Nasr

Title EMRE

OG136 (11-74-GSR1-5M) (see reverse side for proposed well operations)

The Gas Company

August 12, 1994

Department of Oil and Gas
1000 S. Hill Rd., Suite 116
Ventura, CA 93003-4458

Southern California Gas Company
555 W. Fifth Street
Los Angeles, CA
90013-1011

Mailing Address:
Box 3249
Los Angeles, CA
90051-1249

Dear Fariba:

Re: Well SS 4-0

Per our discussion of 08-10-94, this is just an update on the completion plan for well SS 4-0.

1. Install approximately 890' of 4-1/2" liner in sidetrack hole. Hang the liner in the 7" casing at 6800'± with the bottom end in the 7" casing window at 7690'±.

2. Cement liner in place and clean out inside liner.

3. Install 7" packer in casing above liner top.

4. Install 2-7/8" tubing down to top of liner.

Please call me if you should have any questions.

Sincerely,

Han Sinclair

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AUG 12 1994
DIVISION OF OIL, GAS, AND
GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

The Gas Comp...

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GEOTHERMAL RESOURCES
VENTURA, CALIFORNIA

August 12, 1994

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Dear Fariba:

Re: Well SS 4-0

Per our discussion of 08-10-94, this is just an update on the completion plan for well SS 4-0.

1. Install approximately 890' of 4-1/2" liner in sidetrack hole. Hang the liner in the 7" casing at 6800'± with the bottom end in the 7" casing window at 7690'±.

2. Cement liner in place and clean out inside liner.

3. Install 7" packer in casing above liner top.

4. Install 2-7/8" tubing down to top of liner.

Please call me if you should have any questions.

Sincerely,

Han Sinclair

MEMORANDUM OF TELEPHONE OR PERSONAL CONVERSATION

Ventura, Calif.

June 29th 19 94

Operator So. Calif. Gas Company Well No. Standard Sesnon 4-O

Field Aliso Canyon Sec. 29 T. 3N R. 16W S.B. B&M

A personal telephone conversation was held, concerning above well, with Mr. Stan Sinclair

(213) 244-2665 for above operator on 6/29 19 94 at 3:30 PM.

Details of the conversation were as follows:

Call was regarding an update of progress on plugback work being performed on subject well which was damage from Jan '94 earthquake.

To date 7" casing has been milled @ 7000'-7250' - Collapsed casing exists at this point. Tentative plans are to sidetrack well and attempt a re-entry of 7" csg @ ± 7455'. If this effort is successful, plans are to reconnect to 2 7/8" tbg and complete plugback as described in original permit.

I suggested he send us a supplementary notice - but Sinclair wanted to wait until they progress a little further due to the risk of the sidetrack / re-entry attempt.

He will keep us abreast of their progress early next week (July 5th, 1994)

(Signed) Tim M Nuese

Title EMRE

OG136 (11-74-GSR1-5M) (see reverse side for proposed well operations)

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

No. P294-106

PERMIT TO CONDUCT WELL OPERATIONS

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

GAS STORAGE

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

Ventura, California
April 18, 1994

Your proposal to plug and suspend well "Standard Sesnon" 4-0, A.P.I. No. 037-22063, Section 29, T. 3N, R. 16W, S.B. B.&M., Aliso Canyon field, ---------- area, Sesnon-Frew pool, Los Angeles County, dated 4/12/94, received 4/14/94, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOGGR Class II 3M requirements shall be installed and maintained in operating condition 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. The well shall be plugged with cement from 9590' to 7976', 7012' to 6912', and from 5650' to 5560'.
4. All portions of the well not plugged with cement below 5000'± are filled with inert mud fluid having a minimum density of 72 lbs./cu. ft and a minimum gel-shear strength of 25 lbs./100 sq. ft.
5. The well must be securely capped at the surface while in suspended status.
6. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
7. THIS DIVISION SHALL BE NOTIFIED:
   a. To witness the cementing of the well through tubing.
   b. To witness the location and hardness of the cement plugs at 7976', 6912' and 5560'.
   c. To witness the mudding of the well.

Blanket Bond
SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

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

By

Patrick J. Kinnear
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 (Modified 1993)

OP 8/30 Sesnon-Frew

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

NOTICE OF INTENTION TO REWORK WELL

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

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

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

rework well Standard Sesnon 4-0 *(Well designation)*, API No. 037-22063

Sec. 29, T. 3N, R. 16W, SB B.& M., Aliso Canyon Field,

Los Angeles County.

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

2. The total depth is: 9610 feet. The effective depth is: 9610 feet.

3. Present completion zone (s): Frew *(Name)*. Anticipated completion zone (s): None *(Name)*.

4. Present zone pressure: 2200 psi. Anticipated/existing new zone pressure: _____ psi.

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

(or)

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

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

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

Plugback

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VENTURA, CALIFORNIA

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

Name of Operator	Telephone Number	
Southern California Gas Company	(213) 244-2665	
Address	City	Zip Code
P. O. Box 3249	Los Angeles	90051-1249
Name of Person Filing Notice	Signature	Date
E. Stan Sinclair		4/12/94

File In Duplicate

OG107 (3/90/GSR1/5M)

Agency of California
Department of Conservation
Division of Oil and Gas
April 12, 1994

Notice of Intention to Rework Well
Standard Sesnon 4-0

Plugback:

Work in progress to abandon well resulting from earthquake related casing and tubing damage. Removed tubing down to pinched point at 7012'±. 7" casing parted at 1445' and collapsed at approximately 7012'. Installed casing bowl at 1451'± to repair parted 7" casing.

1. Re-enter casing and attach to 2-7/8" tubing.

2. Attempt to pull plug in tubing at 9367'.

3. Use coil tubing to cement lower zone through tubing.

4. Move up hole and lay cement plug across upper zone.

5. Perforate tubing above hydraulic packer and circulate cement between tubing/casing annulus, or cut and remove tubing from above hydraulic packer and plug hole with cement up to approximately 200' above casing damage at 7012'± if possible.

6. Mud hole from top of cement plug up to approximately 5000'.

7. Cut and remove 7" casing from 5000' to surface.

8. Set cement plug from 5100'± to 4750'± inside 10-3/4" casing. Well will be partially abandoned up to 4750'.

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

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

No. P293-143
Field Code 010
Area Code 00
New Pool Code 30
Old Pool Code 30

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
May 10, 1993

Your proposal to rework well "Standard Sesnon" 4-0, A.P.I. No. 037-22063, Section 29, T. 3 N, R. 16W, S.B. B.&M., Aliso Canyon field, ---- area, Sesnon-Frew pool, Los Angeles County, dated 4-12-93, received 4-13-93, 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 III 3M requirements shall be installed and maintained in operating condition 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 3M lubricator.
4. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.

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

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

Notice of Intention to Rework Well

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

DIVISION OF OIL AND GAS
RECEIVED
APR 13 1993
DIVISION OF OIL AND GAS VENTURA, CALIFORNIA

FOR DIVISION USE ONLY		
BOND	FORMS	
	OGD 114	OGD 121
BB	4-13-93 ✓	✓

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well Standard Sesnon 4-0 (Well designation), API No. 037-22063

Sec. 28 29, T. 3N, R. 16W, S.B.B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth 9670'

SEE ATTACHMENT

2. Complete casing record, including plugs and perforations (present hole)

0' - 1296'	16"	75#	K-55
0' - 4852'	10-3/4"	51#	N-80
0' - 8121'	7"	23# 26#	N-80
8076' - 9650'	5-1/2"	20#	K-55

Perforations: 8140'-8157', 8166'-8178'
8230'-8245', 8268'-8276', 8310'-8320'
8342'-8354', 8360'-8376', 8482'-8510'
8518'-8526', 8532'-8556'
9482'-9553', 9560'-9590'

3. Present producing zone name Sesnon-Frew; Zone in which well is to be recompleted same

4. Present zone pressure 2100 ? psig; New zone pressure _____

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

(or)

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

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

The proposed work is as follows:

1. Move in, rig up install and test BOPE.
2. Pull tubing.
3. Perforate the following intervals through the 5-1/2" liner.
   Intervals:
   See Attachment:

Note: If well is to be redrilled, show proposed new bottom-hole coordinates and true vertical depth.

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

Address P. O. Box 3249 (Street)

Los Angeles (City) CA (State) 90051-1249 (Zip)

Telephone Number (213) 244-2665

Southern California Gas Company (Name of Operator)

By E. S. Sinclair for R. D. Phillips/Agent (Name-Printed)

E.S. Sinclair E. S. Sinclair 4-12-93 (Name-Signature) (Date)

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

OG107 (8/87/DWRR/5M)

STATE OF CALIFORNIA
Department of Conservation
Division of Oil and Gas

NOTICE OF INTENTION TO REWORK WELL

Standard Sesnon 4-0

Continued

8085'-8093', 8112'-8122', 8133'-8151', 8154'-8171', 8190'-8208',
8220'-8236', 8260'-8278', 8295'-8315', 8332'-8348', 8350'-8368'
4. Install packer in 7" casing
5. Install tubing and complete well.

DIVISION OF OIL AND GAS
RECEIVED
APR 13 1993
VENTURA, CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Ventura, California

November 12, 1991

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

Your request, dated July 24, 1991, proposing to change the designation of well(s) in Sec. 29, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon field, Los Angeles County, District No. 2, has been received.

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

FROM	TO
"SFZU" F-2 (037-00665)	"Frew" 2 (037-00665)
"SFZU" F-3 (037-00666)	"Frew" 3 (037-00666)
"SFZU" F-4 (037-00667)	"Frew" 4 (037-00667)
"SFZU" F-5 (037-00668)	"Frew" 5 (037-00668)
"SFZU" F-6 (037-00669)	"Frew" 6 (037-00669)
"SFZU" F-7 (037-00670)	"Frew" 7 (037-00670)
"SFZU" F-8 (037-00671)	"Frew" 8 (037-00671)
"SFZU" F-9 (037-00672)	"Frew" 9 (037-00672)
"SFZU" SS-4 (037-00757)	"Standard Sesnon" 4 (037-00757)
"SFZU" SS-12 (037-00764)	"Standard Sesnon" 12 (037-00764)
"SFZU" SS-4-0 (037-22063)	"Standard Sesnon" 4-0 (037-22063)
"SFZU" SS-10 (037-00040)	"Standard Sesnon" 10 (037-00040)

M. G. MEFFERD, State Oil and Gas Supervisor

By Patrick J. Kinnear
Deputy Supervisor
PATRICK J. KINNEAR

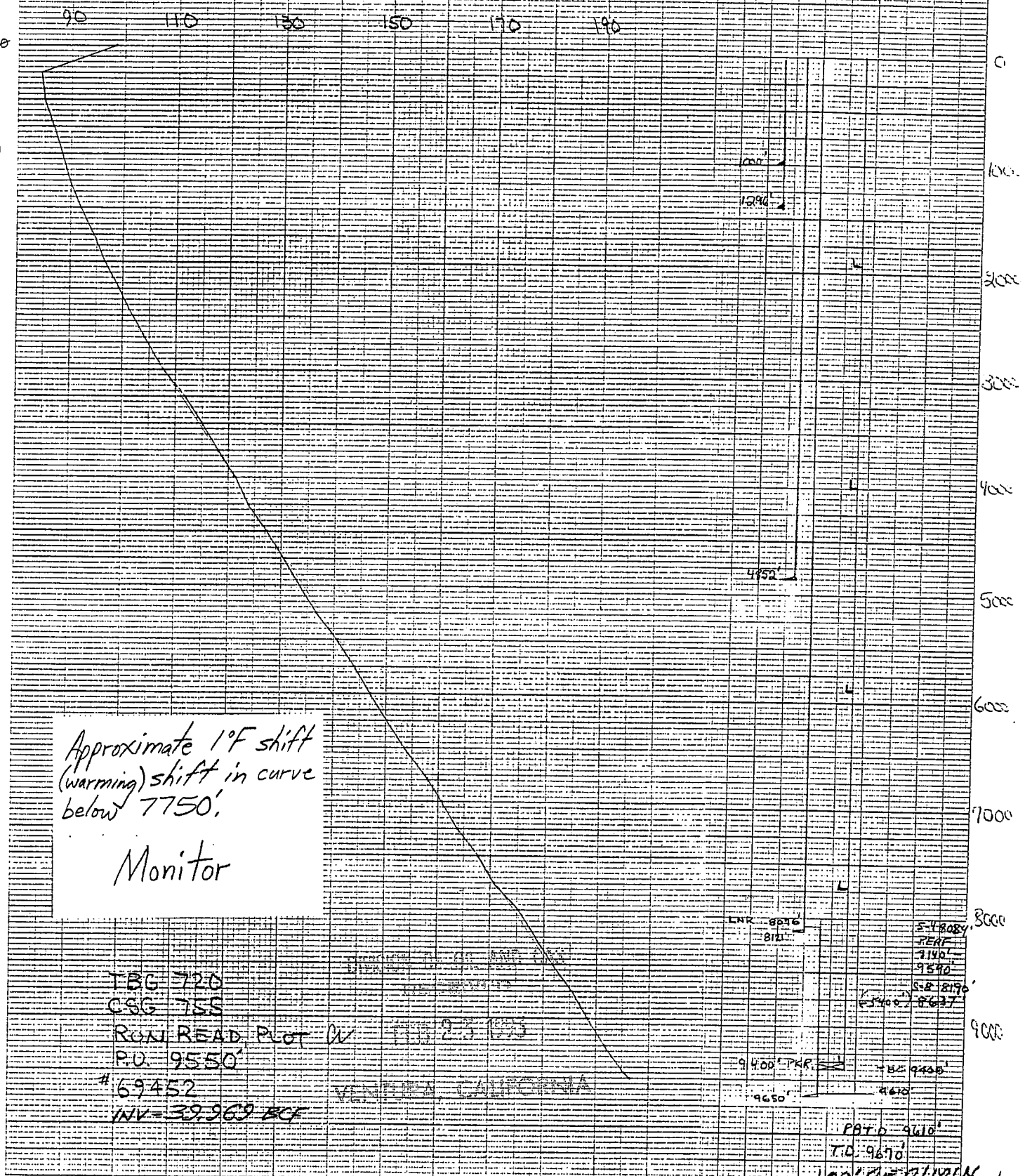
OGD157 (10/85/DWRR/1M)

037-22063 29-3-16 ... ALISO CANYON

OCT 15 1992

SS 4-0

SS-4-0 7-15-92



Approximate 1°F shift (warming) shift in curve below 7750'.

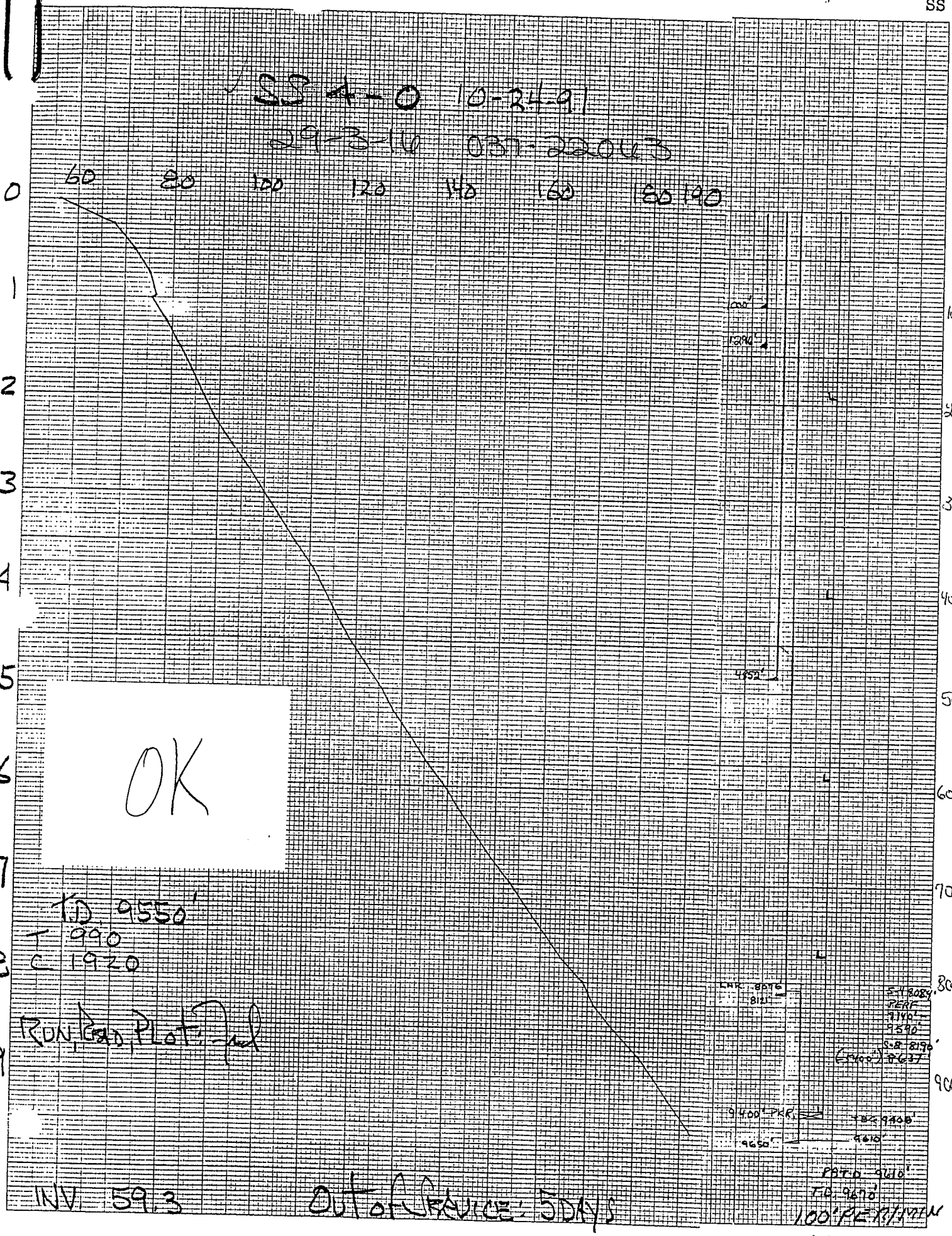
Monitor

TBG 720
CSG 7SS
RUN READ PLOT ON
P.O. 9550'
#69452
INV=39.969 BCF

4-25-84

ALISO CANYON
SS 4-0

SS 4-0 10-24-91
091-3-14 037-22043



OK

TD 9550'
T 990
C 1920

RUN Rad, Plot, Init

INV 593

Out of Service: 5 DAYS

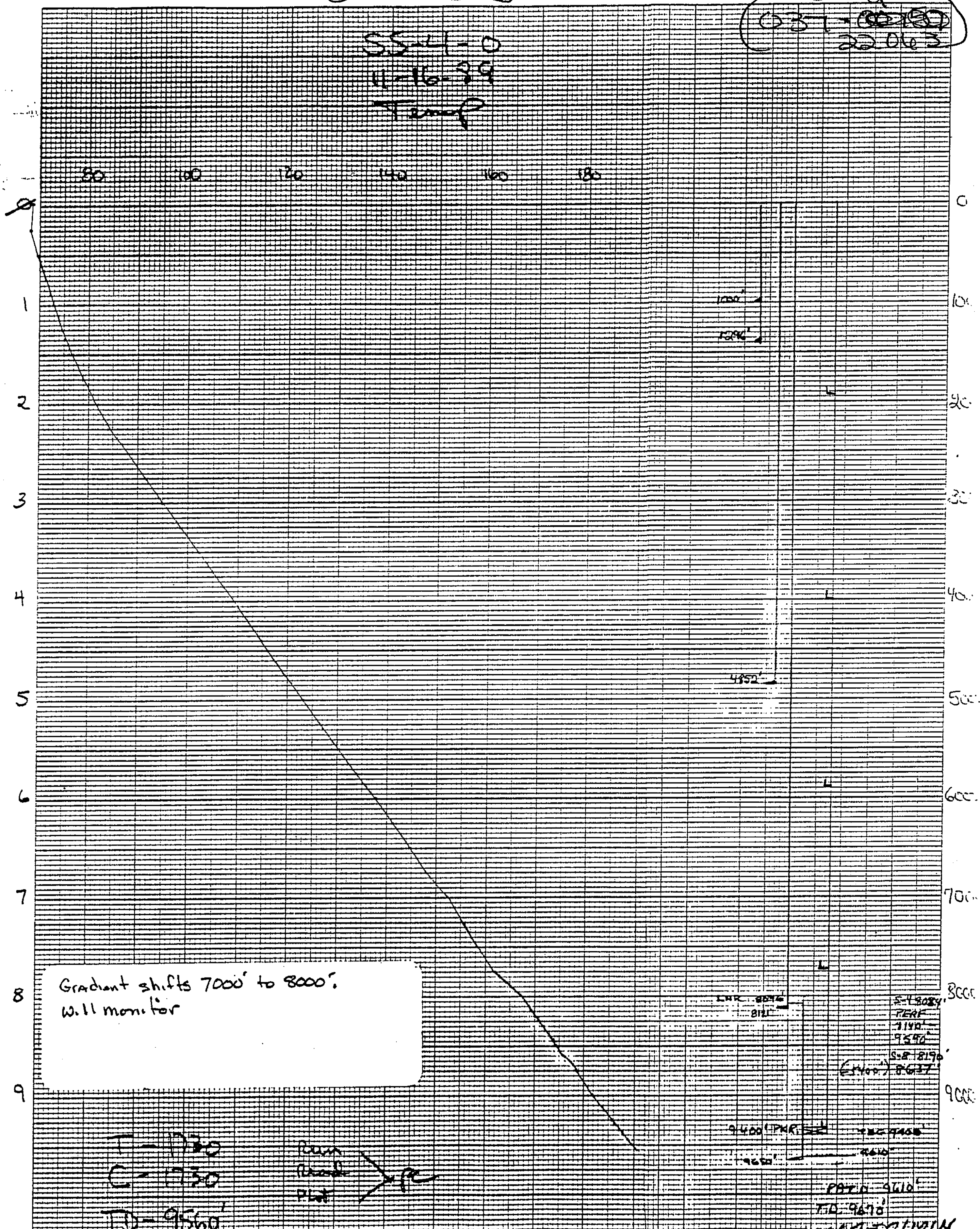
4-25-84

So. CA. Gas Co.

28-3-816

ALISO CANYON

SS 4-0



46 1512

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

4-25-87

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT OF CORRECTION OR CANCELLATION

Santa Paula, California

April 20, 1981

Mr. J. W. Tenfelder, Agent
Southern California Gas Co.
12801 Tampa Avenue
Northridge, CA 91324

In accordance with Division of Oil and Gas Map 254

the following change pertaining to your well "SFZU" SS-4-0 (037-22063),

Aliso Canyon field, Los Angeles County,

Sec. 29, T. 3N, R. 16W, S.B. B. & M., is being made in our records:

☒ The corrected location is in Section 29, T.3N., R.16W., S.B.B. & M.
Fr station #84 860.95 southerly and 7707.27 westerly

☐ The corrected elevation is _____

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

☐ Your notice to _____ (Drill, abandon, etc.) dated _____, and our report No. P _____, issued in answer thereto, are hereby cancelled inasmuch as the work will not be done. If you have a drilling bond on file covering this notice it will be returned. No request for such return is necessary.

☐ Other: _____

State Oil and Gas Supervisor

By John L. Hardoin
John L. Hardoin, *Deputy Supervisor*

OG 165 (1-77-GSRI-3M)

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

SECOND REVISION OF

WELL SUMMARY REPORT

API No. 037-22063

OCT 17 1986

VENTURA, CALIFORNIA

Operator	Well				
Southern California Gas Company	Standard Sesnon #4-0				
Field	**County**	**Sec.**	**T.**	**R.**	**B.&M.**
Aliso Canyon	Los Angeles	29	3N	16W	S.B.

Location (Give surface location from property or section corner, street center line and/or California coordinates)

860.95' southerly and 7707.27' westerly from Station #84

Elevation of ground above sea level: 2886'

Commenced drilling (date): 8-11-80

Completed drilling (date): 1-16-81

Commenced producing (date): Gas Storage Well

☐ Flowing ☐ Pumping ☐ Gas lift

Name of producing zone(s)

Total depth

(1st hole)	(2nd)	(3rd)
7649'	9670'	

Present effective depth: 9610'

Junk: 2147' fish left in well 5502'-7649'. Drill pipe, heavy wall drill pipe, stabilizers, drill collars, monel and bit

Depth measurements taken from top of: ☐ Derrick Floor ☐ Rotary Table ☒ Kelly Bushing

Which is 21 feet above ground

GEOLOGICAL MARKERS	DEPTH
S_4	8101'
Santa Susana	8480'
Frew	9480'

Formation and age at total depth: Frew - Eocene

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

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)
16"	Surface	1296'	75#	K-55 Buttress	New	20-1/2"	1050	
10-3/4"	Surface	4852'	51#	N-80 Buttress	New	14-3/4"	3075	
7"	Surface	8121'	23# & 26#	N-80 Buttress	New	9-5/8"	1060	
5-1/2"	8076'	9650'	20#	K-55 Hydril S.F.	New	6-1/8"	345	

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

Four 1/2" holes per foot 9590'-9560', 9553'-9482', 8556'-8532', 8526'-8518', 8510'-8482', 8376'-8360', 8354'-8342', 8320'-8310', 8276'-8268', 8245'-8230', 8178'-8166' and 8157'-8140'

Was the well directionally drilled? If yes, show coordinates at total depth

☒ Yes ☐ No 1311' north and 1915' west

Electrical log depths

5550', 8130', 9200', 9523' and 9670'

Other surveys

Cement bond, density, neutron, dip meter and caliper logs

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	Title	
J. W. Gourley	Agent	
Address	**City**	**Zip Code**
Box 3249, Terminal Annex	Los Angeles, CA	90051
Telephone Number	**Signature**	**Date**
(213) 689-3925	10/16/86	October 16, 1986

N. W. Buss for J. W. Gourley

OG100 (4/83/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 Co. Field or County Aliso Canyon
Well Standard Sesnon #4-0, Sec. 28, T 3N, R 16W SB. B. & M.
A.P.I. No. 037-22063 Name P.S. Magruder, Jr. (Person submitting report) Title Agent (President, Secretary or Agent)
Date ....., 19.....

Signature P.S. Magruder Jr.

P. O. Box 3249 Terminal Annex, Los Angeles, Ca. 90051 (213) 689-3561
(Address) (Telephone Number)

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

Date	
1980	GWO #98567 was issued to drill well Standard Sesnon #4-0 to cretaceous including coring the Sesnon Zone, Santa Susana Sands, Frew and Cretaceous.
8.08	Moved Kenai Rig #2 onto well site and began rigging up.
8.09	Continued rigging up Kenai Rig #2.
8.10	Continued rigging up. Rigged up solids control equipment.
8.11	1st Day. Spudded in at 2:00 a.m. 8-11-80. Drilled 14-3/4" hole to 247' with bit #1RR. Lost 300 barrels of mud at 195'.
8.12	2nd Day. Drilled from 247' to 349' with 14 3/4" bit #1RR.
8.13	3rd Day. Drilled 14 3/4" hole from 349' to 700' with 14-3/4" bit #1RR. Lost circulation at 700'.
8.14	4th Day. Lost a total of 1,000 bbls and regained circulation and drilled 14-3/4" hole from 700' to 716' with bit #1RR, and to 880' with bit #2. Replaced shock sub and added one stabilizer to drilling assembly on trip and reamed from 157' to 716'.
8.15	5th Day. Drilled 14 3/4" hole from 880' to 970' where total loss of circulation occurred. Lost approximately 150 bbls. Hauled mud from storage and added LCM. Pumped additional 800 barrels of mud with no returns to surface. Pulled bit to 350' and regained returns. Staged into hole by stands to 713', circulated. Drilled to 1027'.

8.16 6th Day. Drilled 14 3/4" hole from 1,027' to 1,055' where lost returns. Regained returns and drilled to 1,156' with 14 3/4" bit #2. Total fluid loss for twenty-four hours was 500 barrels.

8.17 7th Day. Drilled 14 3/4" hole from 1,156' to 1,300' with bit #2, bypassing shale shakers. Ran 20 1/2" hole opener and opened 14-3/4" hole to 20 1/2" from 40' to 128' with flowline returns over shale shaker.

8.18 8th Day. Opened 14 3/4" hole to 20 1/2" from 128' to 521' with hole opener #1RR.

8.19 9th Day. Opened 14 3/4" hole to 20 1/2" from 521' to 575' with hole opener #1RR and to 820' with hole opener #2. Lost 250 barrels of mud at 769'.

8.20 10th Day. Opened 14 3/4" hole to 20 1/2" from 820' to 895'. Experienced total loss of flowline returns. Mixed LCM with mud from storage and regained returns and opened hole to 935'. Pulled out of well and changed cutters on hole opener. Ran to 14 3/4" x 20 1/2" shoulder at 935' and plugged bit.

8.21 11th Day. Ran 20 1/2" hole opener #3 and opened 14 3/4" hole to 20 1/2" from 935' to 1,147'.

8.22 12th Day. Opened 14 3/4" hole from 1,147' to 1,170' with hole opener #3 and to 1,300' with hole opener #4.

8.23 13th Day. Ran 14 3/4" x 20 1/2" hole openers #4 and #5 as stiff reaming assembly to 1,300'. Pulled out of well and re-ran to 1,300', circulated well clean and pulled out. Ran 43 joints of 16" 75# K-55 Buttress thread casing. There was a float shoe at 1,296', stab-in collar at 1,272', centralizers at mid-shoe joint and across next four casing collars. No fluid returns to surface after casing reached 700'. Ran stab-in adaptor in 4 1/2" drill pipe to stab-in collar 1,272'. Pumped all mud in surface system away with no returns to surface. Cemented with 6 cu. ft. of water ahead of 820 cu. ft. of class "G" cement, premixed with 8% gel and 3% calcium chloride, followed by 230 cu. ft. of class "G" cement, premixed with 3% calcium chloride and displaced with 103 cu. ft. of water. Observed no fluid to surface. Cement in place at 11:59 p.m.

8.24 14th Day. Did top cement job with 1 1/8" tubing hung at 90'. Pumped 75 cu. ft. class "G" cement with 3% calcium chloride. Cut off conductc pipe and 16". Welded on casing head.

8.25 15th Day. Check weld with X-ray. Installed spools, Bope and flowline.

8.26. 16th Day. Finished installing BOPE,kill and choke lines. Pressure tested hydril and manifold to 1,000 psi with water. Drilled 14 3/4" hole from 1,300' to 1,369'.

8.27. 17th Day. Drilled 14 3/4" hole from 1,369' to 1,591'.

8.28. 18th Day. Drilled 14 3/4" hole from 1,591' to 1,932'. Ran new bit. No mud loss.

8.29. 19th Day. Drilled 14 3/4" hole from 1,932' to 2,212'. Ran new bit. No mud loss.

8.30. 20th Day. Drilled 14 3/4" hole from 2,212' to 2,644'. No mud loss.

8.31. 21st Day. Drilled 14 3/4" hole from 2,644' to 3,060'. No mud loss.

9.01. 22nd Day. Drilled 14 3/4" hole from 3,060' to 3,100'. Dyna-drilled from 3,100' to 3,247'. No mud loss.

9.02. 23rd Day. Dyna-drilled 14 3/4" hole from 3,247' to 3,349'. Pulled out with bit #8 and dyna-drill. No mud loss.

9.03. 24th Day. Directionally drilled 14 3/4" hole from 3,349' to 3,562'. Changed drill assembly and reran bit #9. No mud loss.

9.04. 25th Day. Directionally drilled 14 3/4" hole from 3,562' to 3,754'. Ran bit #10. No mud loss.

9.05. 26th Day. Directionally drilled 14 3/4" hole from 3,754' to 3,850'. Ran bit #11. No mud loss.

9.06 27th Day. Directionally drilled 14 3/4" hole from 3,850' to 3,881'. Ran bit #12. Changed near stabilizer. Ran in well and spot reamed from 2,684' to 2,789'. Ran in. Stuck pipe at 3830'. Equalized 60 bbls of oil and worked pipe.

9.07 28th Day. Worked stuck pipe at 3,830' and displaced oil. Ran free point and backed off leaving 72' fish in well. Ran in with jars and accelerator. Screwed into fish and jarred loose.

9.08 29th Day. Directionally drilled 14 3/4" hole from 3,881' to 3,965'. No mud loss.

9.09 30th Day. Directionally drilled 14 3/4" hole from 3,965' to 4,063'. No mud loss.

9.10 31st Day. Directionally drilled 14 3/4" hole from 4,063' to 4,170'. No mud loss.

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9.11. 32nd Day. Directionally drilled 14 3/4" hole from 4,170' to 4,214'. No mud loss.

9.12. 33rd Day. Directionally drilled 14 3/4" hole from 4,214' to 4,331'. No mud loss.

9.13. 34th Day. Directionally drilled 14 3/4" hole from 4,331' to 4,555'. No mud loss.

9.14. 35th Day. Directionally drilled 14 3/4" hole from 4,555' to 4,768'. No mud loss.

9.15. 36th Day. Directionally drilled 14 3/4" hole from 4,768' to 4,833'. No mud loss.

9.16. 37th Day. Directionally drilled 14 3/4" hole from 4,833' to 4,850'. Pulled bit #18 out of hole. Laid down 8" drill collars and the 14 3/4" drilling assembly.

9.17. 38th Day. Installed cement plug in 16" casing from 1,011' to 990'.

9.18. 39th Day. Installed 10" 5,000 psi class III BOPE. Equalized cement from 811' to 1,011'.

9.19. 40th Day. Pressure tested 13 5/8" BOPE to 2,000 psi. Unable to obtain satisfactory pressure test. Changed API rings.

9.20. 41st Day. Tested BOPE to 2,000 psi. Drilled out cement from 811' to 1,060' with bit #20.

9.21. 42nd Day. Ran in with bit #20 and directionally drilled 9 7/8" hole from 4,850' to 4,994'. No mud loss.

9.22. 43rd Day. Drilled 91' of 9 7/8" hole with bit #20 from 4,994' to 5,083'. Pulled out of well. Made up mud motor and ran in well.

9.23. 44th Day. Drilled a total of 145' of 9 7/8" hole. Ran in well with mud motor and dyna-drilled 90' from 5,081' to 5,171'. Drilled 9 7/8" hole with bit #22 from 5,171' to 5,226'.

9.24. 45th Day. Directionally drilled a total of 278' of 9-7/8"hole from 5,226' to 5,504'. Changed bit and drilled with bit #23 to 5,504'.

9.25. 46th Day. Directionally drilled 254' of 9 7/8" hole with bit #23 from 5,504' to 5,758'.

9.26. 47th Day. Directionally drilled 350' of 9 7/8" hole with bit #24 from 5,768' to 6,118'. Made wiper trip after survey and found 15' of fill.

9.27 48th Day. Directionally drilled 156' of 9 7/8" hole with bit#25 from 6,118' to 6,274'

9.28 49th Day. Directionally drilled 68' of 9 7/8" hole from 6,274' to 6,362'.

9.29 50th Day. Directionally drilled 9 7/8" hole from 6,342' to 6,392' with bit #27. No mud loss.

9.30 51st Day. Directionally drilled 9 7/8" hole from 6,392' to 6,479'. No mud loss.

10.01 52nd Day. Directionally drilled 9 7/8" hole from 6,479' to 6,652'. No mud loss.

10.02 53rd Day. Directionally drilled 9 7/8" hole from 6,652' to 6,805'. Pulled bit #29. Lost 75 bbls drilling fluid between 6,640' and 6,672'. Regained full circulation.

10.03 54th Day. Directionally drilled 9 7/8" hole from 6,805' to 6,933'. Pulled bit #30. Lost 80 bbls drilling fluid at 6,902'.

10.04 55th Day. Directionally drilled 9 7/8" hole from 6,902' to 6,972'. Drilled for 8 hours with bit #31 and lost circulation. Mixed lost circulation material and circulated at 6,472'. Located fill at 6,912'. Plugged bit and pulled out to unplug bit. Lost 800 bbls.

10.05 56th Day. Directionally drilled 9 7/8" hole from 6,972' to 7,040'. Reran bit #31. Added gel and lost circulation material.

10.06 57th Day. Directionally drilled 9 7/8" hole from 7,040' to 7,146'.

10.07 58th Day. Directionally drilled 9 7/8" hole from 7,146' to 7,420'. No mud loss.

10.08 59th Day. Directionally drilled 9 7/8" hole from 7,420' to 7,589'. No mud loss.

10.09 60th Day, Directionally drilled 9 7/8" hole from 7,589' to 7,649'. No mud loss. Tight hole at 5,963' and worked pipe, rotating out of well. The 4 1/2" drill pipe twisted off, leaving 2,147' of fish in well.

10.10 61st Day. Picked up four 7" drill collars. Ran in to 4,850' and conditioned drilling fluid. Ran in to 5,390'. Cleaned out lost circulation material to 5,570'. Stuck pipe in 14 3/4" hole at 3,281'

10.11 62nd Day. Worked pipe and continued out of hole. Worked pipe free at 3,100'. Ran in well with 9 7/8" bit and drilling assembly and reamed to 3,500'. Ran to 5,480' but did not locate top of fish.

10.12. 63rd Day. Picked up fishing tools, knuckle joint, wall hook-overshot. Ran in to 5,376' and to 5,650' without locating fish. Laid down 6 joints. Installed restriction tool in knuckle joint. Fished from 5,437' to 5,570' - no contact with fish.

10.13. 64th Day. Ran induction and caliper logs from 5,550' to 5,445' (showed top of fish at 5,514'). Ran 7 7/8" wall hook and 4 1/2" OD overshot on fishing assembly to 5,503' and attempted to engage fish from 5,503' to 5,550'. Ran fishing assembly to 5,641' - unable to locate fish.

10.14. 65th Day. Ran Dual Induction Log from 5,493' to 1,297' and Caliper Log from 5,493' to 2,000'. Made up 7 7/8" side wall hook and 4 1/ 2" overshot on knuckle joint and ran fishing assembly to 5,490'. Started to clean out to top of fish.

10.15. 66th Day. Attempted to engage fishing assembly to fish at 5,514' with no success. Pulled out of well and laid down fishing tools. Removed 12" BOPE. Removed bit guide from casing head.

10.16. 67th Day. Installed 20" class II BOPE. Made up 14 3/4" bit on four 7" drill collars with one 14 3/4" stabilizer and ran in well, reaming and circulating.

10.17. 68th Day. Using 14 3/4" bit and stabilizer with four 7" drill collars, cleaned out to 4,850'. Started out of well losing partial circulation and worked drilling assembly by tight spot at 3,112'.

10.18. 69th Day. Ran 4,852' of 10 3/4" N-80 51# Buttress thread casing in well with float shoe, float collar, three baskets, eight turbolizers and centralizers on every other joint to 1,300' and circulated well.

10.19. 70th Day. Cemented 4,852' of 10 3/4" casing in well with 500 cu. ft. of chemical wash followed with 2500 cu. ft. of 1-1 class "G" lite poz followed with 575 cu. ft. of class "G" cement. Removed BOPE and landed casing in 16" casing head with 247,000# on hook. Cut off 10 3/4" casing. Installed 16" x 13 5/8" seal flange and 13 5/8" x 10" spool and pressure tested wellhead seals to 3,200 psi. Installed 10" class III BOPE.

10.20. 71st Day. Pressure tested blind rams, pipe rams and choke manifold with water at 4,000 psi. Pressure tested hydril bag with water at 3,000 psi. Test plug stuck in spool.

10.21. 72nd Day. Pressure tested blind rams to 4,000 psi. Drilled out cement from 4,415' to 4,845'.

10.22. 73rd Day. Reamed rom 4,845' to 5,500'. Made up 313' tubing tail and ran in well. Equalized 260 cu. ft. class "G" cement plus 20% sand at 5,500'.

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10.23. 74th Day. Drilled out cement to 5,290'. Ran dyna-drill with guidance tool.

10.24. 75th Day. Dyna-drilled with "eye" tool from 5,300' to 5,358'. Ran in with bit #37. Reamed dyna-drill run from 5,290' to 5,358'. Drilled 9 5/8" hole from 5,358 to 5,414'.

10.25. 76th Day. Directionally drilled 9 5/8" hole from 5,414' to 5,459' with bit #37.Drilled 9 5/8" hole from 5,459' to 5,775' with bit #38.

10.26. 77th Day. Directionally drilled with bit #38 from 5,775' to 5,872'. Reran bit #37 and drilled from 5,872' to 6,119'.

10.27. 78th Day. Directionally drilled 9 5/8" hole from 6,119' to 6,126' with bit #38. Ran bit #39 and drilled from 6,126' to 6,185'.

10.28. 79th Day. Directionally drilled 9 5/8" hole from 6,185' to 6,325'.

10.29. 80th Day. Directionally drilled 9 5/8" hole from 6,325' to 6,489'. No mud loss.

10.30. 81st Day. Directionally drilled 9 5/8" hole from 6,489' to 6,584'. Started a 20 stand wiper trip. Stuck pipe 8 stands off bottom. Found free point between heavy wall drill pipe and bumper sub.

10.31. 82nd Day. Backed off bumper sub at 5,558' and chained out. Laid down bent pipe. Made up jars, bumper sub, accelerator, six 7" drill collars. Ran in and located top of bumper sub at 5,557'. Jarred down and worked tools loose. Jarred on tools. Worked drill collars from 5,557' to 5,227'.

11.01. 83rd Day. Worked fish loose at 5,227'. Ran in well with bit #40. Changed one stabilizer. Installed one stabilizer on top of drill collars. Installed string stabilizers on drill pipe at 5,150'. Ran in and spot reamed from 5,375' to 6,400'. Seals went out of low clutch. Pull up to shoe and worked on rig.

11.02. 84th Day. Rig down - repairing low clutch.

11.03. 85th Day. Rig down.

11.04. 86th Day. Rig down.

11.05. 87th Day. Rig down.

11.06. 88th Day. Reamed key seat with string stabilizer from 6,400' to 6,529'.

11.07. 89th Day. Reamed from 6,529' to 6,584'. Directionally drilled 9 5/8" hole from 6,584' to 6,782'.

11.08. 90th Day. Directionally drilled 9 5/8" hole from 6,782' to 6,884'.

11.09. 91st Day. Directionally drilled 9 5/8" hole from 6,884' to 6,910'. Lost circulation. Mixed lost circulation materials and regained circulation after losing 350 bbls. Drilled from 6,910' to 6,982'.

11.10. 92nd Day. Directionally drilled 9 5/8" hole from 6,982' to 7,036'. Changed two stabilizers. Ran in to 6,858' and stuck pipe.

11.11. 93rd Day. Backed off with string shot at 6565'. Chained out. Picked up fishing tools. Ran in and screwed into fish. Jarred loose and pulled out of well.

11.12. 94th Day. Reamed hole from 6,100' to 6,190' and from 6,736' to 7,036'. Directionally drilled 9 5/8" hole from 7,036' to 7,130'.

11.13. 95th Day. Directionally drilled 9 5/8" hole with bit #42 from 7,130' to 7,225'. Reran bit #41 from 7,225' to 7,269'.

11.14. 96th Day. Directionally drilled 9 5/8" hole from 7,269' to 7,445'.

11.15. 97th Day. Directionally drilled 9 5/8" hole from 7,445' to 7,576'.

11.16. 98th Day. Directionally drilled 9 5/8" hole from 7,576' to 7,724'.

11.17. 99th Day. Directionally drilled 9 5/8" hole from 7,724' to 7,906'.

11.18. 100th Day. Directionally drilled 9 5/8" hole from 7,906' to 7,938'. Ran back in well and cleaned out to 7,910'.

11.19. 101st Day. Directionally drilled 9 5/8" hole from 7,938' to 8,073'.

11.20. 102nd Day. Finished drilling 9 5/8" hole from 8,073' to 8,130'. Circulated well. Ran Induction and Caliper log from 8,130' to 4,845'.

11.21. 103rd Day. Finished running in well and removing rubber casing protectors. Circulated well. Laid down 4 1/2" drill pipe and drill collars.

11.22. 104th Day. Installed 7" casing rams in BOPE. Made up 7" float shoe, float collar and scratchers on casing string. Ran 3,355' of 7" 26# Buttress casing, 4,736' of 23# Buttress thread casing and 42' of 26# Buttress thread casing using torque turn monitoring equipment. Landed shoe of casing at 8,121' measured depth. Pumped 250 cu.ft. "CW7" wash followed with 600 cu.ft. 1-1 class "G" cement - litepoz 3 premixed with 1% D-65 and 0.5% D-60 followed with 230 cu.ft.of

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Class "G" cement mixed with 0.75% D-65 and 0.5% D-60 followed with 230 cu. ft. of self-stress. Raised BOPE and installed 7" casing spool with 205,000#.

11.23. 105th Day. Cut 7" casing off. Removed 12" 5,000 psi BOPE. Installed 11" x 11" x 7" 5,000# double studded seal flange and 11" x 6" 5,000# tubing head. Pressure tested seals and API rings to 5,000 psi for two hours. Installed 6" 5,000 psi BOPE and pressure tested pipe and blind rams to 4,000 psi for 20 minutes. DOG declined to witness test.

11.24. 106th Day. Installed pitcher nipple. Laid down 4 1/2" Kelly. Picked up 3 1/2" Kelly. Picked up drilling assembly. Measured 3 1/2" drill pipe. Picked up drill pipe. Installed casing protectors on drill pipe.

11.25. 107th Day. Drilled out cement to 8,105'.

11.26. 108th Day. Ran Cement Bond log and Noise log. Ran in and drilled out shoe. Cleaned out to 8,130'.

11.27. 109th Day. Ran in and cut core #1 from 8,130' to 8,165'. Recovered 33'. Slipped and cut drilling line. Cut core #2 from 8,165' to 8,207'.

11.28. 110th Day. Pulled out with core #2. Recovered 34 ft. Ran in and cut core #3 from 8,208' to 8,250'. Recovered 42 ft. Slipped drilling line and ran in cutting core #4 from 8,250'to 8,285'.

11.29. 111th Day. Cored from 8,250' to 8,311' pulled out of hole with core #4. Recovered 59 ft. Picked up drilling assembly. Ran in hole. Reamed from 8,121' to 8,311'. Drilled from 8,311' to 8,345'.

11.30. 112th Day. Drilled from 8,343' to 8,444' with bit #44. No mud loss.

12.1. 113th Day. Drilling with 6 1/8" Bit #44 from 8,444' to 8,474'. Ran in with Bit #45 and drilled from 8,474' to 8,491'.

12.2. 114th Day. Drilled 6 1/8" hole from 8,491' to 8,574'. Circulated hole clean. Pulled out to core.

12.3 115th Day. Ran in hole. Reamed from 8560' to 8574'. Cored from 8574' to 8608'. Pull core #5 and recovered 34'. Ran in hole to cut core #6. Reamed from 8568' to 8608'.

12.4 116th Day. Cut core #6 from 8608' to 8625'. Pull out with core #6 and recovered 17'. Ran in with core barrel. Cut core #7 from 8625' to 8660'. Pulled core #7.

12.5 117th Day. Pulled core #7 and recovered 26'. Serviced core barrel. Ran in tools and 10 stands. Worked on rig 12 hours. Ran in to cut core #8 from 8660'.

12.6 118th Day.. Cutting core #8, 8660' to 8688'. Pulled core #8,recovere 21'. Drilling assembly- reamed from 8546' to 8688'. Drilled 6 1/8" from 8688' to 8717'.

12.7 119th Day. Drilled 6 1/8" hole with bit #46 from 8717' to 8818'

12.8 120th Day. Drilled with 6 1/8" Bit #46 from 8818'-8820'. Ran in with Bit #47 and drilled from 8820' - 8864'.

12.9 121st Day. Drilled from 8864' to 8869'. Pulled Bit #47 and reran #46 Drilled from 8869' to 8875'. Pulled Bit #46 ran in with Bit #48. Drilled from 8875' to 8878'.

12.10 122nd.Day. Drilled 6 1/8" hole from 8878' to 8900'. Pulled bit#48 to c Picked up core bbl and diamond corehead. Ran in hole, reamed 8866' to 8900'. Cutting core #9 8900' to 8904'.

12.11 123rd Day. Core #9 from 8904' to 8931'. Pull core #9 recovered 30'. Ran in hole cut core #10 from 8931' to 8936'.Pulled to shoe and worked on wash pipe on swivel.

12.12 124th Day. Rig down 6 1/2 hours. Cut core #10 from 8936'to 8956'. Pulled core #10 , recovered 25'. Cut core #11 from 8956' to 8971'.

12.13 125th Day. Cutting core #11 from 8971' to 8991'. Pulled out with core #11 and recovered 35'. Ran in with bit #49, reamed from 8900' to 8991'. Drilled from 8991' to 9075'.

12.14 126th Day. Drilled 6 1/8" hole from 9076' to 9200'. Circulated condition mud to log.

12.15 127th Day. Pulled out of hole with bit. Schlumberger ran induction, density, neutron logs in one run from 9200' to 8118'. Tools stuck. Top of tools 8107' bottom 8167'. Using Midway 5 9/16" x 3 3/8" overshot and Schlumberger stripping tools, started in hole. Tools would not go below 7583'. Recovered 6500' of Schlumberger line.

12.16. 128th Day. Stripped overshot over Schlumberger line to 7,583' where tools stopped. Wire line free, recovered 6,700' of wire line. Pulled out of hole and recovered all of the wire line.

12.17. 129th Day. Ran 5 9/16" x 3 3/8" overshot to 8,120'. Attached to fish and retrieved logging tools from well. Made up drilling assembly with 6 1/8" Bit #50 and cleaned out to 9,200'. Ran Schlumberger dipmeter from 9,192' to 8,118'.

12.18. 130th Day. Made up Bit #51, drilled 6 1/8" hole from 9,200' to 9,298'.

12.19. 131st Day. Drilled with 6 1/8" Bit #51 from 9,298' to 9,309'. Ran Bit #52 and drilled from 9,309' to 9,393'.

12.20. 132nd Day. Drilled with 6 1/8" Bit #52 from 9,393' to 9,463'. Drilled with #53 from 9,462' to 9,504'.

12.21. 133rd Day. Drilled 6 1/8" hole from 9,504' to 9,523'. Pulled Bit #53. Ran Schlumberger induction, compensated neutron and density logs 9,523' - 8,121'. Ran in with Bit #54.

12.22. 134th Day. Ran in with Bit #54 and drilled 6 1/8" hole from 9,523' to 9,545', pulled out and ran in with Bit #55, drilled from 9,545' to 9,565'.

12.23. 135th Day. Run in hole with drill stem tester, set packer at 9,447'. Tested from 9,447' to 9,569'. Opened tool 8:40 a.m. to 9:15 a.m. Choke 24/64", tested w/1600 psi surface pressure rate 4,600M. cu. ft./day. Closed tool 4 hours while tieing to gas line. Unable to open tool. Pulled out of hole. Recovered 2,890' of fluid, 1,250' oil & gas and 1,640' oil cut mud.

12.24. 135th Day. Ran in with 6 1/8" Bit #55. Drilled from 9,565' to 9,670'.

12.25. 136th Day. Condition mud to log well at 9,670'. Run dual induction and caliper logs from 8,121' to 9,670'. Condition mud to run 5 1/2" liner. Rig went down at 6 p.m. Bearing out of shaft on compound.

12.26. 137th Day. Rig down for repairs.

12.27. 138th Day. Rig down for repairs.

12.28. 139th Day. Repair rig.

12.29. 140th Day. Rig down 2 hours. Circulated and condition mud to run 5 1/2" liner. Layed down 13-4 3/4" D.C.-33 jts. 3 1/2" drill pipe. Rigged up power tongs. Picked up shoe, 2 jts. 5 1/2" and float collar. Ran 36 jts. 20# K-55 Hydril super flush joint liner.

12.30. 141st Day. Ran and hung liner at 9,650' top 8,076'. Cemented with 345 cu. ft. at Class "G" cement. Pulled and picked up 6 1/8" Bit. Ran in, located cement stringers from 7,950' to 7,980'. Pulled out

of hole, picked up 6 - 3" D.C. and 2 3/8" drill pipe.

12.31. 142nd Day. Picked up 2 3/8" drill pipe. Ran in hole and drilled out cement from 9,435' to 9,610'. Circulated clean. Closed in rig for New Years.

1.1. 143rd Day. Circulated 1 1/2 hrs. Ran Welex cement bond and neutron logs with collar locator. Ran in hole with 7" retainer to pressure test 7", 5 1/2" splice.

1.2. 144th Day. Ran with 7" Baker full bore retainer. Set retainer at 8,036'. Pressure tested splice between 7" & 5 1/2" at 2,500 psi and bled off to 1500 psi. Pulled up 7,956'. Pumped 50 cu. ft. of water, followed by 115 cu. ft. "G" cement + 0.75% CFR-2, 5 cu. ft. water, 97 cu. ft. mud. Closed tool, pumped 213 - cu. ft. at 2,400 psi, 213.75 at 3,000 psi, squeezed splice with 92 cu. ft. of cement. Layed down 2 3/8" drill pipe and Baker Retainer.

1.3. 145th Day. Ran in hole and drilled out cement with 6 1/8" Bit. Pulled out and picked up 4 5/8" drilling assembly. Picked up 2 3/8" drill pipe. Drilled out cement inside 5 1/2" from 8,076' to 8,124'. Ran into 9,610' circulated cement out for 1 1/2 hrs. Pulled out of hole, made up Baker 7" full bore.

1.4. 146th Day. Set 7" retainer at 8,046'. Rigged up Haliburton. Tested 7" to 5 1/2" splice at 3,000 psi for 20 minutes. Chained out, made up 5 1/2" retrievable bridge plug. Ran in, set bridge plug at 8,105'. Pulled out. Bridge plug still on tool. Did not set. Reran bridge plug. Set at 8,135'. Pulled out, did not set.

1.5. 147th Day. Ran in well and set bridge plug at 8,156'. Made up Lynes test tools and set at 8,037'. Opened tool - puff blow 1 minute dead 59 minutes. Recovered 10' rise. WSO by company. Recovered bridge plug.

1.6. 148th Day. Ran in hole, circulated out clay base drilling fluid with 74#/ cu. ft. Hec polymer completion fluid. Rigged up Welex, set bridge plug at 8,710'. Shot 4 1/2" holes at 8,675'. Set drillable retainer at 8,620'. Breakdown w/50 cu. ft. water at 4.0 cu. ft./min. at 2,800 psi.

1.7. 149th Day. Squeezed holes at 8,675' with 28 cu. ft. of cement at final pressure of 3,000 psi. Shot 4 1/2" holes per foot from 8,199' to 8,204'. Ran tester and set packer at 8,138' with tail to 8,155'.

1.8. 150th Day. Chained out of hole. Made up new Lynes Tools and run in hole. Set packer 8,138' Tail 8,155'. Tested interval 8,199'-8,204', well did not flow.

1.9. 151st Day. Ran in hole. Circulated Gas out of completion fluid. pulled out of hole. Perforated 4 1/2" holes per foot. From 8,200' to 8,212'. Made up Lynes Test Tools.

1.10. 152nd Day. Ran in hole. Set packer at 8,138' tail 8,155'. Made production test from 2:30 a.m. to 2:30 p.m. and well flowed gas with maximum surface pressure of 390 psi. Pulled out and recovered 1,950' rise of polymer completion fluid. Picked up mill, ran in well.

1.11. 153rd. Day. Ran in with OMT 4 5/8" junk mill #1. Milled from 8,620'to 8,625'. Pulled out and ran mill #2.

1.12. 154th Day. Ran in with mill #2 and milled from 8,625 - 8,633', pulled mill #2. Ran 4 5/8" varel Bit #57. Drilled out cement 8,633' - 8,701'.

1.13. 155th Day. Drilled out bridge plug and cleaned out to 9,610'. Pulled out. Rig up Welex, perforated 5 1/2" blank liner at intervals from 9,590' - 8,140'. 9,590' - 9,560', 9,553' - 9,482', 8,556'°- 8,532', 8,526' - 8,518', 8,510' - 8,482', 8,376' - 8,360', 8,354' - 8,342', 8,320' - 8,310', 8,276' - 8,268', 8,245' - 8,230', 8,178' - 8,166' and 8,157' - 8,140'.

1.14. 156th Day. Ran in hole. Pulled out Laying down drill pipe and collars. Changed pipe rams from 3 1/2" to 2 7/8".

1.15. 157th Day. Set Otis 5 1/2" 20# permatrieve packer at 9,400' with Welex wire line. Ran 2 3/8" and 2 7/8" tubing with production equipment. Drifting and hydrotesting to 5,000 psi.

1.16. 158th Day. Hydro Tested 2 7/8" tubing to 5,000 psi set 10,000# on packer. Pulled 20,000# over weight of tubing to check latched-in-locator. Installed back pressure plug in doughnut. Removed BOPE and installed xmas tree. Pressure tested xmas tree to 5,000 psi for 20 minutes. Circulated polymer completion fluid out of well with waste salt water. Checked all well head bolts. Checked all well head valves closed. Installed blind flanges on all well head valves. Released rig at 8 p.m. 1-16-80.

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SANTA PAULA, CALIFORNIA

Core Descriptions Standard Sesnon #4-0, Aliso Canyon

6 1/8" Diamond core heads with plastic inner sleeve

Cored	8130' - 8165'	(35')	Recovered 33'
Core	8130' - 8140'	(10')	Medium grained sand
	8140' - 8160'	(20')	Medium grained sand with gray shale streaks
	8160' - 8163'	(3')	Medium grained sand
	8163' - 8165'	(2')	No recovery
Cored	8165' - 8207'	(42')	Recovered 36'
Core	8165' - 8170'	(5')	Medium grained sand with gray shale streaks
	8170' - 8178'	(8')	Medium grained sand
	8178' - 8179'	(1')	Gray Shale
	8179' - 8185'	(6')	Medium grained sand
	8185' - 8186'	(1')	Gray shale
	8186' - 8190'	(4')	Medium grained sand
	8190' - 8191'	(1')	Gray shale
	8191' - 8201'	(10')	Medium grained sand
	8201' - 8207'	(6')	No recovery
Cored	8208' - 8250'	(42')	Recovered 36'
Core	8208' - 8217'	(9')	Medium grained sand
	8217' - 8218'	(1')	Gray shale
	8218' - 8225'	(7')	Medium grained sand
	8225' - 8226'	(1')	Gray shale
	8226' - 8233'	(7')	Medium grained sand
	8223' - 8234'	(1')	Gray Shale
	8234' - 8239'	(5')	Medium grained sand
	8239' - 8240'	(1')	Gray shale
	8240' - 8244'	(4')	Medium grained sand
	8244' - 8250'	(6')	No recovery
Cored	8250' - 2311'	(61')	Recovered 59'
Core	8250' - 8259'	(9')	Medium grained sand
Core	8259' - 8260'	(1')	Gray shale
Core	8260' - 8269'	(9')	Medium grained sand
Core	8269' - 8270'	(1')	Gray shale
Core	8270' - 8277'	(7')	Medium grained sand
Core	8277' - 8278'	(1')	Gray shale
Core	8278' - 8285'	(7')	Medium grained sand
Core	8285' - 8286'	(1')	Gray shale
Core	8286' - 8292'	(6')	Medium grained sand
Core	8292' - 8293'	(1')	Gray shale
Core	8293' - 8301'	(8')	Medium grained sand
Core	8301' - 8302'	(1')	Gray shale
Core	8302' - 8309'	(7')	Medium grained sand
Core	8309' - 8311'	(2')	No recovery

Core Description Standard Sesnon #4-0, Aliso Canyon

Continued.

Cored	8574' - 8608'	(34')	Recovered 34'
Core	8574' - 8608'	(34')	Medium grained sand, blue
Cored	8608' - 8625'	(17')	Recovered 17'
Core	8608' - 8625'	(17')	Medium grained sand, green
Cored	8625' - 8660'	(35')	Recovered 26'
Core	8625' - 8651'	(26')	Hard medium grained blue sand
	8651' - 8660'	(9')	No recovery
Cored	8660' - 8688'	(28')	Recovered 21'
Core	8660' - 8674'	(14')	Fine grained hard gray sand
	8674' - 8676'	(2')	Blue green clay
	8676' - 8681'	(5')	Hard sand
	8681' - 8688'	(7')	No recovery
Cored	8900' - 8931'	(31')	Recovered 30'
	8900' - 8930'	(30')	Hard gray sand
	8930' - 8931'	(1')	No recovery
Cored	8931' - 8956'	(27')	Recovered 25'
Core	8931' - 8949'	(18')	Hard blue shale
Core	8949' - 8954'	(5')	Medium grained gray sand
	8954' - 8956'	(2')	No recovery
Cored	8956' - 8991'	(35')	Recovered 26'
Core	8956' - 8959'	(3')	Shale
Core	8959' - 8963'	(4')	Medium grained sand
Core	8963' - 8982'	(19')	Shale
Core	8982 - 8991'	(9')	No recovery

Total Cored interval 387'
Recovered a total of 343' or 89%

Eastman Whipstock
A PETROLANE COMPANY

REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY

DIVISION OF OIL AND GAS
RECEIVED
FEB 5 1981
SANTA PAULA, CALIFORNIA

SOUTHERN CA. GAS CO.
COMPANY

SS 4-0
WELL NAME

ALISO CANYON
LOCATION

JOB NUMBER	TYPE OF SURVEY	DATE
	DIRECTIONAL	11-21-80

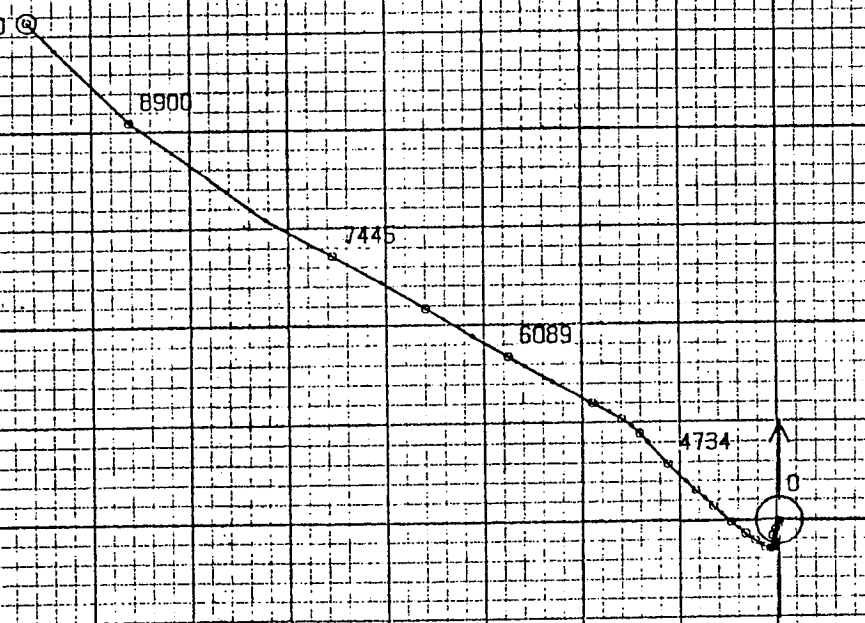
SURVEY BY LONG BEACH OFFICE

SOUTHERN CA. GAS CO.
WELL: SS 4-0 FILE: B1-298
LOCATION: ALISO CANYON

EASTMAN WHIPSTOCK, INC.

D HORIZONTAL PROJECTION
SCALE 1 IN. = 500 FEET
DEPTH INDICATOR: MD

FINAL STATION:
DEPTH 9670 MD, 9192.72 TVD
NORTH 1288.50 WEST 1920.55
CLOSURE 2312.73 N 56 8 32 W



DIRECTIONAL K.W.

SOUTHERN CA. GAS CO.
WELL: SS 4-0 FILE: B1-298
LOCATION: ALISO CANYON
DATE: 8-10-80
JOB:
ELEV:
TYPE: DIRECTIONAL
SEC. BEARING: N61 46W
VENDOR: EASTMAN WHIPSTOCK
SURVEYOR: KEN WALKER
DECL: 16E

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: N 61 DEG. 46 MIN. W

RECORD OF SURVEY

ANGLE AVERAGING METHOD

DIVISION OF OIL AND GAS
RECEIVED
FEB 5 1981
SANTA PAULA, CALIFORNIA

SOUTHERN CA. GAS CO.
WELL: SS 4-0 FILE: B1-298
LOCATION: ALISO CANYON

DIRECTIONAL K.W.

COMPUTATION TIME 24:30:40 DATE 00--00

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET	CLOSURE DISTANCE FEET	CLOSURE DIRECTION D M	DOGLEG SEVERITY DG/100
0.	0 0	0 0	0.	0.00	0.00	0.00 0.00	0.00	0 0	0.00
197.	0 45	S 65 0 W	197.	197.00	0.77	0.54 S 1.17 W	1.29	S 65 0 W	0.38
595.	2 0	S 58 0 E	398.	594.88	-3.22	10.08 S 1.75 W	10.23	S 9 52 W	0.63
800.	2 30	S 86 0 W	205.	799.72	-5.20	17.89 S 3.70 W	18.27	S 11 41 W	2.09
997.	1 45	S 16 0 W	197.	996.59	-2.38	22.48 S 9.38 W	24.36	S 22 38 W	1.28
1187.	2 0	S 24 0 W	190.	1186.49	-3.27	28.33 S 11.50 W	30.57	S 22 6 W	0.19
1537.	1 45	S 26 0 W	350.	1536.30	-3.91	38.70 S 16.34 W	42.01	S 22 53 W	0.07
1717.	1 30	N 48 0 E	180.	1716.23	-8.96	41.78 S 12.26 W	43.54	S 16 22 W	1.77
1932.	1 30	S 26 0 W	215.	1931.15	-14.52	45.16 S 7.77 W	45.83	S 9 46 W	1.37
2192.	1 15	S 21 0 W	260.	2191.08	-15.03	50.88 S 10.26 W	51.91	S 11 24 W	0.11
2469.	1 15	S 6 0 W	277.	2468.01	-16.57	56.76 S 11.67 W	57.95	S 11 37 W	0.12
2780.	1 0	S 6 0 W	311.	2778.95	-18.88	62.83 S 12.31 W	64.03	S 11 5 W	0.08
3100.	1 0	S 6 0 W	320.	3098.90	-20.99	68.39 S 12.89 W	69.59	S 10 40 W	0.00
3176.	3 45	S 66 0 W	76.	3174.84	-20.57	70.94 S 14.74 W	72.45	S 11 44 W	4.43
3210.	4 45	S 78 0 W	34.	3208.74	-18.83	71.71 S 17.14 W	73.73	S 13 26 W	3.92
3242.	5 45	N 90 0 W	32.	3240.61	-16.41	72.02 S 20.05 W	74.76	S 15 33 W	4.63
3273.	7 0	N 86 0 W	31.	3271.42	-13.32	71.90 S 23.49 W	75.64	S 18 6 W	4.28
3304.	8 0	N 79 0 W	31.	3302.15	-9.53	71.37 S 27.50 W	76.49	S 21 4 W	4.36
3380.	7 30	N 59 0 W	76.	3377.46	0.63	67.70 S 37.07 W	77.18	S 28 42 W	3.59
3465.	7 45	N 56 0 W	85.	3461.71	11.88	61.64 S 46.58 W	77.26	S 37 5 W	0.55
3589.	9 30	N 55 0 W	124.	3584.31	30.37	51.11 S 61.91 W	80.28	S 50 28 W	1.42
3679.	12 0	N 53 0 W	90.	3672.73	47.00	41.24 S 75.49 W	86.02	S 61 21 W	2.81
3740.	13 30	N 52 0 W	61.	3732.22	60.29	33.04 S 86.17 W	92.29	S 69 1 W	2.49
3836.	14 0	N 50 0 W	96.	3825.47	82.70	18.68 S 103.90 W	105.57	S 79 48 W	0.72
3934.	15 0	N 50 0 W	98.	3920.35	106.72	2.91 S 122.70 W	122.73	S 88 38 W	1.02
4057.	16 15	N 48 0 W	123.	4038.80	139.03	18.82 N 147.70 W	148.90	N 82 44 W	1.11
4165.	15 0	N 48 0 W	108.	4142.81	167.29	38.29 N 169.32 W	173.59	N 77 15 W	1.16
4276.	15 0	N 48 0 W	111.	4250.03	195.19	57.51 N 190.67 W	199.15	N 73 13 W	0.00
4397.	16 0	N 48 0 W	121.	4366.63	226.60	79.15 N 214.70 W	228.82	N 69 46 W	0.83
4520.	16 30	N 46 0 W	123.	4484.72	259.88	102.62 N 239.87 W	260.90	N 66 50 W	0.61

24:30:40
00--00
FILE NUMBER: 298

SOUTHERN CA. GAS CO.
WELL: SS 4-0 FILE: B1-298
LOCATION: ALISO CANYON

DIRECTIONAL K.W.

CONVERSATIONAL SURVEY PROGRAM V02.11

DIVISION OF OIL AND GAS
RECEIVED
FEB 25 1981
SANTA PAULA, CALIFORNIA

TIS COMPLETION GUIDE

OTIS ENGINEERING CORPORATION
GENERAL OFFICE: Bank Line Road at Webb Chapel
P.O. Box 34380, DALLAS, TEXAS 75234
A HALLIBURTON Company

PREPARED FOR	COMPANY	TELEPHONE	DATE
MR.	So. Cal. Gas		

FIELD NAME	WELL NAME	COUNTY	STATE	
Aliso Canyon	SS 4-0	L.A.	C.A.	☒ NEW COMPLETION ☐ WORKOVER

	SIZE	WEIGHT	GRADE	THREAD	DEPTH
CASING					
LINER					

◯ SAFETY EQUIPMENT ◯ GAS LIFT EQUIPMENT ◯ PACKERS AND ACCESSORIES
◯ COMPLETION EQUIPMENT ◯ POST COMPLETION EQUIPMENT

TUBING SIZE	UT		MT		LT	
THREAD						

DESCRIPTION OF EQUIPMENT AND SERVICES — ESTIMATE

	O.D.	ID	Length	Equipment Ran	Depth
1.			0	K.B to tubing head	21.50
2.			.80	Tubing hanger	22.30
3.			6.00	1 pup jt.2 7/8"8rd EUE N-80	28.30
4.			1896.99	60jts 2 7/8"tubing	1925.29
5.			4.10	1 pup jt.2 7/8"8rd EUE N-80	1929.39
6.			6.17	Camco 2 7/8" KBMG Mandrel w/1" E Dummy	1935.56
7.			1.66	1 pup Jt. 2 7/8"8rd EUE N-80	1937.22
8.			2050.82	65 Jts. 2 7/8"tubing	3988.04
9.			4.06	1 pup Jt. 2 7/8 8rd EUE N-80	3992.10
10.			6.08	Camco 2 7/8" KBMG MANDREL w/1" E Dummy	3998.18
11.			1.70	1 pup Jt. 2 7/8"8rd EUE N-80	3999.88
12.			1889.34	60 Jts. 2 7/8"tubing	5889.22
13.			4.06	1 pup jt. 2 7/8 8rd EUE N-80	5893.28
14.			6.08	Camco KBMG Mandrel w/1" E Dummy	5899.36
15			1.66	1 pup jt. 2 7/8"8 rd EUE N-80	5901.02
16.			1796.55	57 Jts. 2 7/8"tubing	7697.57
17.			4.10	1 pup jt. 2 7/8"8rd EUE N-80	7701.67
18.			6.07	Camco 2 7/8" KBMG Mandrel w/1" E Dummy	7707.74
19.			1.66	1 pup jt. 2 7/8"8rd EUE N-80	7709.40
20.			284.29	9 Jts. 2 7/8"tubing	7993.69
21.			.80	X-Over Sub 2 3/8" to 2 7/8"	7994.49
22.			124.17	4 Jts. 2 3/8 Tubing	8118.66
23.			22.80	1 blast jt.	8141.46
24.			19.88	1 blast Jt.	8161.34
25.			22.79	1 blast Jt.	8184.13
26.			31.25	1 Jt 2 3/8" tubing	8215.38
27.			2.00	1 - 2ft. pup jt.	8217.38
28.			19.85	1 blast jt 2 3/8"	8237.23

CONTINUED. TOTAL ESTIMATE

COMPLETION PROCEDURE

DIVISION OF OIL AND GAS
RECEIVED
FEB 5 1981
SANTA PAULA, CALIFORNIA

PREPARED BY	OFFICE	TELEPHONE
M. Ferguson	66-Ven	

WELL NAME	FIELD NAME	DATE
		1-16-81

OTIS COMPLETION GUIDE

OTIS ENGINEERING CORPORATION
GENERAL OFFICE: Box 1431 Main at R.J. Webb Chapel
P.O. Box 34380 DALLAS, TEXAS 75234
A HALLIBURTON Company

PREPARED FOR	COMPANY	TELEPHONE	DATE
MR.	So. Cal. Gas		

FIELD NAME	WELL NAME	COUNTY	STATE	
Aliso Canyon	SS 4-0	LA.	Ca.	☒ NEW COMPLETION ☐ WORKOVER

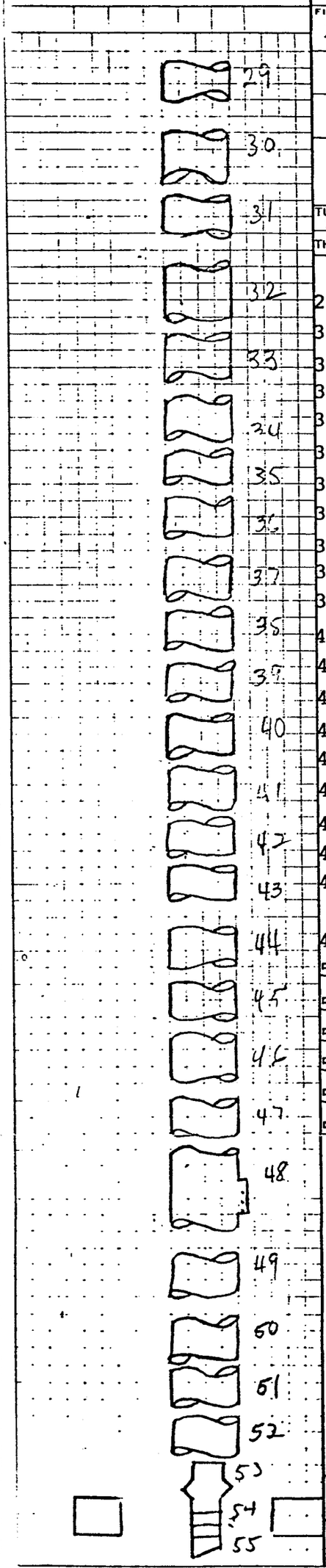
	SIZE	WEIGHT	GRADE	THREAD	DEPTH
CASING					
LINER					

◯ SAFETY EQUIPMENT ◯ GAS LIFT EQUIPMENT ◯ PACKERS AND ACCESSORIES
◯ COMPLETION EQUIPMENT ◯ POST COMPLETION EQUIPMENT

TUBING SIZE | UT | MT | LT
THREAD

DESCRIPTION OF EQUIPMENT AND SERVICES Continued.

	O.D.	ID	Length	Equipment Ran	Depth
29.			22.80	1 blast jt. 2 3/8"	8260.0
30.			22.81	1 blast jt. 2 3/8"	8282.8
31.			14.00	14' pup jt. 2 3/8" 8rd EUE N-80	8296.8
32.			19.84	blast jt. 2 3/8"	8316.6
33.			19.49	blast jt. 2 3/8"	8336.1
34.			22.76	blast jt. 2 3/8	8358.9
35.			22.81	blast jt. 2 3/8"	8381.7
36.			10'	Pup Jts. 2 3/8"	8391.7
37.			10'	Pup Jts. 2 3/8"	8401.7
38.			2'	Pup Jts. 2 3/8	8403.7
39.			62.18	2 Jts. 2 3/8 tubing	8465.9
40.			2.00	2' pup jt. 2 3/8"	8467.9
41.			19.70	Blast Jt. 2 3/8"	8487.6
42.			19.84	Blast Jt. 2 3/8"	8507.4
43.			19.32	Blast Jt. 2 3/8"	8526.7
44.			19.61	Blast Jt. 2 3/8"	8546.3
45.			19.85	Blast Jt. 2 3/8"	8566.2
46.			757.07	24 Jts. 2 3/8" Tubing	9323.3
47.			4.10	1 pup Jt. 2 3/8 8rd EUE N-80	9327.4
48.			6.07	Camco 2 3/8 KBMG Mandrel Run Empty	9333.48
49.			1.67	1 Pup Jt. 8rd EUE N-80	9335.15
50.			31.27	1 Jt. 2 3/8 Tubing	9366.42
51.			1.15	Otis X-N Nipple 1.875 ID.	9367.57
52.			31.07	1 Jt. 2 3/8 Tubing	9398.64
53.			1.36	Otis Latch-In-Locator	9400.00
54.			4.4	Otis Prop. Seals	9404.04
55.			3.83	Otis Prop. Tube	9408.23
				TOTAL ESTIMATE	



COMPLETION PROCEDURE

Blast Jt. Depths	Mandrel Depths
8566 - 8467	9333.48
8381 - 8296	7707.74
8282 - 8217	5899.36
8184 - 8118	3998.18
	1935.56

DIVISION OF OIL AND GAS
RECEIVED
FEB 5 1981
SANTA PAULA, CALIFORNIA

PREPARED BY	OFFICE	TELEPHONE
M. Ferguson	66-Ven	

WELL NAME	FIELD NAME	DATE
		1-16-8

DIVISION OF OIL AND GAS
RECEIVED
AUG 19 1980
SANTA PAULA, CALIFORNIA

SOUTHERN CALIFORNIA gas COMPANY

810 SOUTH FLOWER STREET • LOS ANGELES, CALIFORNIA

Mailing Address BOX 3249 TERMINAL ANNEX, LOS ANGELES, CALIFORNIA 90051

Mr. J. L. Hardoin
District & Deputy Supervisor
Division of Oil and Gas
146 S. Ojai Street
P.O. Box 67
Santa Paula
Calif. 93060

August 15, 1980

BOP Equipment
Standard Sesnon #4-0,
Aliso Canyon

Dear Mr. Hardoin,

Attached is the backup geological information you requested to follow up on your telephone conversation with our Mr. Peter Yu. In accordance with your verbal approval, a 16" 2,000 psi working pressure Hydril "GK" annular preventer will be installed on the 16" conductor casing to be cemented at ± 1,300'.

The proposed BOP arrangement will be used during the drilling of the 14 3/4" hole below the 16" casing to 4,500' where the 10 3/4" surface casing will be cemented. Based upon the attached SS #4 correlation well data, no shallow pressure anomaly will be penetrated by the subject well in the 14 3/4" surface hole. Subsequent drilling below the 10 3/4" casing will be equipped with 10" class III 5,000 psi working pressure BOP equipment.

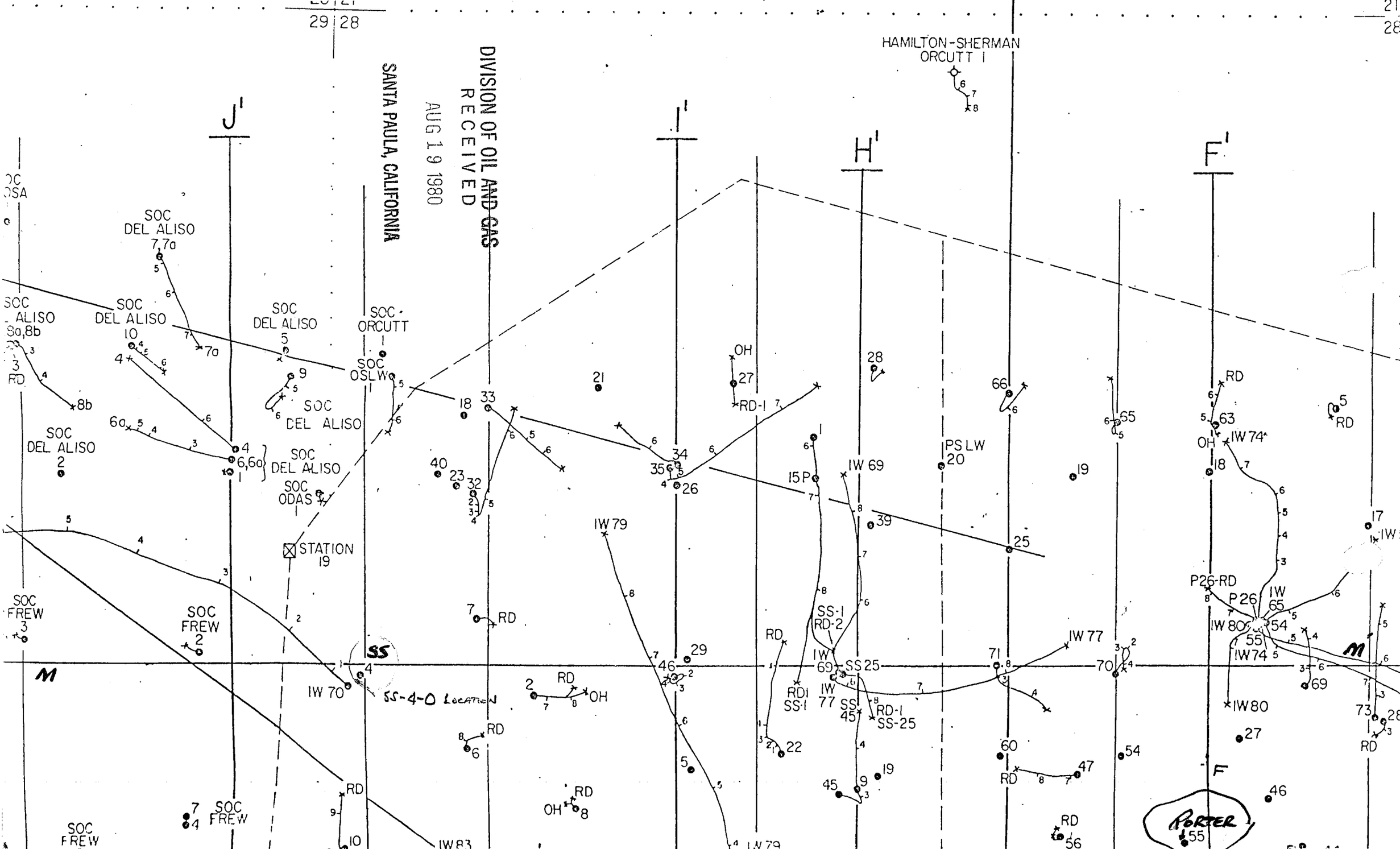
Thank you for your co-operation.

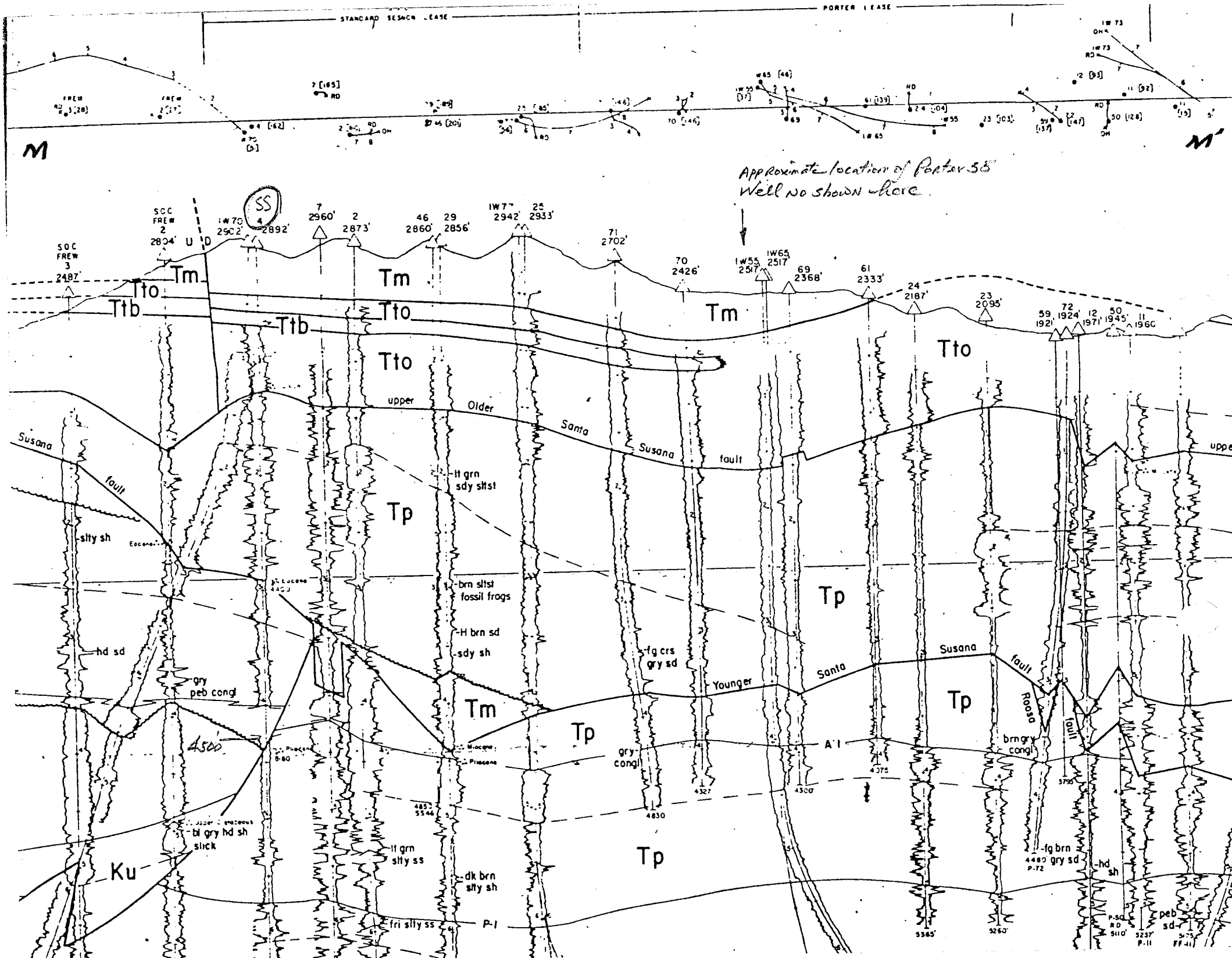
Yours sincerely,

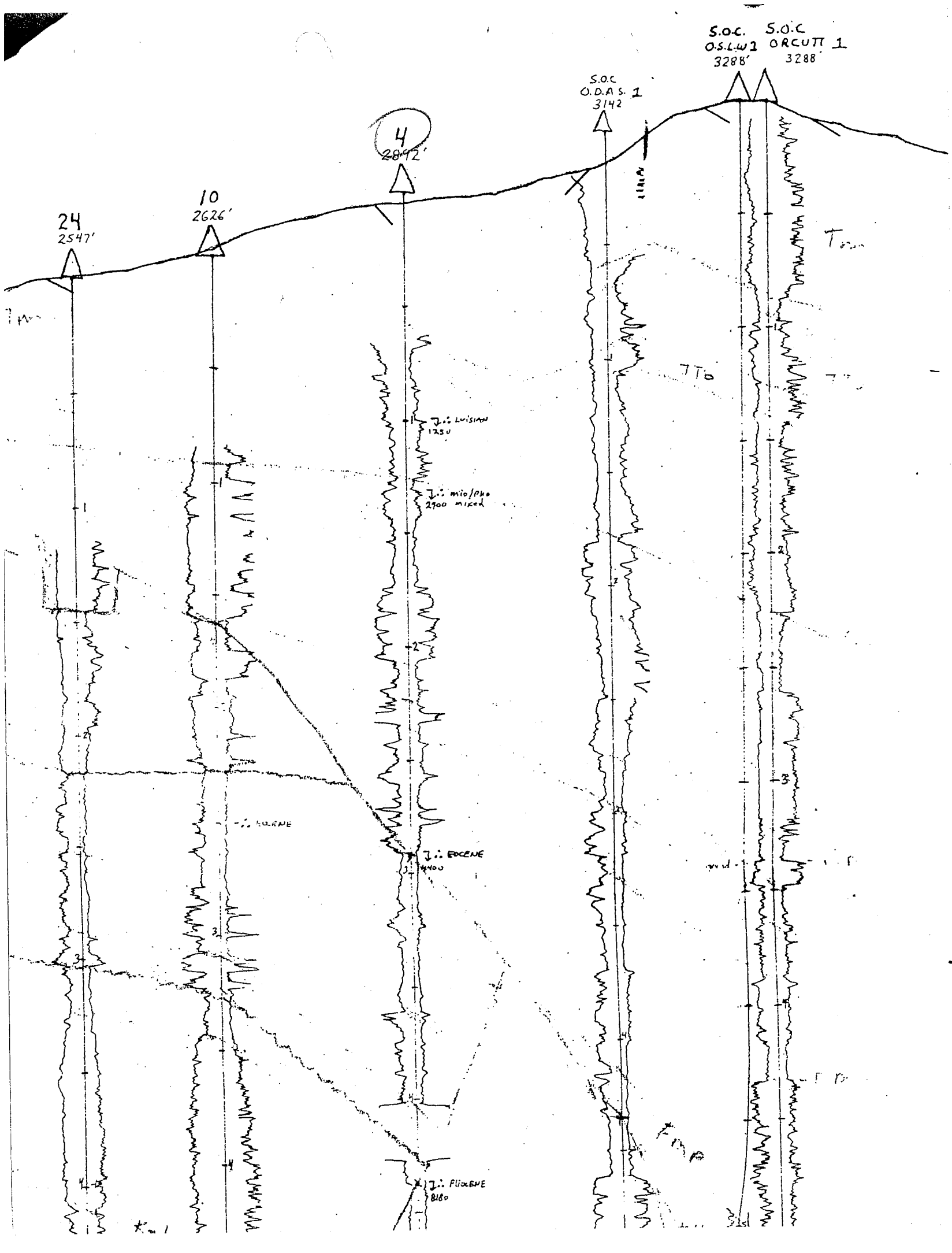
John W Tenfelder

JOHN W. TENFELDER
Drilling Superintendent

PDY:jf
SS #4-0


29 28
HAMILTON-SHERMAN
ORCUTT 1
DIVISION OF OIL AND GAS
RECEIVED
AUG 19 1980
SANTA PAULA, CALIFORNIA
J'
I'
H'
F'
SOC
DEL ALISO
7,7a
SOC
DEL ALISO
10
SOC
DEL ALISO
5
SOC
ORCUTT
SOC
OSLW
SOC
DEL ALISO
SOC
DEL ALISO
2
SOC
DEL ALISO
SOC
ODAS
STATION
19
SOC
FREW
3
SOC
FREW
2
SOC
FREW
SOC
FREW
SS
SS-4-0 Location
IW 70
RD
OH
IW 79
IW 83
OH
RD-1
SS-1
RD-2
IW 69
SS 25
IW 77
SS 45
RD-1
SS-25
RD1
SS-1
PS LW
20
IW 77
IW 80
IW 74
P26-RD
P 26
IW
65
PORTER
55
M
F


STANDARD SESNON LEASE
PORTER LEASE
M
M'
Approximate location of Porter 55 Well no shown here.
SCC FREW 2 2804' U D
SS 4 2892'
IW70 2902'
7 2960'
2 2873'
46 2860'
29 2856'
IW7 2942'
25 2933'
71 2702'
70 2426'
IW55 2517'
IW65 2517'
69 2368'
61 2333'
24 2187'
23 2095'
59 1921'
72 1924'
12 1971'
50 1945'
11 1960
SCC FREW 3 2487'
Tm
Tto
Ttb
upper
Older
Santa Susana
fault
Younger
Tp
Ku
Susana fault
silty sh
hd sd
gry peb congl
4500'
bl gry hd sh slick
lt grn sdy sltst
brn sltst fossil frogs
H brn sd
sdy sh
fg crs gry sd
gry congl
lt grn silty ss
dk brn silty sh
fri silty ss
P-1
A-1
brn gry congl
fg brn gry sd
hd sh
peb sd


S.O.C.
O.S.L.W 1
3288'
S.O.C
ORCUTT 1
3288'
S.O.C
O.D.A.S. 1
3142
4
2892'
10
2626'
24
2547'
J.: LWISIAN
1735
J.: MIO/PLIO
2900 MIXED
J.: EOCENE
4400
J.: PLIOCENE
8180

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

SCHLUMBERGER

Preliminary Log

COUNTY LOS ANGELES
FIELD or LOCATION ALISO CANYON
WELL STD.-SES. 1-4
COMPANY TIDEWATER OIL CO.

COMPANY TIDEWATER OIL CO.

WELL STD.-SES. 1-4

FIELD ALISO CANYON

LOCATION SEC. 28, T3N, R16W

COUNTY LOS ANGELES

STATE CALIFORNIA

Other Surveys

Location of Well

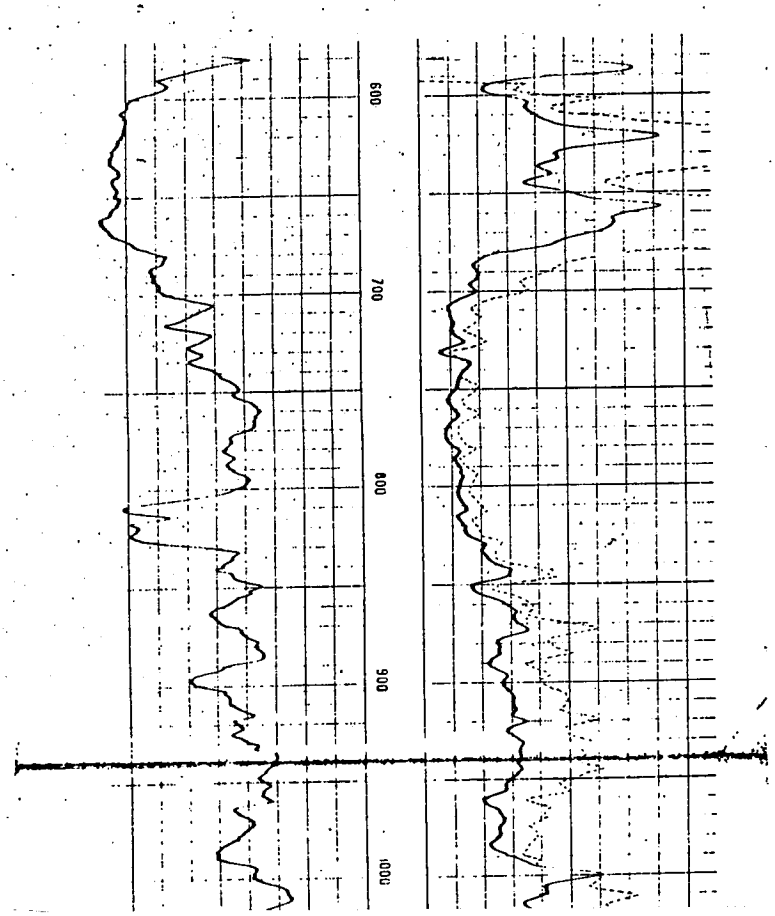
824.29S & 7708.70W
From Station #84

Elevation: D.F.: 2892.50
K.B.:
or G.L.: 2885.58

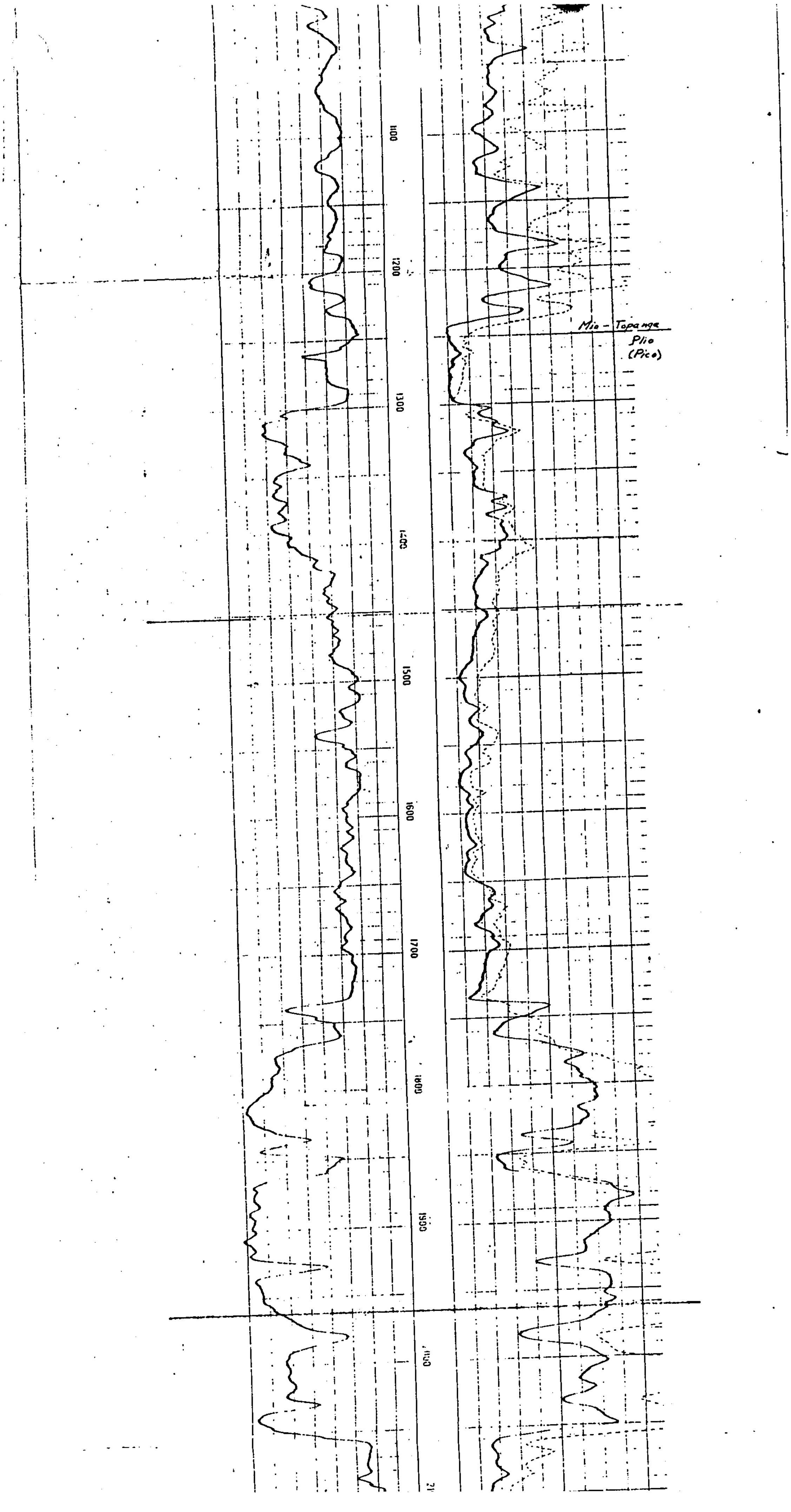
FILING No.

RUN No.	1	2	3	4	
Date	9-10-44	10-6-44	10-31-44	11-10-44	
First Reading	7161	8781	9150	9170	
Last Reading	580	5700	6700	6700	
Feet Measured	6580	1620	368	21	
Csg. Schlum.					
Csg. Driller					
Depth Reached	7160	8780	9148	9169	
Bottom Driller					
Depth Datum	K.B.	K.B.	K.B.	K.B.	
Mud Nat.	Mojave	Mojave	Mojave	Natural	
Dens. Visc.	79 60	82 45	83 45	82 45	
Mud Resist.	4.9 @ 82 F	3.6 @ 64 F	4.6 @ 67 F	5.2 @ 65 F	@ F
" Res. BHT	@ F	@ F	@ F	@ F	@ F
" Rmf	@ F	@ F	@ F	@ F	@ F
" Rmc	@ F	@ F	@ F	@ F	@ F
" pH	F	F	F	F	F
" Wtr. Loss	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	12¼" - 6617';	10-5/8" - 7161';	8¾" - 9088';	6" - 9170'	
Spcgs.—AM	120"	20"	20"	20"	
A	12'	12'	12'	12'	
AO	20'	20'	20'	20'	
Opr. Rig Time	2½ hrs.	2½ hrs.	2½ hrs.	2-3/4 hrs.	
Truck No.					
Recorded By	B.Pugsley	B.Pugsley	B.Pugsley	B.Pugsley	
Witness					

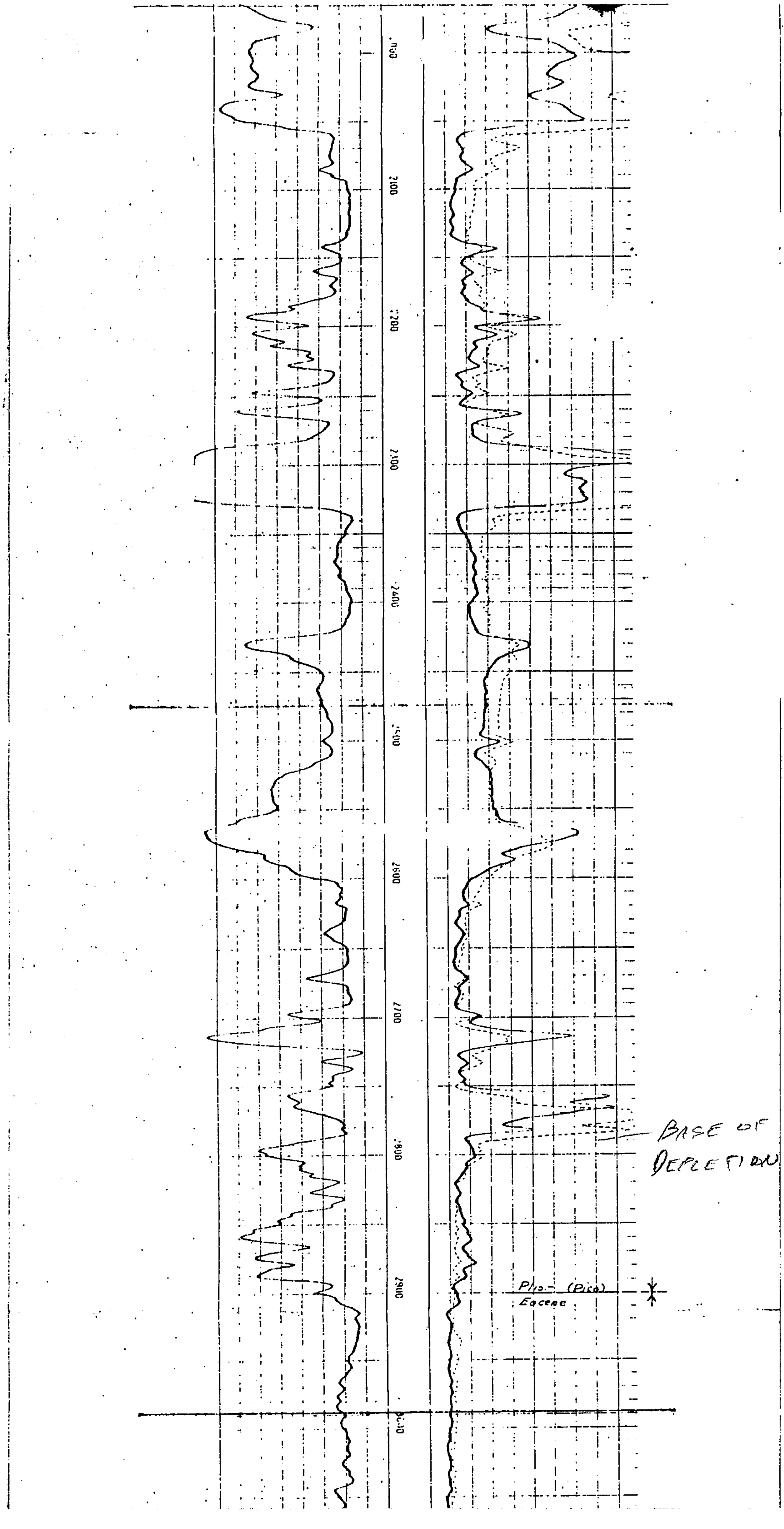
SPONTANEOUS-POTENTIAL 100 millivolts	DEPTHS	RESISTIVITY 60 ohms. m²/m
		AM, 20"
		A, 12'
		AO, 20'



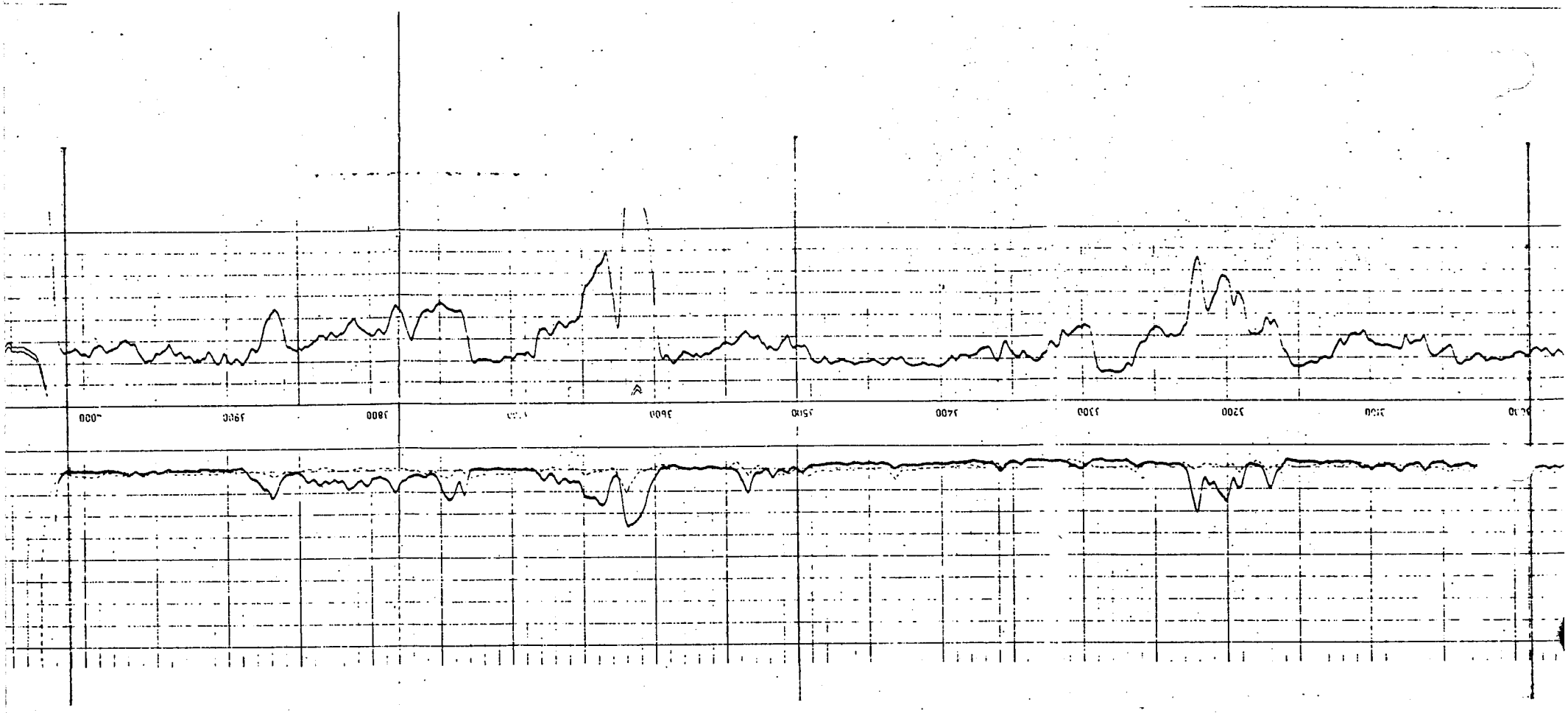
LOG MARKED AS OF OCT 1 1967

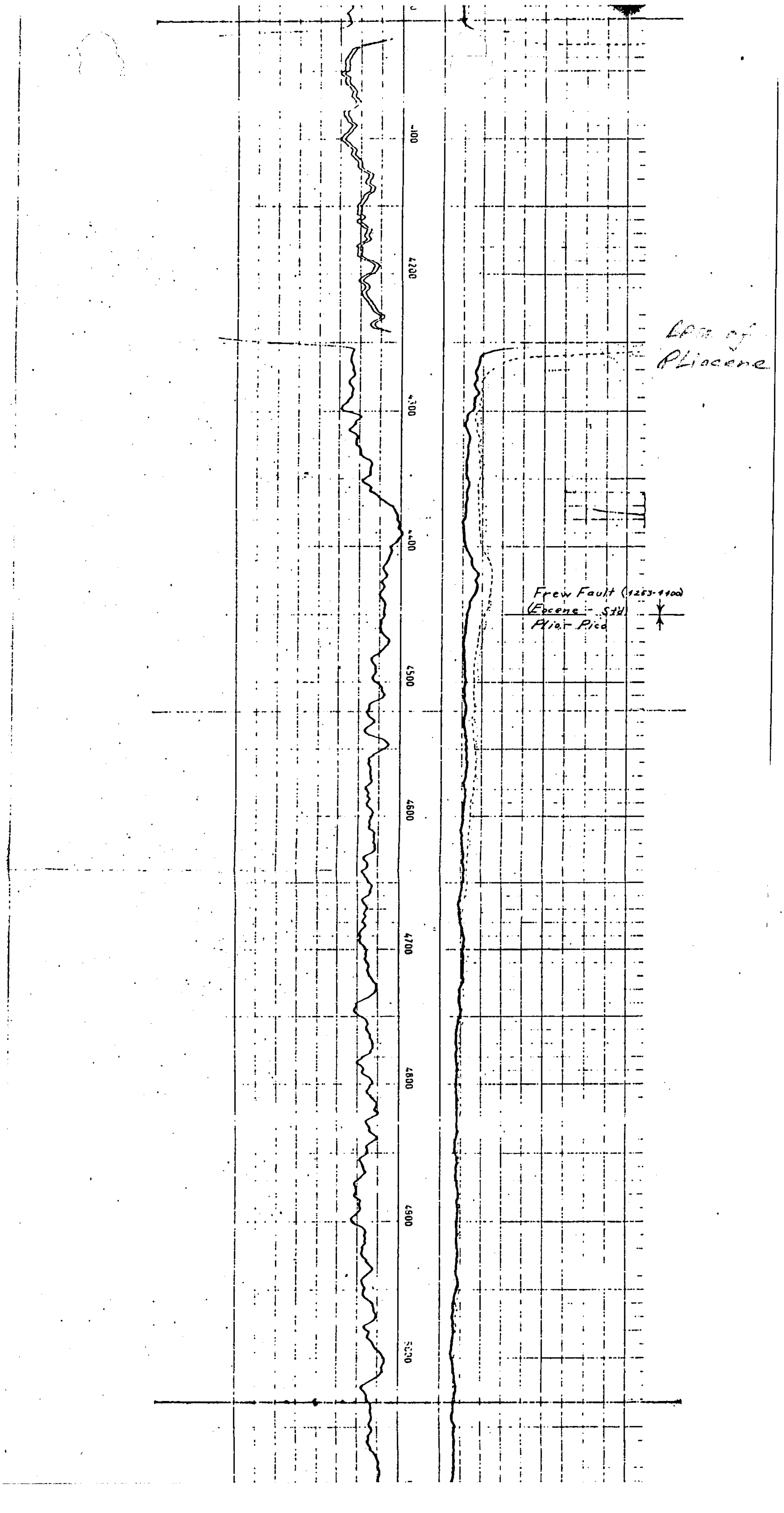


1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Mio - Topanga
Plio
(Pico)

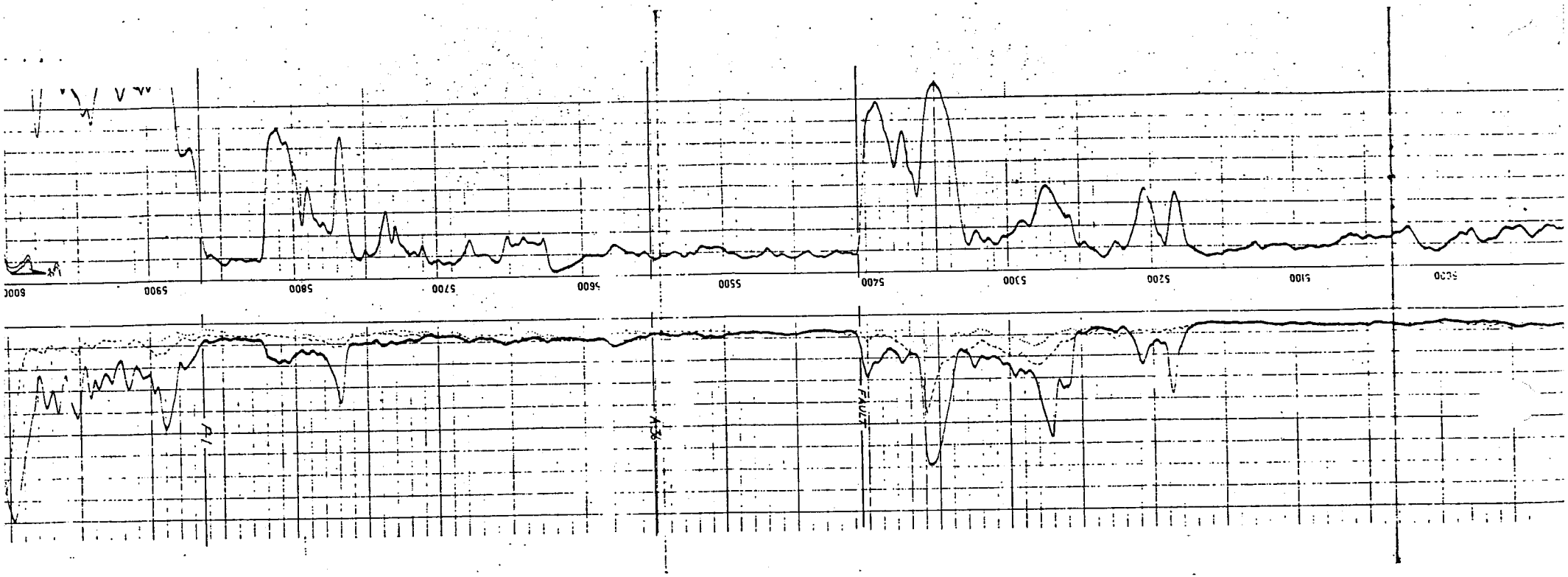


2100
2200
2300
2400
2500
2600
2700
2800
2900
BASE OF DEPLETION
Plio- (Pico)
Eocene





4100
4200
Base of Pliocene
4300
4400
Frew Fault (4253-4400)
(Eocene - Std)
Plio - Pico
4500
4600
4700
4800
4900
5000


FAULT

SOUTHERN CALIFORNIA GAS CO.
ALISIO SS#4
ALISIO CANYON
LOS ANGELES COUNTY CALIFORNIA
GYROSCOPIC MULTISHOT

DATE OF SURVEY DECEMBER 7, 1976
VERTICAL SECTION-DIRECTION-CLOSURE

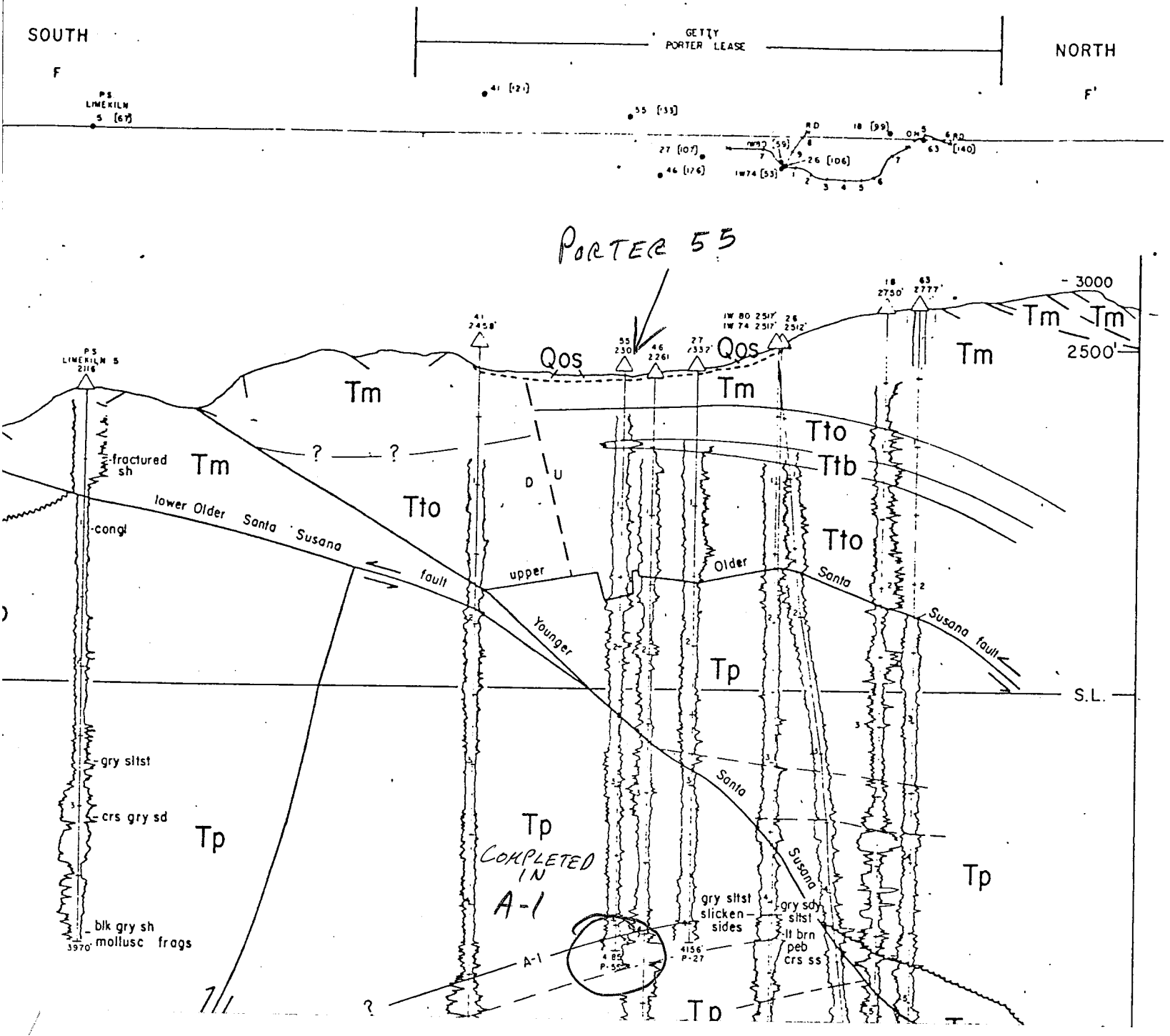
SU1.75-12562

SPERRY-SUN, INC.
RECORD OF SURVEY

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE INCLINATION DEG MIN	COURSE DIRECTION DEG	DOG-LEG SEV DEG/100	TOTAL RECTANGULAR COORDINATES NORTH/SOUTH	EAST/WEST	VERTICAL SECTION
0	0.	0.	ORIGIN AT SURFACE			0. N	0. E	0.
100	100.00	100.00	0 35	N 32 E	0.58	0.43 N	0.27 E	0.46
200	199.99	199.99	0 30	N 57 E	0.25	1.10 N	0.91 E	1.19
300	299.99	299.99	0 30	N 39 E	0.16	1.68 N	1.55 E	1.83
400	399.99	399.99	0 35	S 58 E	0.72	1.75 N	2.25 E	1.98
500	499.98	499.98	0 40	S 44 E	0.17	1.06 N	3.09 E	1.38
600	599.98	599.98	0 30	S 50 E	0.18	0.36 N	3.83 E	0.76
700	699.97	699.97	0 25	S 37 E	0.13	0.21 S	4.38 E	0.25
800	799.97	799.97	0 20	N 56 W	0.74	0.34 S	4.36 E	-0.12
900	899.97	899.97	0 15	S 32 W	0.42	0.36 S	4.00 E	0.06
1000	999.97	999.97	0 25	S 64 W	0.24	0.71 S	3.56 E	-0.33
1100	1099.97	1099.97	0 5	N 40 E	0.49	0.81 S	3.28 E	-0.46
1200	1199.97	1199.97	0 30	S 75 W	0.57	0.87 S	2.90 E	-0.56
1300	1299.96	1299.96	0 25	N 53 W	0.41	0.76 S	2.19 E	-0.52
1400	1399.96	1399.96	0 5	S 30 E	0.49	0.60 S	1.94 E	-0.40
1500	1499.96	1499.96	0 25	N 88 W	0.47	0.65 S	1.61 E	-0.48
1600	1599.96	1599.96	0 25	S 59 W	0.24	0.83 S	0.94 E	-0.73
1700	1699.96	1699.96	0 20	S 27 W	0.22	1.28 S	0.49 E	-1.22
1800	1799.95	1799.95	0 40	S 68 W	0.47	1.75 S	0.18 W	-1.76
1900	1899.95	1899.95	0 35	S 83 W	0.18	2.03 S	1.22 W	-2.15
2000	1,999.94	1999.94	0 30	S 79 W	0.09	2.18 S	2.16 W	-2.39
2100	2099.94	2099.94	0 35	S 90 W	0.13	2.26 S	3.10 W	-2.58
2200	2199.93	2199.93	0 30	S 77 W	0.15	2.36 S	4.03 W	-2.77
2300	2299.93	2299.93	0 0	N 66 W	0.50	2.46 S	4.45 W	-2.91
2400	2399.93	2399.93	0 25	S 48 W	0.42	2.70 S	4.73 W	-3.18
2500	2499.93	2499.93	0 25	S 69 W	0.15	3.07 S	5.33 W	-3.62
2600	2599.93	2599.93	0 25	S 81 W	0.09	3.26 S	6.03 W	-3.88
2700	2699.93	2699.93	0 20	N 78 W	0.16	3.26 S	6.68 W	-3.94
2800	2799.92	2799.92	0 25	S 38 W	0.40	3.48 S	7.19 W	-4.22
2900	2899.92	2899.92	0 20	S 90 W	0.34	3.77 S	7.70 W	-4.56

SPERRY-SUN, INC.
RECORD OF SURVEY

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE INCLINATION DEG MIN	COURSE DIRECTION DEG	DOG-LEG SEV DEG/100	TOTAL RECTANGULAR COORDINATES NORTH/SOUTH	EAST/WEST	VERTICAL SECTION
3000	2999.92	2999.92	0 25	S 2 W	0.52	4.13 S	8.00 W	-4.96
3100	3099.92	3099.92	0 30	S 55 W	0.42	4.75 S	8.37 W	-5.61
3200	3199.92	3199.92	0 10	N 83 W	0.39	4.98 S	8.88 W	-5.89
3300	3299.91	3299.91	0 25	N 0 E	0.43	4.60 S	9.02 W	-5.53
3400	3399.91	3399.91	0 35	N 19 W	0.23	3.75 S	9.19 W	-4.70
3500	3499.90	3499.90	0 50	N 1 E	0.35	2.55 S	9.34 W	-3.52
3600	3599.90	3599.90	0 30	N 14 E	0.36	1.40 S	9.22 W	-2.36
3700	3699.89	3699.89	0 30	N 44 W	0.48	0.66 S	9.42 W	-1.65
3800	3799.89	3799.89	0 30	S 89 W	0.40	0.35 S	10.16 W	-1.42
3900	3899.89	3899.89	0 30	S 76 W	0.11	0.47 S	11.02 W	-1.62
4000	3999.88	3999.88	0 40	N 63 W	0.44	0.31 S	11.96 W	-1.57
4100	4099.88	4099.88	0 25	N 63 W	0.25	0.12 N	12.80 W	-1.23
4200	4199.87	4199.87	0 45	N 33 W	0.44	0.84 N	13.48 W	-0.59
4300	4299.86	4299.86	0 45	N 8 W	0.32	2.03 N	13.93 W	0.55
4400	4399.85	4399.85	1 0	N 2 E	0.29	3.55 N	13.99 W	2.06
4500	4499.84	4499.84	0 45	N 7 E	0.26	5.08 N	13.88 W	3.58
4600	4599.83	4599.83	0 55	N 23 W	0.46	6.46 N	14.11 W	4.94
4700	4699.82	4699.82	0 40	N 26 W	0.25	7.72 N	14.68 W	6.1?
4800	4799.81	4799.81	0 35	N 26 W	0.08	8.70 N	15.16 W	7.0?
4900	4899.81	4899.81	0 20	S 78 E	0.83	9.10 N	15.10 W	7.45
5000	4999.81	4999.81	0 35	N 11 E	0.68	9.54 N	14.71 W	7.93
5100	5099.80	5099.80	0 35	N 55 E	0.44	10.33 N	14.20 W	8.77
5200	5199.80	5199.80	0 40	N 60 E	0.10	10.91 N	13.28 W	9.45
5300	5299.79	5299.79	1 10	N 82 E	0.60	11.34 N	11.77 W	10.04
5400	5399.76	5399.76	1 25	N 76 E	0.28	11.79 N	9.56 W	10.71
5500	5499.73	5499.73	1 25	N 29 E	1.13	13.17 N	7.76 W	12.27
5600	5599.70	5599.70	1 35	N 54 E	0.67	15.06 N	6.04 W	14.34
5700	5699.66	5699.66	1 40	N 44 E	0.30	16.92 N	3.92 W	16.41
5800	5799.62	5799.62	1 35	N 51 E	0.21	18.83 N	1.83 W	18.53
5900	5899.60	5899.60	0 50	N 80 E	0.95	19.83 N	0.04 W	19.71


SOUTH
F
GETTY
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PS LIMEKILN 5 [67]
41 [121]
55 [133]
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S.L.
gry sltst
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3970'
COMPLETED IN A-1
gry sltst slicken-sides
gry sdy sltst
lt brn peb crs ss
4156'
P-27
A-1
D
U

P-55 M-21-ES

PRESSURE SURVEY

100 300 500 700 900 1100 1300 1500 PSI

0

1000'

2000'

3000'

4000'

AVG GRAD .432

Pressure survey of Pierce 55, which was completed in the A-1 sand in a different fault block than the SS-A. The pressure survey indicates the reservoir is normal pressure.

46 1512

K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM. KEUFFEL & ESSER CO. MADE IN U.S.A.

SOUTHERN CA. GAS CO. DIRECTIONAL K.W. COMPUTATION PAGE NO.

WELL: SS 4-0 FILE: B1-298
LOCATION: ALISO CANYON

TIME 24:30:40 DATE 00--00

MEASURED DEPTH FEET	DRIFT ANGLE D	M	DRIFT DIRECTION D	M	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		CLOSURE DISTANCE FEET	CLOSURE DIRECTION D	M	DOGLEG SEVERITY DG/100
4734.	19	0	N 44	0 W	214.	4688.53	322.35	148.75 N	286.00 W	322.37	N 62	31 W	1.20
4962.	20	0	N 43	0 W	228.	4903.45	394.62	203.96 N	338.39 W	395.11	N 58	55 W	0.46
5049.	20	30	N 43	0 W	87.	4985.07	423.13	225.98 N	358.93 W	424.14	N 57	48 W	0.57
5130.	21	45	N 53	0 W	81.	5060.63	451.48	245.52 N	380.62 W	452.94	N 57	11 W	4.70
5209.	22	30	N 60	0 W	79.	5133.81	481.11	261.94 N	405.43 W	482.69	N 57	8 W	3.47
5301.	24	0	N 60	0 W	92.	5218.34	517.41	280.10 N	436.89 W	518.96	N 57	20 W	63
5429.	21	0	N 63	0 W	128.	5336.60	566.40	303.47 N	479.93 W	567.83	N 57	42 W	.51
5745.	22	0	N 61	0 W	316.	5630.61	682.21	357.84 N	582.19 W	683.37	N 58	25 W	0.39
6089.	22	0	N 60	0 W	344.	5949.56	811.04	421.30 N	694.35 W	812.17	N 58	45 W	0.11
6369.	22	0	N 60	0 W	280.	6209.17	915.88	473.74 N	785.19 W	917.03	N 58	54 W	0.00
6743.	22	0	N 59	0 W	374.	6555.94	1055.88	544.85 N	905.90 W	1057.13	N 58	59 W	0.10
7090.	23	0	N 60	0 W	347.	6876.53	1188.56	612.25 N	1020.32 W	1189.92	N 59	2 W	0.31
7445.	24	0	N 61	0 W	355.	7202.08	1330.08	681.95 N	1143.52 W	1331.43	N 59	11 W	0.30
7925.	24	0	N 62	0 W	480.	7640.58	1525.32	775.11 N	1315.10 W	1526.53	N 59	29 W	0.08
8900.	28	0	N 46	0 W	975.	8516.91	1948.81	1026.34 N	1660.88 W	1952.41	N 58	17 W	0.82
9461.	29	0	N 44	0 W	561.	9009.92	2205.11	1215.62 N	1850.16 W	2213.78	N 56	42 W	0.25
9670.	29	0	N 44	0 W	209.	9192.72	2301.61	1288.51 N	1920.55 W	2312.74	N 56	9 W	0.00

STATION AT MD. 9670' IS A PROJECTED STATION.

FINAL CLOSURE - DIRECTION: N 56 DEGS 9 MINS W
DISTANCE: 2312.74 FEET

DIVISION OF OIL AND GAS
RECEIVED
FEB 5 1981
SANTA PAULA, CALIFORNIA

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 281-4

DIVISION OF OIL AND GAS

Report on Operations

Mr. J. W. Tenfelder, Agent
Southern Calif. Gas Company
12801 Tampa Ave.
Northridge, CA 91324

Santa Paula, Calif.
Jan. 20,1981

Your operations at well "SFZU" SS-4-O, API No. 037-22063, Sec. 28, T. 3N, R. 16W S.B.B.& M. Aliso Canyon Field, in Los Angeles County, were witnessed on 1/5/81. S. Curran, representative of the supervisor, was present from 1600 to 2000. There were also present D. Slater, Engineer

Present condition of well: 16" cem 1296'; 10 3/4" cem 4852'; 7" cem 8121'; 5 1/2" cem 8076-9650', bp 8135', T.D. 9650'.

The operations were performed for the purpose of demonstrating that the seal between the 5 1/2" and 7" casings will withstand the proposed injection pressure.

DECISION:

THE SEAL BETWEEN THE 7" AND 5 1/2" CASINGS IS APPROVED.

b

H.G.MEFFERD
State Oil and Gas Supervisor

By
Deputy Supervisor
John L. Hardoin

OG109 (10-78-GSRI-15M)

FORM OG111 (7/80)

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

No. P 281-4

REPORT ON PROPOSED OPERATIONS

010 (field code)
(area code)
(pool code)

J. W. Tenfelder, Agent
Southern Calif. Gas Co.
12801 Tampa Ave.
Northridge, CA 91324

Santa Paula, California
Jan. 8, 1981

Your supplementary proposal to drill gas storage well "SFZU" SS-4-0,
A.P.I. No. 037-22063, Section 28, T. 3N, R. 16W, S.B. B. & M.,
Aliso Canyon field, Main area, Sesnon-Frew pool,
Los Angeles County, dated 12/26/80, received 1/5/81 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT IN ALL OTHER RESPECTS, THE PROVISIONS SET FORTH IN OUR REPORT NO.P280-232 DATED JULY 24, 1980 SHALL APPLY.

Blanket Bond
MD:b

M. G. MEFFERD, State Oil and Gas Supervisor

By John L. Hardoin
John L. Hardoin, *Deputy Supervisor*

A copy of this report 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.

DIVISION OF OIL AND GAS
RECEIVED
JAN 5 1981
SANTA PAULA, CALIFORNIA

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

SUPPLEMENTARY NOTICE

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

DIVISION OF OIL AND GAS
Santa Paula, Calif.

A notice to you dated October 16, 19 80, stating the intention to Drill (Drill, rework, abandon) Standard Sesnon #4-0 (Well name and number), API No. 037-2263,

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

County, should be amended because of changed conditions.

The present condition of the well is as follows:

Total depth 9670'

Complete casing record including plugs and perforations:

16" cemented 1296'
10 3/4" cemented 4852'
7" cemented 8121'

We now propose Confirming telephone conversation, Dosch-Abrahamson

1. Run and cement 1600' 5 1/2" liner at 9665'. Pressure and squeeze 5 1/2" x 7" splice as required. Test WSO on splice for DOG. Run cement bond log 9645'-8065'.
2. Perforate and squeeze with cement near 9350' and 8450' as required.
3. Perforate at intervals from 9475'-9645' as indicated from logs and also from 8630'-8475'. Run packer and tubing and complete.

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

Address P.O. Box 3249 Terminal Annex (Street)
Los Angeles, California 90051 (City) (State) (Zip)
Telephone Number (213) 689-3561

Southern California Gas Company (Name of Operator)
Type of Organization Corporation (Corporation, Partnership, Individual, etc.)
By P.S. Magruder Jr. (Name) 12/26/80 (Date)
Signature P S Magruder Jr

OG123 (7-76-GSR1-5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 280-284

DIVISION OF OIL AND GAS

Report on Operations

Mr. J. W. Tenfelder, Agent
So. California Gas Co.
12801 Tampa Avenue
Los Angeles, CA 91324

Santa Paula, Calif.
Nov. 17, 1980

Your operations at well "SFZU" SS-4-O, API No. 037-22063, Sec. 28, T. 3N R. 16W S.B., B.& M. Aliso Canyon Field, in Los Angeles County, were witnessed on 10/20/80. Ed Hickey, representative of the supervisor, was present from 1400 to 1530. There were also present O.H. Allen, Toolpusher

Present condition of well: 16" cement 1296', 10 3/4" cement 4845'. T.D. 7150'.

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

DECISION:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

MD- G. Mountainson Send in Equipment log
1. Will Drill to 9470
2 Will complete in Frew Zone 5 and Sands below Sesnon & Frew, Gas
Will Not complete in Sesnon
3 Will Cement in liner & more Imp Not DOC to witness

b

M. G. MEFFERD
State Oil and Gas Supervisor

By _____
Deputy Supervisor

John L. Hardoin

OG109 (6-77-GSRI-15M)

FORM OG111

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

No. P 280-373

REPORT ON PROPOSED OPERATIONS

010 (field code)
03 (area code)
30 (pool code)

Mr. J. W. Tenfelder, Agent
Southern Calif. Gas Company
12801 Tampa Avenue
Los Angeles, CA 91324

Santa Paula, California
Oct. 24, 1980

Your supplementary proposal to drill well "SFZU" SS-4-0,
A.P.I. No. 037-22063, Section 28, T. 3N, R. 16W, S.B. B. & M.,
Aliso Canyon field, Main area, Sesnon-Frew pool,
Los Angeles County,. dated 10/16/80, received 10/21/80 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT THIS DIVISION SHALL BE NOTIFIED TO WITNESS A PRESSURE TEST OF THE BLOWOUT PREVENTION EQUIPMENT BEFORE COMMENCING DOWNHOLE OPERATIONS.

IN ALL OTHER RESPECTS, THE PROVISIONS SET FORTH IN OUR REPORT NO.P280-232 DATED JULY 24,1980 SHALL APPLY.

Blanket Bond
MD:b

M. G. MEFFERD, State Oil and Gas Supervisor

By John L. Hardoin, Deputy Supervisor

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

DIVISION OF OIL AND GAS
RECEIVED
OCT 21 1980
SANTA PAULA, CALIFORNIA

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

SUPPLEMENTARY NOTICE

FOR DIVISION USE ONLY		
BOND	FORMS	
	114	121
BB	—	✓

DIVISION OF OIL AND GAS

Santa Paula Calif.

A notice to you dated July 15, 19 80, stating the intention to Drill (Drill, rework, abandon), Well No. Standard Sesnon 4-0 API No. 037-22-63, Sec. 28, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon Field, Los Angeles County, should be amended because of changed conditions.

The present condition of the well is as follows:

Total depth 7,649'

Complete casing record including plugs and perforations:

16" cemented 1,296'
14 3/4" hole to 4,850'
9 7/8" hole to 7,649'

2148' of drill pipe, heavy wall and drill collars left in well from 7,649' - 5,502' - unable to recover

We now propose Confirming telephone conversation Hardoin-Abrahamson

1. Run and cement 10 3/4" 51# N-80 Buttress casing at 4,850'.
2. Install wellheads and class III 5,000 psi BOPE. Pressure test BOPE with water to 4,000 psi.
3. Drill out cement and clean out to 5,500' ±.
4. Plug with cement with 20% sand 5,500' - 5,300'.
5. Directionally redrill 9 5/8" hole 5,300' - 8,115' and cement 7" casing.
6. Drill 6 1/8" hole to 9,500'. Plug with cement as required.
7. Complete in Sesnon zone with 4 1/2" wire wrapped gravel packed liner.

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

Address P.O. Box 3249 Terminal Annex (Street)
Los Angeles (City) California (State) 90051 (Zip)
Telephone Number (213) 689-3561

Southern California Gas Company (Name of Operator)
By P.S. Magruder, Jr. (Name) 10/16/80 (Date)
Type of Organization Corporation (Corporation, Partnership, Individual, etc.)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 280-263

DIVISION OF OIL AND GAS

Report on Operations

Mr. J. W. Tenfelder, Agent
Southern California Gas Co.
12801 Tampa Avenue
Northridge, CA 91324

Santa Paula, Calif.
Oct. 10, 1980

Your operations at well "SFZU" SS-4-O, API No. 037-22063, Sec. 28, T. 3N, R. 16W S.B. B.& M. Aliso Canyon Field, in Los Angeles County, were witnessed on 9/21/80. S. Curran, representative of the supervisor, was present from 1500 to 1900. There were also present B. Killibrough, foreman

Present condition of well: 16" cem 1297', T.D. 4850' drilling.

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

DECISION:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

M. G. MEFFERD
State Oil and Gas Supervisor

By John L. Hardoin
Deputy Supervisor
John L. Hardoin

OG109 (10-78-GSR1-15M)

FORM OG111

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

No. P 280-232

REPORT ON PROPOSED OPERATIONS

010 (field code)
03 (area code)
30 (pool code)

Mr. J. W. Tenfelder, Agent
Southern California Gas Company
12801 Tampa Avenue
Northridge, CA 91324

Santa Paula, California
July 24, 1980

Your proposal to drill gas storage well "SFZU" SS-4-0,
A.P.I. No. 037-22063, Section 28, T. 3N, R. 16W, S.B. B. & M.,
Aliso Canyon field, Main area, Sesnon-Frew pool,
Los Angeles County,. dated 7/15/80, received 7/18/80 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Sufficient cement shall be pumped back of the 16" casing to fill to the surface.
2. Unlined sumps, if they contain harmful waters, shall not be located over fresh water bearing aquifers.
3. Any sump used during these operations shall be thoroughly cleaned and filled with earth as soon as operations are completed.
4. Blowout prevention equipment of at least DOG Class III 3M B shall be installed and maintained in operating condition at all times.
5. Blowout prevention practice drills shall be conducted at least weekly for each crew, and recorded in the log book.
6. This office shall be consulted before placing any plugs or sidetracking any hole.
7. The water shut off test above the zone to be produced shall be demonstrated by conventional or cement bond/noise log methods.
8. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
   * a. A pressure test of the blowout prevention equipment before drilling below 1300'.
   b. A test of the 7" shut-off above the Sesnon zone.

Blanket Bond
MD:b

Peter Yu/JH 8/12/80 - This well is a replacement well for SS-4 20' away. Fluids encountered to 4500' will be all water, but if fault is crossed, (not anticipated) partially depleted condensate zone could be encountered.
— OK to use Class II 2M with hydraulic controls to 4500'
— Will send written documentation

* Ebt/Bill Kilebrew 8/26/80 GAS COMPANY CALLED FOR TEST OF CLASS II SYSTEM. WE WILL WITNESS CLASS III installed on 10¾" casing. GAS COMPANY TO NOTIFY US FOR TEST.

Aberhamson/JH 16"C 1296'; 9⅞" hole to 7649; 2148' of drill string fish 7649± - 5500±; unable to recover after 6 days; Proposed to P/C 5500-5300 ± RD; cmt 10¾" at 4500'; sidetract at 5300'. (No wit) Witness BOP on 10¾"; File Notice.

M. G. MEFFERD, State Oil and Gas Supervisor

By John L. Hardoin, Deputy Supervisor

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

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

RECEIVED
JUL 18 1980
SANTA PAULA, CALIFORNIA

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
		✓	BB	✓	✓

ERH

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well Standard Sesnon #4-0, API No. 037-22063 (Assigned by Division),

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

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

(Los Angeles)

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 (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 850' southerly and 7,710' westerly from 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: 937 feet north (Direction) and 1,835 feet west (Direction)

Elevation of ground above sea level 2,885 feet.

All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table, or Kelly Bushing) that is 21 feet above ground.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING
16"	75#	K-55 Buttress	Surface	1,300'	1,300'	Surface
10 3/4"	51#	N-80 Buttress	Surface	4,500'	4,500'	1,300'
7"	23,26#	N-80 Buttress	Surface	8,400'	8,400'	4,500'

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

Intended zone(s) of completion Sesnon, 8,400', 3,600 psi (Name, depth, and expected pressure) Estimated total depth 9,800'

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: P.O. Box 3249 Terminal Annex	City: Los Angeles	Zip Code: 90051
Telephone Number: (213) 689-3561	Name of Person Filing Notice: P.S. Magruder, Jr.	Signature: P.S. Magruder Jr. Date: 7/15/80

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.

OG105 (2-79-DWRR-10M)