

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: So Cal Gas WELL DESIGNATION "Fernando Fee" 32F

API No. 037-21313 SE 27 T: 3N R.: 16W SB B. and M.

County: Los Angeles FIELD: Aliso Canyon

Type of Notice: _____ Date _____ Report Number: _____

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

NEW STATUS

	Date	OK	NEED	Remarks
Well Summary (OG100)				
History (OG103)				
E-Log				
Mud Log				
Dipmeter				
Directional				
Core and/or SWS				
MIT (Noise Temp)	3/14/16	✓		EB Approval Deferred to Senior

DATE: _____

NOTICE OF RECORDS DUE

DATE: _____

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

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

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

ENGINEER'S CHECK LIST

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

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

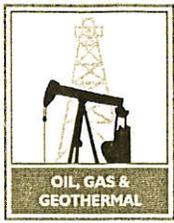
CLERICAL CHECK LIST

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

REMARKS

RECORDS SCANNED: _____
(Date)

RECORDS APPROVED: D. O.
(Date and Engineer)



PARTMENT OF CONSERVA^{TION}
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
1000 S. Hill Rd, Suite 116 Ventura, CA 93003-4458
Phone:(805) 654-4761 Fax:(805) 654-4765
REPORT ON OPERATIONS

No. T216-0093

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

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

Ventura, California
April 13, 2016

Your operations at well "**Fernando Fee**" 32F, A.P.I. No. 037-21313, Sec. 27, T. 03N, R. 16W, SB B. & M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on 3/10/2016, by **Ernest Blevins**, a representative of the supervisor.

The operations were performed for the purpose of **demonstrating that all of the injection fluid is confined to the approved zone.**

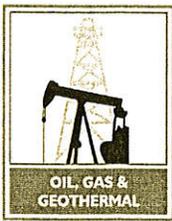
DECISION:

DEFERRED PENDING REVIEW BY THE DIVISION'S SAFETY TEAM.

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By 
Patricia A. Abel
District Deputy

EB/tkc
OG109



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

No. T216-0092

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

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

Ventura, California
April 13, 2016

Your operations at well "**Fernando Fee**" 32F, A.P.I. No. 037-21313, Sec. 27, T. 03N, R. 16W, SB B. & M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on 3/10/2016, by **Ernest Blevins**, a representative of the supervisor.

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District Deputy

EB/tkc
OG109

216-0092
No. T 216-0093
15,3

MECHANICAL INTEGRITY TEST (MIT)

Operator: <i>So CA Gas</i>					Well: <i>Fernando Fee 32 F</i>				
Sec.	T.	R.	B.&M.	API No.:			Field:		
<i>27</i>	<i>3N</i>	<i>16W</i>	<i>SB</i>	<i>037-21313</i>			<i>Aliso Canyon</i>		
County: <i>Los Angeles</i>					Witnessed/Reviewed on: <i>3-10-16</i>				
<i>Ernie Blevins</i>					, representative of the supervisor, was present from <i>NOISE SURVEY 10/5</i> to <i>1200</i> .				
Also present were: <i>Sergio w/ Well Analysis Corp. IAC.</i>									
Casing record of the well:									
<i>13³/₈ 0-724' 6⁵/₈" Liner 7,115-7,421</i>									
<i>8⁵/₈ 0-1,999'</i>									
<i>8⁵/₈ 1,999-7,029'</i>									
<i>2⁷/₈" 0-7,415'</i>									
The MIT was performed for the purpose of <i>Temperature + Noise Survey</i>									
<input type="checkbox"/> The MIT is approved since it indicates that all of the injection fluid is confined to the formations below _____ feet at this time.									
<input type="checkbox"/> The MIT is not approved due to the following reasons: (specify)									

Well: <i>Fernando Fee 32 F</i>	Date: <i>3-10-16</i>	Time: <i>1030</i>
Observed rate: <i>—</i> B/D	Meter rate: <i>—</i> B/D	Fluid level: <i>∅</i> feet
Injection pressure: <i>1065</i> psi	MASP:	Pick-up depth: <i>7333</i> feet

Initial annulus pressure: <i>1061</i> psi	Pressure after bleed-off: _____ psi
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Casing vented during test (Y/N) <i>(N)</i>	Survey company: <i>well Analysis Corp. Inc.</i>
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SPINNER COUNTS						
DEPTH	COUNTS	RATE	DEPTH	COUNTS	RATE	COMMENTS:
<i>_____</i>			<i>_____</i>			<i>Spinner Not Used</i>

TRACER CASING AND TUBING RATE CHECKS			
Interval	Time (sec.)	Rate (B/D)	Background log: _____ to _____
			COMMENTS: <i>Bottom Hole : 731°F TEMP Sliding sleeve @ 6881' = Open</i>

TOP PERFORATION CHECK

Top perforation depth: <i>7130</i>	Wait at: _____ for _____ seconds	Beads: <i>(Y/N)</i>
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Casing shoe at: <i>7189</i>	WSO holes at: _____	Arrival time: <i>Calculated</i> <i>Actual</i>
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LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @	COMMENTS:

PACKER CHECK

Packer at: <i>6944'</i>	Wait at: _____ for _____ seconds	Beads: <i>(Y/N)</i>
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Tubing tail at: <i>7414'</i>	Tubing size: <i>2 7/8"</i>	2nd Packer at: _____	Mandrel: _____
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LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @	COMMENTS:

COMMENTS: *Temperature 5150 - 6000
Anomalies : 3300 - 3650*

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

OPERATOR Southern Calif. Gas Co.

WELL DESIGNATION: "Fernando Fee" 32F

API No. 03721313

SEC 27 , T. 3N , R. 16W , SB B. and M.

COUNTY: Los Angeles

FIELD Aliso Canyon

Type of Notice: Rework

Date: 1/26/2010

Report Number: P210-21

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

	Date	OK	NEED	Remarks
Well Summary (OG100)	9/27/10	/		
History (OG103)				
E-Log				
Mud Log				
Dipmeter				
Directional				
Core and/or SWS				
<u>USIT</u>		✓		

NEW STATUS

DATE: 6/10

NOTICE OF RECORDS DUE

DATE: 9/2/10

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: NO

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

ABANDONMENT DATABASE : _____ SURFACE INSPECTION NEEDED _____ COMPLETED _____

Date and Inspector

FINAL LETTER NEEDED _____ COMPLETED _____ DRILL/REDRILL DATABASE _____

(Date)

ENGINEER'S CHECK LIST

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

LOCATION _____ ELEVATION: _____ CONFIDENTIAL RELEASE DATE: _____ PERMIT REQUIREMENTS MET _____

CLERICAL CHECK LIST

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

REMARKS

RECORDS SCANNED: 9/28/10

(Date)

RECORDS APPROVED: 9/28/10 SAP

(Date and Engineer)

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: Fernando Fee 32 F
A.P.I. No. 03721313

Field: Aliso Canyon

County: Los Angeles

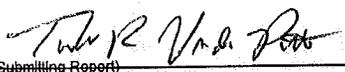
Surface Location:

Todd Van de Putte

Title: Senior Storage Field...

(President, Secretary, or Agent)

Date: 9/27/2010

Signature: 

(Person Submitting Report)

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

Telephone Number: 818-701-3339

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

Start Date	Ops. DOGGR Rpt
6/1/2010	Spotted the pump and the Ensign Rig #321. Spotted the choke manifold, the dog house, the accumulator and the light plant. Rigged up and tied down the hoist. Rigged up to kill the well and rigged up associated rig equipment.
6/2/2010	Rigged up the accumulator lines and the auxillary kill line. Moved in the diesel tank.
6/3/2010	Opened the well with 2500 psig tubing and casing pressure. Reviewed the kill schedule with the rig crew. Pumped 50 bbls of hi-vis HEC polymer down the tubing and displaced the polymer with 40 bbls of 9.5 ppg KCl brine. Killed the well with 320 bbls per the kill schedule. Installed the back pressure plug and nipples down the production tree. Nipped up the Class III 5M BOPE and function tested same. Removed the back pressure plug. Secured the rig and the well.
6/4/2010	Checked the tubing and the casing pressure with 0 psig on each. Filled the well with 18 bbls KCl brine. Installed the back pressure plug. Tested the blind rams to 5000 psig for twenty minutes. Removed the BPV and tested the pipe rams to 5000 psig for twenty minutes. (choke manifold leaking, repaired) Tested the Hydril annular preventer to 3500 psig for twenty minutes. Tested the choke manifold and all the control valves to 5000 psig for twenty minutes (BOPE Test witnessed and approved by F Pineda DOGGR District 2). Rigged down the BOPE testers. Cleaned the location and secured the well.
6/7/2010	Held a safety meeting with the rig crew. Opened the well with 0 psig pressure on both the tubing and the casing. Filled the well with 16 bbl KCl brine. Backed out the hold down studs and unlanded the 2-7/8" tubing. Released the 8-5/8" HES G-6 packer @ 6920' and pulled the packer to 6600' and set the packer. Rigged up the KTW wireline unit and set the PXN plug in the XN nipple. Tested the plug to 400 psig for twenty minutes (bled down 100 psig). Released from the On/Off tool, pulled out of the well and laid down the 2-7/8" production equipment. Ran in the well with a kill string to 3500' and secured the well.
6/8/2010	Pulled out of the well with the 2-7/8" kill string. Made up a spear, extension, bumper sub, jars, (4) 4-3/4" drill collars and an instensifer. Ran in the well to the top of 6-5/8", 28#, L-80 scab liner at 1940'. Engaged the liner and jarred at 80,000lb over string weight and pulled the 6-5/8" liner free. Circulated out the gas from the well, pulled out of the well and laid down (20) joints of 6-5/8" liner (Left one 6-5/8" packer slip segment in the well). Laid down the fishing tools. Made up the top half of the On/Off tool, ran in well with the 2-7/8" kill string to 3500' and secured the well.
6/9/2010	Pulled out of the well with the 2-7/8" kill string. Rigged up the KT&W wireline unit and made up a 4" magnet and ran in the well to the top of the 8-5/8" packer at 6650'. Pulled out of well with the 4" magnet (1" packer piece recovered). Made up a 1.75" magnet and ran in the well to the top of the 8-5/8" packer at 6650'. Pulled out of the well with no recovery. Rigged down the wireline unit. Made up the top half on/off tool, ran in the well with a 2-7/8" kill string to 3500', and secured the well.
6/10/2010	Ran in the well to the top of the 8-5/8" packer at 6504'. Engaged the on/off tool and rigged up the KT&W wireline unit. Ran in the well, pulled the prong, then the PXN plug body and rigged down the wireline unit. Released the 8-5/8" G-6 packer and rigged up and circulated the well for 30 minutes. Attempted to pull out of the well and the 8-5/8" packer would not move. Attempted to release and move packer. Secured the well.
6/11/2010	Rigged up the 2.5 power swivel and the PGSR. Rotated the 8-5/8" packer free and pulled up the hole 60'. The 8-5/8" packer became stuck and worked the 8-5/8" packer. Sheared off the on/off tool and pulled out of well to a 2-7/8" kill string at 3500'. Secured the well and Held BOP drill (48 seconds to complete drill)
6/14/2010	Pulled out of the well with the 2-7/8" kill string. Made up a 5-3/4" overshot with a 3" grapple, a bumper sub, jars, and (4) 4-3/4" drill collars. Ran in the well to the top of the packer at 6530'. Engaged the fish and attempted to push down the packer. The overshot slipped off of the fish and could not get back over the stub. Pulled out of the well and laid down the fishing tools. (Grapple was found with two wickers pulled). Ran in the well with a 2-7/8" kill string to 3500' and secured the well.
6/16/2010	Pulled out of the well with the 2-7/8" kill string and made up a 5-1/2" overshot with a 3-1/16" grapple, a bumper sub, jars, and (4) 4-3/4" drill collars. Ran in the well to top of 8-5/8" packer at 6530'. Engaged the fish and attempted to work the packer down and up. Slipped off the packer and could not re-engage. Pulled out of the well and laid down the overshot. Made up an outside tubing cutter, ran in the well with a 2-7/8" kill string to 3500' and secured the well.
6/17/2010	Ran in the well with the outside tubing cutter to the top of the fish at 6540'. Cut off the on/off tool and pulled out of the well and laid down the outside tubing cutter (recovered on/off tool and 3' stub). Made up a 5-3/4" overshot with a 3-21/32" grapple, a bumper sub, jars, and (4) 4-3/4" drill collars. Ran in the well to top of the fish at 6545', engaged the fish and attempted to work the fish down. Jarred on the fish at 40,000lb over string weight and pulled the packer free. Pulled up the hole to 5500' and secured the well.
6/18/2010	Pulled out of the well with the 8-5/8" packer (packer hanging on casing collars on the way up the hole). Laid down the fishing tools and the 8-5/8" packer (one slip missing on packer). Made up a 8-5/8" casing scraper, a bumper sub and ran in the well to 6956'. Pulled up the hole with the scraper hanging up at 5500' and worked the scraper up hole to 5100'. Secured the well.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company

Field: Aliso Canyon

County: Los Angeles

Well: Fernando Fee 32 F

Surface Location:

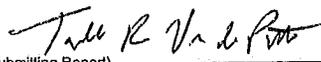
A.P.I. No. 03721313

Todd Van de Putte

Title: Senior Storage Field...

(President, Secretary, or Agent)

Date: 9/27/2010

Signature: 

(Person Submitting Report)

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

Telephone Number: 818-701-3339

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

Start Date	Ops. DOGGR Rpt
6/21/2010	Attempted to work the 8-5/8" casing scraper up the hole. Picked up the 2.5 power swivel and rotated and circulated while attempting to work up the hole. Laid down the 2.5 power swivel and ran in the well. Tagged the 6-5/8" liner top at 6954' and secured the well.
6/22/2010	Rigged up the Tiger wireline unit and made up a 2-7/8" chemical cutter. Ran in the well to 6940' and cut the 2-7/8" tubing. Rigged down the Tiger wireline. Pulled out of the well laid down the 2-7/8" tubing cut off. Made up a 8-5/8" string mill, a set of jars, and (2) 4-3/4" drill collars. Ran in the well to top of the fish at 6940'. Pulled up the well to a 2-7/8" kill string at 3500' and secured the well.
6/23/2010	Pulled out of the well with the kill string and laid down the fishing tools. Nipped up a shooting flange and rigged up Schlumberger wireline unit with a full lubricator. Made up the USIT tools and ran in the well to 6925 and logged to surface. Rigged down the Schlumberger wireline unit. Ran in the well to 3500' with a 2-7/8" kill string and secured the well.
6/24/2010	Pulled out of the well with the 2-7/8" kill string. Made up a reverse circulating junk sub and ran in well to 3500'. Shut the rig down to replace the drilling line. Secured the well.
6/25/2010	Repaired the drilling line on the rig. Held a safety meeting with the rig crew. Opened the well with 0 psig tubing and casing pressure. Filled the well with 4 bbl brine. Ran in the well to the top of the fish at 6640'. Reversed circulated over the fish, pulled up the hole to 5000' and secured the well.
6/28/2010	Pulled out of the well and laid down the reverse circulating junk sub. Made up a 5-3/4" overshot with a 4" grapple, a bumper sub, a set of jars, and (4) 4-3/4" drill collars. Ran in the well to top of the fish at 6940', engaged the fish worked and jarred the fish loose. Pulled out of the well and laid down the fish. (Recovered the 8-5/8" casing scraper and the bumper sub) Laid down the fishing tools. Made up a 7-3/4" string mill and (4) 4-3/4" drill collars ran in the well to 3500'. Secured the well overnight.
6/29/2010	Ran in the well with the 7-3/4" mill to 5523' and worked a tight spot in the 8-5/8" casing. Continued in the hole to the 6-5/8" liner top. Pulled out of the well and laid down the 7-3/4" mill. Ran in the well with a 2-7/8" kill string to 3500' and secured the well.
6/30/2010	Pulled out of the well with a 2-7/8" kill string. Made up an 8-5/8" retrieveable bridge plug, ran in the well to 6930', set bridge plug and pressure tested the bridge plug to 500 psig surface pressure (leaked off 300 psig in twenty minutes) Dumped sand on top of the 8-5/8" bridge plug and pulled out of the well. Made up an 8-5/8" test packer, ran in the well to 3500' and secured the well.
7/1/2010	Ran in the well with the 8-5/8" test packer to 6000', set packer and pressure tested below packer to 1000 psig surface pressure for 5 minutes. Tested 2-7/8" tubing x 8-5/8" casing annulus to 600 psig surface pressure for 5 minutes (bled down 100 psig) Released the 8-5/8" test packer, pulled up the hole to 4000' and reset the test packer. Pressure tested below the packer to 1000 psig surface pressure for 5 minutes, tested good. Tested the 2-7/8" tubing x 8-5/8" casing annulus to 1000 psig surface pressure for 5 minutes (bled down 550 psig). Released the test packer and moved the packer to 2078' and pressure tested below the packer to 1000 psig surface pressure for 5 minutes, tested good. Tested the 2-7/8" tubing x 8-5/8" casing annulus to 2000 psig surface pressure for 5 minutes (bled down 1650 psig). Released the test packer, moved the packer to 1954' and pressure tested below the packer to 1000 psig surface pressure (bled down 600 psig). Pressured tested the 2-7/8" tubing x 8-5/8" casing annulus to 2000 psig, tested good. Pulled out of the well and laid down the 8-5/8" test packer. Made up an 8-5/8" retrieveable bridge plug, ran in the well to 2000' and secured the well.
7/2/2010	Ran in the well to 3514' with the 8-5/8" bridge plug, set the bridge plug and tested the annulus to 1000 psig (250 psig loss in 5 minutes). Pulled out of the well and made up an 8-5/8" tension packer. Ran in the well to 3327' set the 8-5/8" tension packer and pressure tested below the packer to 1000 psig surface pressure (Held pressure). Released the packer and pulled up the hole to 1952', set packer tested annulus to 2000 psi surface pressure (Held pressure). Pressure tested below the tension packer to 1400 psig surface pressure (injection rate 0.2 bpm at 1400 psig). Released the 8-5/8" tension packer, pulled out of the well and laid down the packer. Made up a bridge plug retrieving tool, ran in the well to 3000' and secured the well.
7/6/2010	Ran in the well to 3514', engaged the 8-5/8" bridge plug and released the bridge plug. Pulled out of the well and laid down the 8-5/8" retrievable bridge plug. Ran in the well to 6924' with a 2-7/8" kill string and secured the well.
7/7/2010	Rigged up the Tuboscope scanolog unit and pulled out of the well thru the scan unit. The 2-7/8" tubing scan results were 0 yellow band, 146 blue band, 51 green band, 20 red band. Rigged down the Tuboscope scan unit. Ran a 2-7/8" kill string in the well to 3500' and secured the well.
7/12/2010	Pulled out of the well and laid down the 2-7/8" tubing string. Laid down (4), 4-3/4" drill collars. Ran in the well to 3500' with a 2-7/8" kill string and secured the well.

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

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company

Field: Aliso Canyon

County: Los Angeles

Well: Fernando Fee 32 F

Surface Location:

A.P.I. No. 03721313

Todd Van de Putte

Title: Senior Storage Field...

(President, Secretary, or Agent)

Date: 9/27/2010

Signature: 

(Person Submitting Report)

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

Telephone Number: 818-701-3339

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Start Date	Ops. DOGGR Rpt
7/13/2010	Pulled out of the well and laid down 106 joints of 2-7/8" tubing. Loaded the excess 2-7/8" tubing, the 4-3/4" drill collars and the 2.5 power swivel. Made up the 8-5/8" bridge plug retrieving head, measured and picked up 46 joints of 2-7/8" L-80 tubing, 162 joints of N-80, yellow band tubing and secured the well.
7/14/2010	Measured and picked up the 2-7/8" tubing to 6768' and secured the well.
7/19/2010	Measured and picked up the 2-7/8" tubing to top of the sand plug at 6925'. Installed the PGSR and changed over the well to 10 ppg brine with 400 bbl. Cleaned out the sand to the top of the 8-5/8" retrievable bridge plug at 6937'. Released the 8-5/8" bridge plug and filled the well with 4 bbl brine. Removed the PGSR and circulated out the gas cut brine (Lost 22 bbl of brine to the well) and circulated the well. Pulled up the hole to 3200' and secured the well.
7/20/2010	Opened the well with 100 psig tubing and casing pressure. Bled down the well and filled the well with 21 bbl brine. Pulled out of the well and laid down the 8-5/8" bridge plug. Made up a 4-11/16" polishing mill and ran in the well to the 6-5/8" polished bore receptacle at 6954'. Cleaned the PBR from 6954' to 6960' and pulled out of the well and laid down the mill. Made up a 4-1/2" Lok-set bridge plug, ran in the well to 6330' and secured the well overnight.
7/21/2010	Ran in the well to 7009' and the 4-1/2" set the bridge plug. Pressure tested the bridge plug to 500 psig surface pressure and dumped 5 cu. ft of sand on top of the bridge plug. Pulled up the hole to 3500'. Shut down the rig for repairs on the rig motor.
7/22/2010	Pulled out of the well and laid down the 4-1/2" bridge plug retrieving head. Rigged down the tubing equipment and the working floor. Nipped down the Class III 5M BOPE. Nipped down the tubing head and sent in for repairs. Nipped up the innerstring spool and tested the seals to 5000 psig for twenty minutes. Nipped up the Class III 5M BOPE. Rigged up the working floor and changed the BOP pipe rams to 6-5/8". Rigged up the 6-5/8" casing tongs and made up the PBR seal assembly and the 6-5/8" innerstring packer. Measured and picked up the 6-5/8", 28#, L-80 Hunting SLF casing with the WEA JAM unit to 2500' and secured the well.
7/23/2010	Continued to measure and pick up the 6-5/8", 28#, L-80 Hunting SLF casing with the WEA JAM unit and ran to 6640' and secured the well.
7/26/2010	Continued to measure and pick the 6-5/8", 28#, L-80 Hunting SLF casing to 6954'. Tagged the PBR, rigged up and pumped 117 bbls 3% KCL with corrosion inhibitor in the 6-5/8" x 8-5/8" annulus. Stabbed the 6-5/8" casing and seals in the PBR, set with 40,000lb compression and set the 6-5/8" hydraulic packer with 2500 psig. Rigged down the working floor and secured the well.
7/27/2010	Nipped down the Class III 5M BOPE and installed the 6-5/8" casing in the slips and landed with 40,000lb compression. Installed the pack-off and nipped up the tubing head. Tested all the wellhead seals to 5000 psig for twenty minutes (All tests good). Nipped up the Class III 5M BOPE. Rigged up the working floor and the 2-7/8" tubing equipment. Made up the 4-1/2" retrieving head ran in well 6802'. Nipped up PGSR secured well.
7/28/2010	Ran in the well, tagged the sand at 6999' and cleaned out sand to the 4-1/2" bridge plug at 7006'. Reverse circulated the hole clean and released the 4-1/2" bridge plug. Pulled out of the liner. Circulated the gas cut brine to surface and nipped down the PGSR. Pulled out of the well and laid down the bridge plug and the retrieving head. Made up an 6-5/8" HES G-6 packer, 6' 2-7/8" pup jt, an On/Off tool with the PXN plug in place, 1 jt 2-7/8" tubing, sliding sleeve, 1 jt 2-7/8" tubing and a gas lift mandrel. Ran in the well to 6930' and set the 6-5/8" packer, released from the on/off tool and respaced the completion string. Landed the 2-7/8" tubing in the tubing hanger with 10,000# compression. Pressure tested the 2-7/8" tubing x 6-5/8" innerstring annulus to 500 psig surface pressure for twenty minutes (Held pressure). Secured the well overnight.
7/29/2010	Held a safety meeting with the rig crew. Pressure tested the 6-5/8" innerstring x 8-5/8" production casing annulus to 500 psig (Bled down 125 psig in 10 minutes). Nipped down the Class III 5M BOPE. Rigged down the Ensign #321 rig and loaded the associated equipment. Rigged down the hoist for move to SS 25A.

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

Report on Operations

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

Ventura, California
June 14, 2010

Your operations at well "Fernando Fee" 32F, API No. 037-21313
Sec. 27, T. 3N, R. 16W, SB B. & M. Aliso Canyon
Field in Los Angeles County,
were witnessed on 6/4/2010 by F. Pineda, representative of the supervisor.

Operations Witnessed	Result – Def.	Engineer	Date
BOPE Test	Approved	F. Pineda	6/4/2010

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

DECISION: Approved

tkc

By

Elena M. Miller
State Oil and Gas Supervisor



Deputy Supervisor

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator So California Gas Company Well "Fernando Fee" 32F Sec. 27 T. 3N R. 16W
 Field Aliso Canyon County Los Angeles Spud Date _____

VISITS:

Date	Engineer	Time	Operator's Rep.	Title
1st <u>6/4/10</u>	<u>Fred Pineda</u>	<u>(1130 to 1400)</u>	<u>Mike Volkmar</u>	<u>Consultant</u>
2nd _____	_____	_____ to _____	_____	_____

Contractor ENSIGN Rig # 321 Contractor's Rep. & Title Ron Carlson / Rig Supr.
 Casing record of well: _____

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

Proposed Well Ops: Repair casing . MACP: _____ psi
 Hole size: " fr. _____ to _____ " to _____ " & _____ " to _____ " **REQUIRED BOPE CLASS:** III SM

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

BOP STACK						TEST DATA							
API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
<u>A</u>	<u>—</u>	<u>Hydril</u>	<u>GK</u>	<u>9"</u>	<u>5M</u>	<u>6/10</u>						<u>6/4/10</u>	<u>3700</u>
<u>Rd.</u>	<u>2 7/8"</u>	<u>Shaffer</u>	<u>—</u>	<u>"</u>	<u>5M</u>	<u>↓</u>						<u>↓</u>	<u>5M</u>
<u>Rd.</u>	<u>CSO</u>	<u>"</u>	<u>—</u>	<u>"</u>	<u>5M</u>	<u>↓</u>						<u>↓</u>	<u>5M</u>

ACTUATING SYSTEM				TOTAL:		AUXILIARY EQUIPMENT						
Accumulator Unit(s) Working Pressure <u>3000</u> psi						Connections						
Total Rated Pump Output _____ gpm				Fluid Level _____		No.	Size (in.)	Rated Press	Weld	Flange	Thread	Test Press.
Distance from Well Bore <u>50</u> ft.												
Accum. Manufacturer		Capacity	Precharge		Fill-up Line							
<u>1 Weatherford</u>		<u>80 gal.</u>	<u>1000 psi</u>	<u>X</u>	<u>Kill Line</u>		<u>2"</u>	<u>5M</u>		<u>✓</u>		<u>5M</u>
<u>2</u>		<u>gal.</u>	<u>psi</u>	<u>X</u>	<u>Control Valve(s)</u>	<u>2</u>		<u>5M</u>		<u>✓</u>		<u>5M</u>
<u>CONTROL STATIONS</u>		<u>Elec.</u>	<u>Hyd.</u>	<u>Pneu.</u>	<u>X</u>	<u>Check Valve(s)</u>	<u>1</u>	<u>5M</u>		<u>✓</u>		<u>5M</u>
<u>X</u> Manifold at accumulator unit			<u>X</u>		<u>X</u>	<u>Aux. Pump Cnct.</u>						
Remote at Driller's station					<u>X</u>	<u>Choke Line</u>		<u>3"</u>	<u>5M</u>		<u>✓</u>	<u>5M</u>
Other:					<u>X</u>	<u>Control Valve(s)</u>	<u>7</u>	<u>5M</u>		<u>✓</u>		<u>5M</u>

EMERG. BACKUP SYSTEM				Press.	Wkg. Fluid	TOTAL:						
N2 Cylinders					gal.							
<u>X</u>	<u>1</u>	<u>L=</u>	<u>"</u>	<u>2700</u>	<u>10 gal.</u>	<u>X</u>	<u>Pressure Gauge</u>					
	<u>2</u>	<u>L=</u>	<u>"</u>	<u>2400</u>	<u>10 gal.</u>	<u>X</u>	<u>Adjstble Choke(s)</u>	<u>2</u>	<u>2"</u>	<u>5M</u>		<u>✓</u>
	<u>3</u>	<u>L=</u>	<u>"</u>	<u>2300</u>	<u>10 gal.</u>	<u>X</u>	<u>Bleed Line</u>		<u>2"</u>	<u>5M</u>		<u>✓</u>
	<u>4</u>	<u>L=</u>	<u>"</u>	<u>2250</u>	<u>10 gal.</u>		<u>Upper Kelly Cock</u>					
	<u>5</u>	<u>L=</u>	<u>"</u>		<u>gal.</u>		<u>Lower Kelly Cock</u>					
	<u>6</u>	<u>L=</u>	<u>"</u>		<u>gal.</u>		<u>Standpipe Valve</u>					
					<u>gal.</u>		<u>Stndpipe Pres. Gau.</u>					
					<u>gal.</u>	<u>X</u>	<u>Pipe Safety Valve</u>		<u>2 7/8"</u>	<u>5M</u>		<u>✓</u>
					<u>gal.</u>	<u>X</u>	<u>Internal Preventer</u>		<u>2 7/8"</u>	<u>5M</u>		<u>✓</u>

HOLE FLUID MONITORING EQUIPMENT			Alarm Type		Class	Hole Fluid Type	Weight	Storage Pits (Type & Size)
	Audible	Visual						
<u>✓</u>					<u>A</u>	<u>Mud</u>	<u>9.5</u>	<u>500 bbls.</u>
					<u>B</u>			
					<u>C</u>			

REMARKS AND DEFICIENCIES:

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

No. P P210-21

PERMIT TO CONDUCT WELL OPERATIONS

010 010

(Old) Field Code (New)

00 00

(Old) Area Code (New)

30 30

(Old) Pool Code (New)

Gas Storage

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

Ventura, California
February 4, 2010

Your proposal to **rework** well "**Fernando Fee**" **32F**, A.P.I. No. **037-21313**, Section **27**, T. **3N**, R. **16W, S.B.**, B. & M., **Aliso Canyon** Field, **Sesnon-Frew** Pool, **Los Angeles** County, dated **01/26/10**, received **01/27/10** has been examined in conjunction with records filed in this office.

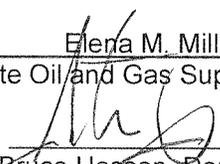
THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment, as defined by this Division's publication No. MO7, shall be installed and maintained in operating condition and meet the following minimum requirements: Class III 5M with pipe rams sized appropriate for work string and a 5M lubricator for perforating operations.
2. Hole fluid of a quality and in sufficient quantity is used to control all subsurface conditions in order to prevent blowouts.
3. No program changes are made without Division approval.
4. **THIS DIVISION SHALL BE NOTIFIED TO:**
 - a. Witness a test of the installed blowout prevention equipment prior to commencing downhole operations.

Engineer: Steve Fields

Phone: (805) 654-4761

Elena M. Miller
State Oil and Gas Supervisor

By 
Bruce Hesson, 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 is completed or the operations have been suspended. Issuance of this permit does not preclude the recipient from the obligation of being in compliance with all applicable Federal, State and Local laws, regulations and ordinances.

OG
BO
Sesnon
Field



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

FOR DIVISION USE ONLY		
Bond	Forms	
	1000 OGU	OGD114 ✓ 111 ✓

NOTICE OF INTENTION TO REWORK / REDRILL WELL

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

PA10-21

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework / redrill well "Fernando Fee" 32F, API No. 037-21313
(Check one)

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

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

- 13-3/8", H-40, 48#/ft surface casing cemented to surface and set at 724'.
- 8-5/8", N-80/K-55, 36#/ft production casing at 7190', sidetracked at 7029', 3/2006
- 6-5/8", L-80, 28# scab liner installed from 1940'-2740'
- 4-1/2", L-80, 11.6#/ft, gravel packed liner hung from 6954'-7385'. Armored 0.16" screen from 7066'-7337'.

The total depth is: 7385 feet. The effective depth is: 7385 feet.
Present completion zone(s): Sesnon (Storage). Anticipated completion zone(s): Sesnon (Storage).
Present zone pressure: Varies psi. Anticipated/existing new zone pressure: Varies psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes No
For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency? Yes No If yes, see next page.

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

- See Attached Program
- Pull and remove the 2-7/8" tubing string and 6-5/8" the scab liner.
- Pull and remove the 8-5/8" packer
- Run a USIT log on the 8-5/8" production casing
- Shoot and squeeze cement behind 8-5/8" production casing as necessary
- Install 6-5/8" innerstring and innerstring spool on the wellhead
- Run 2-7/8" string and 6-5/8" packer.

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

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

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

Name of Operator Southern California Gas Company		
Address 9400 Oakdale Ave	City/State Chatsworth, CA	Zip Code 91313
Name of Person Filing Notice Todd Van de Putte	Telephone Number: 818-701-3339	Signature <i>Todd R. Van de Putte</i> Date 1-26-10
Individual to contact for technical questions: Todd Van de Putte	Telephone Number: 661-305-5387	E-Mail Address: tvandeputte@semprautilities.com

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

WORKOVER PROGRAM

Fernando Fee 32F – Casing Leak/Innerstring Installation

DATE: January 26, 2010
OPERATOR: Southern California Gas Company
FIELD: Aliso Canyon
WELL: Fernando Fee 32F
CONTRACTOR: Ensign Well Services
OBJECTIVE: Repair / cement squeeze 8-5/8" production casing leak and install a 6-5/8" innerstring to surface.
API NUMBER: 037-21313
ELEVATION: All measurements from the original **KB = 15' above GL.**

PRESENT WELLBORE CONDITIONS:

0' – 724'	13-3/8"	40#	H-40	Surface casing (cemented to surface)
0' - 7190'	8-5/8"	36#	N-80/ K-55	Production Casing (cemented with 600 sacks) Sidetracked from 7029' MD in 3/2006.
1940'-2740'	6-5/8"	28#	L-80	Scab Liner – WFT Liner Top Packer, Bottom Packer
6954'- 7385'	4-1/2"	11.6#	L-80	Gravel Pack Liner (w/0.16" amour screen and semi perf from 7066'- 7337')

(See attached Schematic and Well Data Sheet for Additional Wellbore Details)

TOP OF ZONES: (S-4): 7206' MD / 7096' TVD

FIELD PRESSURE: 2669 psig (surface)

Notes: BOP requirements in 224.05 should be fully implemented. Class IIIB 5M (minimum) requirements should be followed. Field reservoir inventory and pressures should be monitored during the workover with a 300 psig minimum overbalance on well control fluids.

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WELL WORK PROGRAM

Pre Rig Work:

1. De-energize and remove laterals. Install companion flanges for killing well.
2. Move in pump with tank, shaker and mixer. The rig crew to provide the labor for re-killing the well and installing the kill equipment.
3. *Note: The well is currently killed with 10 ppg NaCl brine with a PXN plug in place in the HES on/off tool.*
4. Spot the 500 bbl Baker tanks and fill with 9.0 ppg KCl brine.
 - 4.1. Treat the kill fluids with biocide, 5 gal/100 barrels concentration.
 - 4.2. Connect the rig pump to the tubing and vent the casing through the choke manifold to the Gas Company system.
 - 4.3. Verify the current field pressure and confirm the correct weight of kill fluid.
5. Re-kill well and circulate the well with 9.0 ppg KCl brine.
6. All the annulus valves should be bled of all pressure and standing full of brine before proceeding with the rig work.

Rig Work:

1. Move in the production rig with the rig pump and mud pit.
2. Install BPV. Remove the tree and install a 9" Class IIIB – 5M BOPE (minimum) as per Gas Company Procedure on the 9" tubing head.
 - 2.1. Fit the 5M BOPE with 2-7/8" pipe rams and CSO.
 - 2.2. The 5M BOPE must have connection and valve below the blind rams. Fit with 5000 psig minimum rated valve.
3. Test the 5M BOPE system to assure the integrity of connections.
 - 3.1. Test the pipe rams and blind ram to 5000 psig. Test the Annular Preventer to 3500 psig.
 - 3.2. Notify the DOGGR prior to the BOPE test.
4. Install a pup joint of 2-7/8" tubing in the 9" x 2-7/8" T-55 AJO tubing hanger with a Safety valve in the top. Back out the tubing hanger pins and unland the 2-7/8" tubing.
5. Release from the 2-7/8" HES on/off tool at 6905' MD.
6. Pull out of the well slowly, checking for drag with the 2-7/8" tubing string and lay down the 2-7/8" tubing and associated completion equipment.
7. Lay down 2-7/8" completion string and pick up the additional footage of 2-7/8" tubing to complete the workstring.
8. Spear and lay down the 6-5/8" scab liner from 1940' - 2740'. The Scab liner contains both top and bottom packers. The upper packer should shear at 80,000lb pull and the lower packer J-latch should move once the top packer shears.

- 8.1. Check with Weatherford for packer release procedures for both packers prior to attempting to recover the 6-5/8" scab liner.
- 8.2. Send the 6-5/8" scab liner and 6-5/8" packers in for inspection and reconditioning.
9. Pick up the top half of the 2-7/8" HES on/off tool and run in the hole to the top of the 8-5/8" G-6 packer and latch on to the packer.
 - 9.1. Rig up the wireline unit and pull the PXN plug and re-kill the well as necessary with a 100 vis HEC polymer pill.
 - 9.2. Release the 8-5/8" G-6 packer and pull slowly out of the hole, checking the weight indicator for indication of a reduced production casing ID. Lay down the 8-5/8" G-6 packer.
 - 9.2.1. If the packer tags on the way out of the hole, move back down the hole and reset the packer. Release from the HES on/off tool and pull out of the hole.
10. Pick up a 8-5/8" casing scraper on 2-7/8" tubing and make a scraper run in the 8-5/8" production casing to from surface to approximately 6930'(+/-). Circulate the hole clean.
11. Rig up a shooting flange/lubricator and run a USIT inspection log in the cemented 8-5/8" production casing from 6930' (+/-) to surface to indentify the cement bond behind the 8-5/8" casing and the condition of the 8-5/8" production casing.
12. Based on the results of the 8-5/8" CBL/casing inspection log, squeeze cement (if required) into the leak area.
 - 12.1. Install an 8-5/8" retrieveable bridge plug below squeeze area. Pressure test the bridge plug to 1000 psig. Spot sand on top of the bridge plug.
 - 12.2. Perforate the 8-5/8" casing at the designated depth.
 - 12.2.1. Perform a pump in test to determine the injection rate and surface injection pressure into the perforations.
 - 12.3. Pick up and run an 8-5/8" test packer on 2-7/8" tubing and squeeze cement into the perforations. Release the 8-5/8" test packer and pull 1500' above the squeeze holes and clear the tubing. Wait on the cement.
 - 12.4. Lay down the 8-5/8" test packer and pick up and run a 7-5/8" bit and clean out the cement squeeze in the 8-5/8" production casing to the top of the sand plug.
 - 12.5. Pressure test the 8-5/8" casing to verify the casing integrity. If a leak is detected run a test packer and test below 3000' and retest the 8-5/8" production casing.
 - 12.6. Repeat squeeze and/or perforating as necessary.
 - 12.7. Verify the cement bond with a repeat USIT log in the 8-5/8" production casing.
13. Install a retrievable 8-5/8" bridge plug at approximately 1500'. Pressure test the bridge plug to 1000 psig for 10 minutes.

14. Nipple down the 9" Class III 5M BOPE, remove the tubing head and install the innerstring spool and associated seals. Reinstall the tubing head and nipple up the 9" BOPE.
15. Retrieve the 8-5/8" bridge plug at 1500' and lay down the same.
16. Run in the hole with the 2-7/8" workstring and clean out the sand above the lower 8-5/8" bridge plug.
17. Run in the hole and retrieve the 8-5/8" bridge plug. Circulate the hole clean. Make sure well is killed after the 8-5/8" bridge plug is removed
18. Change out the BOPE rams to accommodate the 6-5/8" innerstring and have a safety sub/valve on the working floor to accommodate the 6-5/8" casing.
19. Pick up and run the 6-5/8", 28# L-80 innerstring from the surface to below the depth of the squeeze holes.
 - 19.1. Land the 6-5/8" innerstring in the innerstring spool and set the 6-5/8" innerstring packer according to manufacturer's specifications.
 - 19.2. Pressure test all the seals on the tubing head and the innerstring spool.
20. Change the BOPE rams from 6-5/8" to 2-7/8" to accommodate the completion string.
21. Pick up and run a 6-5/8" HES G-6 mechanical set packer, and the bottom half of the 2-7/8" HES on/off tool (plug in place). Pressure test the 6-5/8" G-6 packer to 1000 psig surface pressure.
22. Run tubing and accessories as follows and space out as required:
 - 22.1. 1 – upper half of HES on/off tool with XN no-go
 - 22.2. 1jt - 2-7/8", L-80 tubing
 - 22.3. 1 – 2-7/8" Sliding Sleeve
 - 22.4. 1jt – 2-7/8", L-80 tubing
 - 22.5. 1 – 2-7/8" L-80 pup jt.
 - 22.6. 1 – 2-7/8" BST Gas lift mandrel (w/dummy valve in place)
 - 22.7. 2-7/8", L-80 tubing to surface
 - 22.8. 1 – 2-7/8" L-80 pup jts (as required for spacing)
 - 22.9. 1 - 2-7/8" x 8" Tubing Hanger
 - 22.10. Run tubing stretch calculation to verify landing weight.
 - 22.11. Pressure test the tubing/casing annulus to confirm integrity of packer and seals to 1000 psig for 10 minutes.
23. Install the BPV and remove the 9", Class IIIB 5M BOPE. Install the tree and test to 5000 psig. Remove the BPV.
24. Clean the pits, the location and properly dispose of any well work fluids.

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Post Rig Work:

1. Modify the lateral piping to accommodate the wellhead elevation change due to the innerstring spool installation. Install the modified laterals and the instrumentation.
2. Unload the well and close the sliding sleeve.
3. Place well on tubing withdrawal to clean up water from completion interval. Clean up the location.

Todd Van de Putte

JAN 27 2010

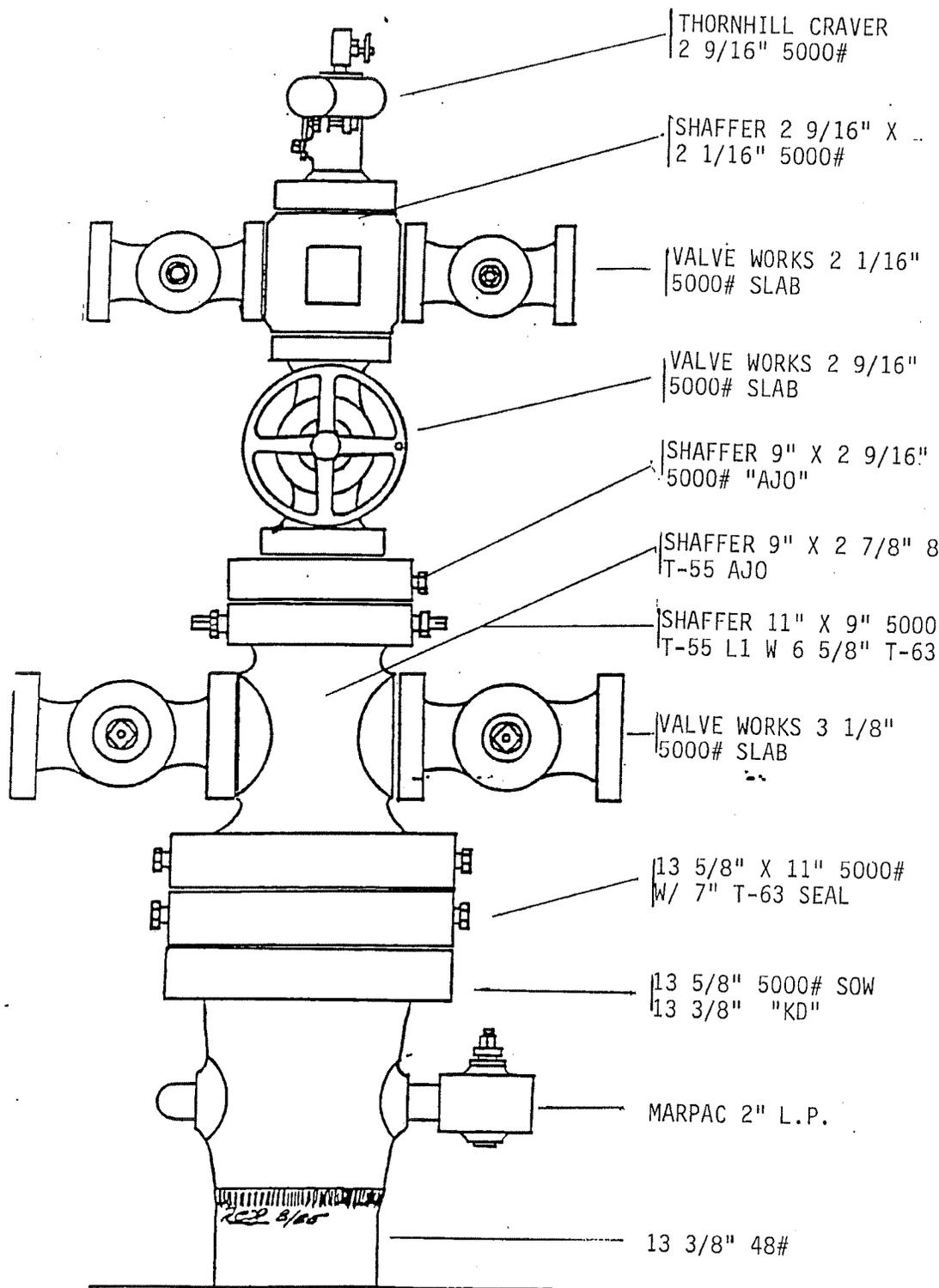
WELLHEAD DESCRIPTION
(TYPE IV & VI)

Well No. FF-32-F Date Prepared 3/30/06

Field ALISO CANYON Prepared By _____

Wellhead Mfr. SHAFFER OIL TOOL

1. Casing Head SHAFFER Size 13 5/8" 5000# SOW 13 Type "KD"
Slips & Pack-off 13 5/8" X 8 5/8" "KD"
 - A. Surface Csg. Size 13 3/8" Wt 48# Grade H-40
 - B. Casing Head Valve MARPAC Size 2" L.P. Fig No. CSB-790-JN
2. Seal Flange SHAFFER Size 13 5/8" X 11" 5000#
 - A. Type Seal 8 5/8" T-63 Ring BOTTOM BX-160& TOP RX-54
3. Tubing Head SHAFFER Size 11" X 9" X 11" 5000# Type T-55 11
Ring BOTTOM RX-54 & TOP RX-50
Outlets 3 1/8" 5000# Sec. Seal 6 5/8" T-63
Valve Removal Thrd 2 1/2" L.P.
 - A. Tubing Hanger SHAFFER Size 9" X 2 7/8" 8 RD Type T-55 AJO
B.P.V. Size SHAFFER Thrd 2 7/8"
VALVE WORKS
 - B. Tubing Head Valves 3 1/8" 5000# SLAB Size 3 1/8" 5M Fig.No. _____
 - C. Automatic Csg. Valve _____ Size _____ Fig.No. _____
4. Adapter Seal Flange SHAFFER Size 9" X 2 9/16" 5M Type AJO
 - A. Ring Size BOTTOM RX-50 & TOP RX-27
5. Master Valve VALVE WORKS Size 2 9/16" 5 M SLAB Fig.No. _____
6. Xmas Tree Cross SHAFFER Size 2 9/16" X 2 1/16" 5000#
Bore: Thru 2 9/16" Across 2 1/16"
7. Tubing Wing Valves VALVE WORKS Size 2 1/16" 5 M Fig.No. SLAB
 - A. Automatic Tbg. Valve _____ Size _____ Fig.No. _____
8. Unibolt Size 2 9/16" 5000# Inside Thrds 2 7/8" 8 RD
9. Size Landed in Csg. Head 8 5/8" Wt 36# Grade K-55
10. Size Landed on Doughnut _____ Wt _____ Grade _____
11. Tubing Head to Ground Level 1.24" ABOVE GROUND LEVEL



WELL NAME FF-32-F

MFGR: SHAFFER OIL TOOL

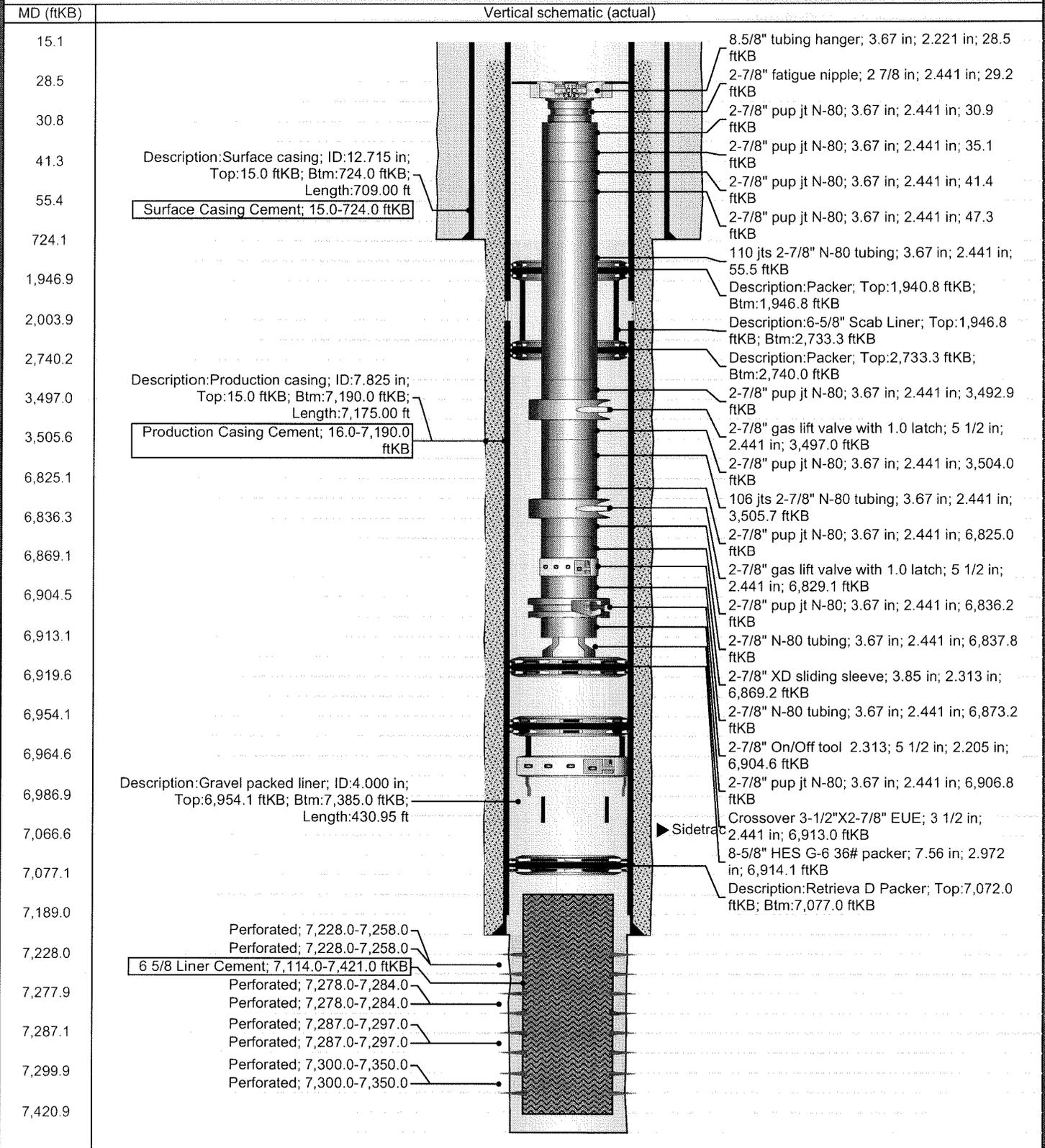
DATE PREPARED: 3/30/07

Gas Company Schematic



API 03721313	Field Name Aliso Canyon	Operator Southern California Gas Company	County Los Angeles	State California
Ground Elevation (ft) 1,995.00		KB-Ground Distance (ft) 15.00	Spud Date 9/23/1972 00:00	

Original Hole, 1/26/2010 9:57:44 AM



OPERATOR

WELL NO. FERNANDO FEE 32F

MAP

A.P.I. 057-21313

SECTION 27, T. 3N N, R. 16 W

SUPP

INTENTION	<u>REDRILL</u>					
NOTICE DATED	<u>01/09/2006</u>					
P-REPORT NUMBER	<u>P206-4</u>					
CHECKED BY/DATE						
MAP LETTER DATED						
SYMBOL						

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	<u>01/11/06</u>									
HISTORY	<u>1-26-07</u>									
SUMMARY	<u>3-12-07</u>									
E-LOG										
MUD LOG										
DIPMETER										
DIRECTIONAL										
CORE/SWS										
CBL										
<u>Caliper</u>	<u>3/12/07</u>									

ENGINEERING CHECK

T-REPORTS	<input checked="" type="checkbox"/>					
OPERATOR'S NAME	<input checked="" type="checkbox"/>					
WELL NO.	<input checked="" type="checkbox"/>					
LOC & ELEV	<input checked="" type="checkbox"/>					
SIGNATURE	<input checked="" type="checkbox"/>					
SURFACE INSP.						
DRILL CARD						

RECORD'S COMPLETE NO 2-7-07

FINAL LETTER OK
 MAILED
 RELEASED BOND

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

OPERATOR
 LSE & NO. 110 62
 MAP NO. 150

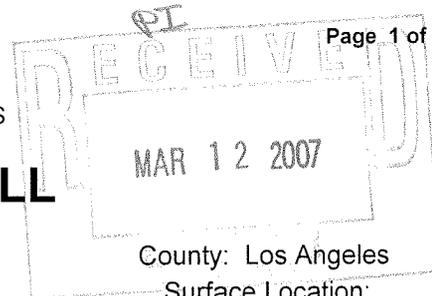
INTENTION	drill	o/h	Remwork 9-22-77	Remwork	REDRILL
NOTICE DATED	9-22-72	10/19/73	6-2-77	11-3-85	12/20/2005
P-REPORT DATED	172-1108	273-435	277-191	285-369	P205-241
CHECKED BY/DATE					
MAP LETTER DATED	3-31-73		NC	NC	
SYMBOL	↗				

REC'D NEED REC'D NEED REC'D NEED REC'D NEED REC'D NEED

NOTICE	9-28-72	10/25/73	6-6-77 +	11-12-85	12/20/05
HISTORY	3-26-73	12-27-73	9-22-77 +	7/3/86	
SUMMARY	3-26-73				
IES/ELECTRIC LOG	✓				
DIRECTIONAL SURV.	✓				
CORE/SWS DESCRIP.					
DIPMETER RESULTS					
OTHER			30PG 1215-TH X		
RECORDS COMPLETE		273-435 only 12/27/73	9-22-77 MPC	MPC 7/25/86	

ENGINEERING CHECK		CLERICAL CHECK	
T-REPORTS	_____	POSTED TO 121	170 MAILED
OPERATOR'S NAME	_____		FINAL LETTER
WELL DESIGNATION	_____		MAILED
LOC. & ELEVATION	_____		RELEASE
SIGNATURE	_____		BOND
SURFACE INSPECTION	_____		
FINAL LETTER OK	_____		

REMARKS



HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Fernando Fee 32 F
A.P.I. No. 037-21313

Field: Aliso Canyon

Mike Dozier

County: Los Angeles
Surface Location:

Title: Technical Specialist
(President, Secretary, or Agent)

Date: 3/8/2007

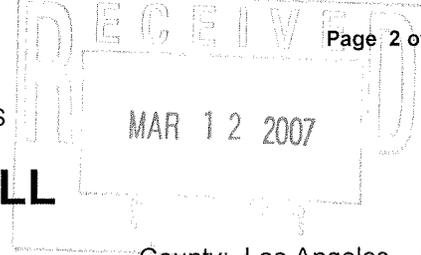
Signature: *Mike Dozier*
(Person Submitting Report)

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

Telephone Number: 818-701-3235

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

Start Date	Ops. DOGGR Rpt
12/19/2005	RU Spicer W/L. Ran in well w/ 2-1/2" 'B' shifting tool to 7037'. Shifted open the SSD and pulled out of well. Rigged down wireline.
1/16/2006	Rigged up to kill well. Moved-in kill fluid. MI Spicer W/L. Rigged up and ran in well w/ 2-1/2" 'B' shifting tool to check sliding sleeve (SSD). Could not locate the SSD and assumed that it was still open. Rigged down wireline.
1/16/2006	MIRU Torch Rig #21. Spotted mud pump and moved-in storage tanks.
1/17/2006	Rigged up to kill well. MIRU Spicer W/L. RIH w/ 1-3/4" x 30' drift tool to check if the tubing string was clear and tagged @ 7170' w/ the tubing tail @ 7080'. POOH w/ drift tool. Pumped 50 bbl. high-vis polymer pill and displaced the pill w/ 41 bbls. of 9.1 ppg. KCL. Killed well pumping 365 bbls. of kill fluid. Pumped 47 bbls. more with no returns. Secured well and moved rig to MA1A well site.
1/19/2006	RU Spicer W/L. RIH w/ 2-1/2" 'B' shifting tool to close the SSD. Located SSD and beat down to 7 times to close the sleeve. POOH w/ shifting tool. RD W/L.
1/24/2006	Wait on Coiled tubing unit.
1/25/2006	Wait on Coiled tubing unit.
1/30/2006	Rigged up Schlumberger coiled tubing, ran in well and tagged liner top @ 7141'. Unable to get below liner top. Mixed and pumped 2 bbls. of "G" cement with retarder. Mixed and pumped another 2 bbls. of "G" cement with retarder for a total of 30 sacks.
1/31/2006	Wait on rig.
2/1/2006	Wait on rig.
2/3/2006	Wait on rig.
2/6/2006	Wait on rig.
2/8/2006	Filled casing with 46 bbls. and tubing with 14 bbls. of 3% KCL. Pressure tested tbg to 500 psi. for 20 minutes. Bled-off pressure and installed BPV and removed prod tree. Installed 2-7/8" pup joint w/ safety valve. NU Class III 5K BOP & Hydril. Secured rig.
2/9/2006	MIRU work over rig.
2/10/2006	MI equipment.
2/13/2006	RU equipment and subbase. MIRU Torch Rig #21.
2/14/2006	Continued rigging-up. NU Class III BOPE and pre-tested same. Pressure dropped from 5000 psi. to 3000 psi. in 2 minutes - tubing hanger leak. Secured rig.
2/15/2006	RU BOPE tester. Pressure tested BOP blind rams to 5000 psi. for 20 minutes - held OK. Removed BPV and pressure tested the 2-7/8" pipe rams to 5000 psi. and Hydril to 3500 psi. for 20 minutes. Pressure test all valves and the choke manifold to 5000 psi. for 20 minutes - held OK. BOPE test witnessed and approved by Mark Davis, DOGGR District #2 inspector. Backed-out hold down studs and released 2-7/8" tbg from Baker 7" Retrieva-D packer @ 7072'. POOH and LD 1 joint of 2-7/8" tubing.
2/16/2006	Open well fill, well with 8 bbls. Test casing to 500 psi. for twenty minutes. Pulled out of well laying down 2-7/8" tubing.
2/17/2006	Pulled out of well laid and loaded out tubing laid down production equipment. Unloaded fishing tools.
2/18/2006	Made up spear extension and stop, jars picked up (4) 4-3/4" drill collars, intensifier. Measured and picked up 3-1/2" drill pipe.
2/19/2006	Ran in well picking up drill pipe to top of casing patch at 1946'. Engaged fish, released top SLP-R packer. Attempted to move down hole to release Baker model "D" packer. Released from fish, pulled out of well, changed out grapple, picked up (2) 5" stroke bumper subs and (6) 4-3/4" drill collars, jars and intensifier. Ran in well to 1940' and engaged fish. Attempted to release packer, worked down hole 40' stopped with top at 1995'. Released from fish and pulled out of well laid down fishing tools. Picked up and made up kelly and swivel.
2/20/2006	Made up hydraulic cutter on drill pipe ran in well to 2785' located casing bottom, cut 6-5/8" casing at 2777' pulled out of well, laid down cutter. Made up spear, jars, bumper sub, stop sub, jars, (6) 4-3/4" drill collars, intensifier. Ran in well engaged fish, jarred loose. Pulled out of well. Pulled out of well laying down fishing tools, rigged up casing tongs.



HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Fernando Fee 32 F
A.P.I. No. 037-21313

Field: Aliso Canyon
Mike Dozier

County: Los Angeles
Surface Location:
Title: Technical Specialist
(President, Secretary, or Agent)

Date: 3/8/2007

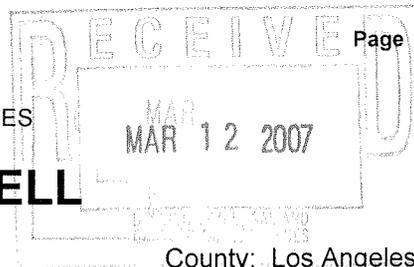
Signature:
(Person Submitting Report)

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

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Start Date	Ops. DOGGR Rpt
2/21/2006	Cut and laid down 6-5/8" casing. Unable to break baker-lok threads. Made up spear, bumper sub, down jars, jars (6) 4-3/4" drill collars and intensifier. Ran in well to top of fish at 2777'. Engaged fish attempt to release model "D" packer. Pulled out of well with no recovery. Made up fishing tools ran in well to 2777' engaged fish jarred up and down on packer. Pulled out of well, laid down packer. Part of slips and slip assembly missing.
2/22/2006	Made up 8-5/8" casing scraper, ran in well to 3000'. Pulled out of well, laid down scraper make up WEA 8-5/8" test packer, ran in well to 2750' set packer, test below packer to 500 psi. for 15 minutes. Tested annulus from 2750' to surface to 2000 psi., lost 100 psi. in 15 minutes. Pulled to 2110' Set packer and tested below to 500 psi. for 15 minutes. Tested annulus to 2200 psi. for 15 minutes, lost 1000 psi. in 15 minutes. Pulled to 1980' tested annulus to 2400 psi. for 15 minutes. (All tests charted S. Fields DOGGR waived witness of casing test) Released packer and pulled out of well. Laid down packer. Made up reverse circulating junk sub, 8-5/8" casing scraper, string mill. 10' lead collar, string mill, bumper sub, (6) 4-3/4" drill collars. Ran in well to 2700'. Measured and picked up 3-1/2" drill pipe.
2/23/2006	Ran in well picking up drill pipe to packer at 7072'. Picked up kelly, circulated 30 minutes pulled out of well, laid down tools. Made up Baker retrieving tool, bumper sub, jars, (4) 4-3/4" drill collars ran in well to packer. Engaged packer worked free, pulled out of well with packer.
2/24/2006	Pulled out of well, no recovery, slip segment stuck in collette top latch bent. Made up latch and stinger. Ran in well latched packer at 7072' jarred on packer with no movement. Released from packer and pulled out of well.
2/25/2006	Made up 7-5/8" mill shoe, extension, bumper sub, jars (6) 4-3/4" drill collars, ran in well to 7066'. Made up kelly, changed over well to calcuim carbonate Flo-pro mud rig down.
3/2/2006	Repaired rig.
3/3/2006	Repaired rig. Reversed circulated, milled on Baker retrieva-D packer. Pulled out of well.
3/4/2006	Made up tools, ran in well to 7072'. Milled on packer, not making hole. Circulated well clean. Pulled out of well, break down tools. Made up dump bailer on 3-1/2" tubing ran in well with sandline. Dumped 1.5 cu. ft. cement on top of packer at 7072'. Laid down dump bailer made up mill shoe, jars (3) junk subs (6) 4-3/4" drill collars ran in well to 7068'.
3/5/2006	Tagged cement at 7068' made up kelly reversed circulated clean. Cleaned out cement to 7072' milled packer to 7076' circulated well clean. Pulled out of hole, changed out mill shoe. Ran in well to 7076' milled on packer.
3/6/2006	Pulled out of well with mill assembly. No wear on shoe. Made up dump bailer, mixed 1 cu. ft. cenemt and dump om packer at 7072'. Made up mill shoe, extension, jars, (3) junk subs. (6) 4-3/4" drill collars ran in well tagged at 7067' Milled on packer for 4 hour not making hole. Pulled out of well.
3/7/2006	Pulled out of well, made up junk mill, jars, (3) junks subs, (6) 4-3/4" drill collars ran in well to 7069' cleaned out cement to 7072'. Milled on packer. Pulled out of well, made up 7-5/8" mill shoe, jars, (3) junk subs, (6) 4-3/4" drill collars ran in well to 7072'.
3/8/2006	Milled on Baker model "D" packer. Circulated well clean, spotted 20 bbls water on bottom. Pulled out of well laid down mill. Made up dump bailer, mixed 1.2 cu. ft. HES Hydromite resin cement. Ran in well with dump bailer, spotted cement laid down bailer. Made up 7-5/8" mill shoe, jars (3) junk subs (6) 4-3/4" drill collars. Ran in well to 7068', tagged cement.
3/9/2006	Milled on packer at 7076', not making hole. Reversed well clean, pulled out of well laid down shoe. Made up dump bailer, mixed 1.4 cu. ft. cement. Dump bailed cement on top of packer at 7072'. Made up shoe, jars, (3) junk subs, (6) 4-3/4" drill collars ran in well to 7000'.
3/10/2006	Ran in well, tagged cement at 7068'. Milled on packer, circulated well clean, pulled out of well laid down mill shoe made up bit and junk subs ran in well to 7068', cleaned out cement to top of packer at 7072'. Reversed circulated well clean. Pulled out of well laid down bit.



HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Fernando Fee 32 F
A.P.I. No. 037-21313

Field: Aliso Canyon
Mike Dozier

County: Los Angeles
Surface Location:
Title: Technical Specialist
(President, Secretary, or Agent)

Date: 3/8/2007

Signature:
(Person Submitting Report)

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

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Start Date	Ops. DOGGR Rpt
3/11/2006	Rigged up Tiger wire line made up WEA cast iron bridge plug. Ran in well, set bridge plug with top at 7047' bottom at 7070' Rigged down wire line. Made up WEA test packer ran in well to 2750' set packer, test form 2750' to 7072' to 800 psi. for twenty minutes, tested good. Tested from 2750' to surface to 1600 psi. (bled down 600 psi in 7 minutes) Pulled to 1905' tested from 1905' to surface held 2200 psi. for twenty minutes. Pulled out of well laid down packer. Made up WEA 8-5/8" whipstock and orienting sub. Ran in well to 7005' made up and ran single shot survey tool. Turned tool 90 degrees right and set whipstock.
3/12/2006	Sheared off whipstock. Pull above shoe, secured well.
3/15/2006	Broke circulation, milled out with starting mill, no fluid loss. Circulated well clean. pulled out of well. Laid down mill, made up window mill and watermelon mill. Ran in well to 7041'. Started milling window.
3/16/2006	Milled window from 7029' to 7040', stopped milling. Circulated well clean, pulled 10 stands. Tested casing to 600 psi. Held for 20 minutes. Pulled out of well changed out mills. Ran in well to 7029' reamed to 7040'. Milled window from 7040' to 7044', circulated well clean. Pulled out of well.
3/17/2006	Pulled out of well, laid down mills. Made up Hughes 7-5/8" MX20G bit with 2/15 jets bit sub, (1) 4-3/4" drill collar, 7-5/8" stabilizer, (5) 4-3/4" drill collars, (5) joints 3-1/2" weight pipe. Ran in well to 7044'. Drilled 7-5/8" Hole from 7044' to 7150'.
3/18/2006	Drilled 7-5/8" hole from 7150' to 7225'. Pulled to shoe down for 5 hours, repaired pump. Ran in well to 7225' drilled 7-5/8" hole from 7225' to 7400' (TD).
3/19/2006	Drilled 7-5/8" hole to 7404' circulated well clean. Pulled out of well laid down bit and stabilizer. Made up 7" X 12", shock sub (6) 4-3/4" drill collars ran in well to 7060'. Ran in well to 7400' ran single shot survey on sandline. Pull out of laying down working singles to 7200'.
3/20/2006	Opened arms on under reamer at 7200' under ream from 7200' to 7212'. Circulated and condition mud - High sand content. Under ream from 7212' to 7230'. While pulling to casing shoe under reamer stuck at 7200'. Work stuck pipe.
3/21/2006	Circulate and work stuck pipe. Rigged up Baker Atlas wire line. Made up string shot, ran in well to 6974' backed off drill pipe. Rigged out wire line, pulled out of well, laid down (2) joints hevi-weight drill pipe. Made up screw in sub, bumper sub, jars, (4) 4-3/4" drill collars and instenifer. Ran in well to 6974', screwed into fish. Worked fish loose, pulled out of well with fish.
3/22/2006	Pulled out fo well with fish, recovered under reamer and all arms. Made up 7-5/8" bit, bit sub, (10) 4-3/4" drill collars, ran in well to shoulder at 7231' reamed to bottom at 7400'. Circulate and condition hole. Pulled out of well for under reamer run.
3/23/2006	Pulled out of well laid down 7-5/8" bit. Made up 7' x 12" under reamer, bit sub, shock sub, bumper sub, jars (10) 4-3/4" drill collars. Ran in well to 7200' open tool. Pump broke down. Pulled to 6900'. Shut down for pump repairs.
3/24/2006	Repaired pump. Ran in well to 7200', open 7-5/8" hole to 12" from 7200' to 7300'.
3/25/2006	Open 7-5/8" hole to 12" from 7300' to 7400'. Circulated well clean for logs. Pulled out of well. Rigged up Schlumberger wire line. Ran in well with four arm caliper tool. Logged from 7400' to 7200'. Rigged out loggers made up 7-5/8" bit (10) 4-3/4" drill collars.
3/26/2006	Ran in well with bit to 7395' spot 60 bbl. polymer pill, pulled to 6700', changed over well to filtered 3% KCL water. Pulled out of well. Picked up circulating shoe, (4) joints 4-1/2" .016 wire wrapped screen with 6" shroud, (5) joints 4-1/2" semi perf liner, (2) joints 4-1/2" blank liner, lower extension, gravel pack sliding sleeve, mill out extension, WFT 8-5/8" seal bore packer. Ran in well rabbiting drill pipe.
3/27/2006	Ran in well, rabbiting pipe with liner with top at 6954' and bottom at 7385'. Set packer and tested annulus to 500 psi. Tested OK. Started pumping at 500 psi. and 1 ppg. Gravel packed with 160 cu.ft 20/40 gravel screened out at 1100 psi. Reversed out 1 cu. ft. restressed at 1100 psi. 159 cu. ft. in place 140 cu. ft. calculated volume. Rigged out gravel pack unit. Pulled out of well laying down 3-1/2" drill pipe.
3/28/2006	Load out drill pipe equipment. rigged up tubing equipment. Changed pipe rams to 2-7/8". Measured and picked up (15) joints of 2-3/8" Hydril tubing. Measured and picked up (220) joints 2-7/8" tubing tagged at 7385'.

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

HISTORY OF OIL OR GAS WELL

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Well: Fernando Fee 32 F
A.P.I. No. 037-21313

Field: Aliso Canyon

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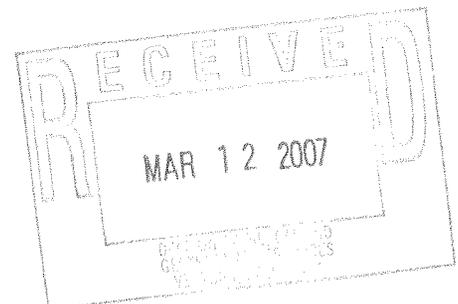
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Start Date	Ops. DOGGR Rpt
3/29/2006	Rigged up and pump 17 bbls. M-I breaker, equalize with 39 bbls. KCL. Pulled out of well laid down 2-3/8" tubing. Made up HES G-6, 8-5/8" packer 6' pup joint, on/off tool with PXN plug in place and ported sub. Ran in well to 6920' set packer tested annulus to 500 psi., released from o/o tool, hung tubing in tubing hanger. Rigged down sub-base moved out sub-base. Rigged up working floor pulled out of well with tubing.
3/30/2006	Made up 8-5/8" bridge set at 25'. Rigged down working floor. Nippled down class III BOP. Nipple down tubing head and double studded seal flange. Nipple up double gate. Send in spools for repair.
4/3/2006	Nippled down BOP. Installed new primary seals in casing head, installed double seal flange with new PS seals. Installed tubing head with new PS seals tested all connections and seals to 5000 psi. Nippled up class III BOP. Rigged up working floor and tubing equipment. Released bridge plug.
4/4/2006	Rigged up WEA casing tongs with JAM unit. Made up WEA mechanical set 8-5/8" lower packer. Measured and picked up (20) joints 6-5/8", 24# casing. Made up WEA hydraulic set upper packer, setting tool. Ran in well rabbiting tubing to 1940'. With lower packer at 2740' and upper packer at 1940' set lower packer and tested from 2740' to 6950' to 500 psi for twenty minutes. Dropped ball and set upper packer tested annulus to 2200 psi. for twenty minutes. Released from packer and pulled out of well to 1800'.
4/5/2006	Open well 0 psi pulled out of well laid down setting tool. Made up top half on/off tool, 1 jt 2-7/8" tubing, XD sliding sleeve, (1) jt. 2-7/8" tubing, gas lift mandrel with dummy, tubing to 3500'. Tubing to surface made up tubing hanger engaged o/o tool, checked latch. Landed in tubing hanger with 10,000 compression. Tested annulus to 500 psi. for twenty minutes. Nippled down class III BOP nippled up production tree. Rigged down.
4/14/2006	MIRU Spicer W/L. RIH 'B' shifting tool and opened the SDSD @ 6903'. POOH and rigged down wireline.
4/21/2006	MIRU Spicer wireline. RIH w/ 2-1/2" 'B' shifting tool to 6869' and closed SSD and POOH. RIH w/ pulling tool to 6905' and pulled prong from 'PXN' plug and POOH. RIH w/ pulling tool and pulled plug body and POOH. Rigged down wireline..
5/4/2006	MIRU Spicer wireline. RIH w/ 2.31" fluid sample bailer but could not get past HES on/off tool @ 6905'. POOH with 2.31" bailer. RIH with 1.75" fluid sample bailer and tagged @ 7409'. POOH and recovered a sample containing gravel pack sand. RIH w/ pressure bomb making gradient stops every 500' from surface. POOH with tool and rigged down wireline.
6/2/2006	Move out, clean location.



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

No. T206-092

Report on Operations

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

Ventura, California
February 27, 2006

Your operations at well "**Fernando Fee**" 32F, API No. 037-21313, Sec. 27, T. 3N, R.16W, S.B.B.&M. **Aliso Canyon** Field, in **Los Angeles** County, were witnessed on **02-15-2006**. **Mark Davis**, representative of the supervisor, was present from **1215** to **1400**. There were also present **Mike Volkmar**.

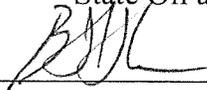
Present condition of well: **13 3/8" cem 724'**, casing patch **1946'-2737'**; **8 5/8" cem 7190' cp 7116'**; **6 5/8" cem 7116'-7418'**, cp **7200'**, perf **7196' WSO**, perf @ int **7228'-7350'**; **2 7/8" ld 7149'-7415'**, slotted **7278'-7415'**. **TD 7423'**. **Plugged w/ cem 7423'-7415'**.

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 8 5/8" casing are approved.

tke

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

BLOWOUT PREVENTION EQUIPMENT MEMO

Operator SO. CAL. GAS CO Well "FERNANDO FEE" 32F Sec. 27 T. 03N R. 16W
 Field ALISO CANYON County LOS ANGELES Spud Date _____

VISITS: Date Engineer Time Operator's Rep. Title
 1st 2-15-06 MARK DAVIS (12:15 to 14:00) MIKE VOLKMAR CONSULTANT
 2nd _____ (_____ to _____) _____ _____
 Contractor NABORS DRILLING Rig # 21 Contractor's Rep. & Title _____

Casing record of well: 13 1/2" cem 724', PATCH 1946'-2737'; 8" cem 7190' to 7116'; 6 1/2" cem 7116'-7418'
CO 7200', PERM 7196' WSD, PERFF@INT 7228'-7350'; 2 1/8" ID 7149'-7415', SLOTTED 7278'-
7415', TO 7423', PLUGGED W/CEM 7423'-7415'.

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

Proposed Well Opns: REDFILL MACP: _____ psi **REQUIRED BOPE CLASS:** IIB 5M
 Hole size: _____ " fr. _____ " to _____ " & _____ " to _____ "

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

BOP STACK						TEST DATA							
API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press
A	—	SHAFER	SPHERICAL	9"	5K							2-15	3K
Rd	2 1/2	SHAFER		9"	5K							2-15	5K
Rd	3.0	"		9"	5K							2-15	5K

ACTUATING SYSTEM				TOTAL:	AUXILIARY EQUIPMENT					
Accumulator Unit(s) Working Pressure <u>1500</u> psi					QUANTITY	SIZE	PRESS. RATE.	Connections		
Total Rated Pump Output _____ gpm		Fluid Level _____						Weld	Flange	Thread
Distance from Well Bore <u>50</u> ft.		<u>3/4</u>								
Accum. Manufacturer		Capacity	Precharge	Fill-up Line						
1	KOOMEY	gal.	3000 psi	Kill Line			5K		5K	
2		gal.	psi	Control Valve(s)	4		"		"	

CONTROL STATIONS				Elec.	Hyd.	Pneu.
<input checked="" type="checkbox"/>	Manifold at accumulator unit				<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	Remote at Driller's station			<input checked="" type="checkbox"/>		
	Other:					

EMERG. BACKUP SYSTEM				Press.	Wkg. Fluid
<input checked="" type="checkbox"/>	N ₂ Cylinders	1	L=	1950	gal.
	Other:	2	L=	2000	gal.
		3	L=	2000	gal.
		4	L=	2100	gal.
		5	L=		gal.
		6	L=		gal.
	TOTAL:				ga

HOLE FLUID MONITORING		Alarm Type		Class
		Audible	Visual	
<input checked="" type="checkbox"/>	Calibrated Mud Pit		<input checked="" type="checkbox"/>	A
<input checked="" type="checkbox"/>	Pit Level Indicator		<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	Pump Stroke Counter		<input checked="" type="checkbox"/>	B
	Pit Level Recorder			
	Flow Sensor			C
	Mud Totalizer			
	Calibrated Trip Tank			
	Other:			

Hole Fluid Type	Weight	Storage Pits (Type & Size)
<u>WATER</u>	<u>9.1</u>	<u>450 BBLs.</u>

REMARKS AND DEFICIENCIES:
* WILL SEND CHARTS, TESTED AT YARD

Fields, Steve

From: Jackson, Richard L. [RLJackson2@semprautilities.com]
Sent: Monday, February 06, 2006 3:09 PM
To: Fields, Steve
Subject: FW: FF32F DVCollar leak and scheduling.

Steve, The attempts made to put a plug in the zone with coiled tubing saw the hole take all the cement. Although Mark has not tagged cement it seems likely that there is no acceptable plug in the zone. As soon as we get a rig on the hole I will direct our consultant to keep you apprised of the situation. I had originally expected to place the plug with the patch in place and through the packer bore, and that is what we can do now. This will give us pipe integrity until the zone is isolated. We can then take the patch out and do the test of casing integrity you want to see. I'm with you, I don't want to do full redrill if the DV hole leaks fluid at any substantial rate, unless we repair first. Do you need other paperwork on this well before we proceed?

-----Original Message-----

From: Mansdorfer, Jim
Sent: Monday, February 06, 2006 2:57 PM
To: Jackson, Richard L.
Cc: Kuncir, Mark
Subject: RE: FF32F DVCollar leak and scheduling.

I think I would stay with the original program.

Jim Mansdorfer
Storage Engineering Manager
SoCalGas Storage
818-701-3473

-----Original Message-----

From: Jackson, Richard L.
Sent: Monday, February 06, 2006 2:54 PM
To: Mansdorfer, Jim
Cc: Kuncir, Mark
Subject: RE: FF32F DVCollar leak and scheduling.

I see 2 solutions:

Solution 1

- 1 Place plug in tubing above packer
- 2 Cut tubing above plug and recover
- 3 Remove patch and test per DOG

Repair if not acceptable to them or go about packer recovery and squeeze through retainer

- 4 Remove seals from packer and remove packer
- 5 Place retainer and squeeze cement to abandon zone.

Solution2 - pretty much as it was written in the original program except for the addition of the DV repair if required by DOG

- 1 Remove seals and pull tubing

- 2 Equalize cement plug above liner through seals of existing packer
- 3 Remove patch and test casing. Repair if not acceptable to them
- 4 Remove packer
- 5 Set retainer or BP for kick off Whip stock.

If the RV failure doesn't delay the rig work we will be crossing the bridge next week.

-----Original Message-----

From: Mansdorfer, Jim
Sent: Monday, February 06, 2006 1:24 PM
To: Jackson, Richard L.
Cc: Kuncir, Mark
Subject: RE: FF32F DVCollar leak and scheduling.

We probably need to give a more detailed explanation of the situation to DOGGR. Unless this is different than the typical situation with DV collars, there is no structural integrity issue. It is just a matter of the elastomer seal failing, creating a small leak path for gas. We have typically had little success in squeezing cement through them, but perhaps with the new fine grind cement we could do better. In a worst case of well control situation, if the well unloaded to a full column of gas at current pressure (2300 psi) it would result in a relatively small amount of gas leaking out at 2200'. I don't see how enough gas could leak out in the time it would take to re-kill the well to cause a problem.

Jim Mansdorfer
Storage Engineering Manager
SoCalGas Storage
818-701-3473

-----Original Message-----

From: Jackson, Richard L.
Sent: Thursday, February 02, 2006 3:07 PM
To: Mansdorfer, Jim
Cc: Kuncir, Mark
Subject: FF32F DVCollar leak and scheduling.

Jim, The last time we worked on FF32F we were pulling tubing and repairing the patch. At that time (2001) we did not address the leak itself but rather put a patch over it. As I recall it was not a big leak but did leak gas when the patch failed and it showed readily on the temp log. The USIT log we ran at the time shows an interval outside the pipe adjacent to the leak where there is no cement as if the cement was over displaced. DOGGR statement when they reviewed the program as I had written it was that they "were not comfortable with having the storage zone open to a leak in the casing" even at this depth which is deeper than the requirement for surface pipe. I have written the procedure to work around the exposure while we take the well apart but the storage zone will still be open to this leak while we are doing the redrill. It appears to me that we will have to deal with the leak sooner or later and squeezing cement would be the obvious solution. The patch would still have to be run to protect this and other possible problem areas, but squeeze would probably be effective at the 2200' with high probability.

Mark is going to tag the cement he put in the well with coil and if above the liner top will

perform pressure test to make sure the plug has integrity. If it has no integrity, I suggest we go back to the placement with Mac tubing on dp. We did the CT in an attempt to gain time but after the 3rd attempt to cement we are on top of the coil tubing equipment at FF32 site. We have gone as far as we can at MA1A for now and expect to move early next week if the coil is finished there. Your call if the CT continues there or proceeds to another site so the rig can get going. I think the perforating on FF32 site can be done with a rig there so is not an issue.

PERMIT TO CONDUCT WELL OPERATIONS

C O R R E C T E D C O P Y

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
January 12, 2006

Your supplementary proposal to redrill well "Fernando Fee" 32F, A.P.I. No. 037-21313 Sec. 27, T. 3N, R. 16W, SB B.&M., Aliso Canyon field, area, pool Los Angeles County, dated 01/09/2006 received 01/11/2006 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOGGR Class III 5M requirements shall be installed and maintained in operating conditions at all times during preparation for sidetracking.
2. Blowout prevention equipment conforming to DOGGR Class III B 5M requirements shall be installed and maintained in operating conditions at all times during open hole operations.
3. Drilling fluid of a quality and in sufficient quantity is used to control all subsurface condition in order to prevent blowouts.
4. A diligent effort shall be made to clean out the well to at least 7415'.
5. An approved blowout prevention and control plan shall be available during the proposed operations.
5. This office shall be consulted before initiating any changes or additions to this proposed operation, or f operations are to be suspended.
6. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To witness a pressures test of the 8-5/8" after the removal of the casing patch. *witnessed JAO*
 - b. To witness a pressure test of the blowout prevention equipment before commencing downhole operations.

In the event that problems are encountered while cleaning out the well to 7415' and a cement retainer is used then:

1. Sufficient cement shall be squeezed before the retainer to fill the hole to at least 7328'.
2. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To witness the squeeze cementing thru the retainer proposed to be set at 7065'

Note: In the event that a balance plug is used, this Division does not need to witness the placement or the location and hardness of the cement plugs.

SAF:sf

Engineer Steven A. Fields

Hal Bopp, State Oil and Gas Supervisor

Phone (805) 654-4761

By *[Signature]*
Deputy Supervisor

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

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

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

BCND
~~OGD 114~~
OGD 121
EDP WELL FILE
111 ✓ 115 ✓

P206-4

SUPPLEMENTARY NOTICE

A notice to the Division of Oil, Gas, and Geothermal Resources, dated 12/20/2005, stating the intention to

redrill well Fernando Fee 32F (IW 62) API No. 037-21311
(Drill, rework, abandon) (Well designation)

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

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

- 1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:
 0'-724' 13-3/8" 48# H-40 casing cemented
 0'-7190' 8-5/8" 36# N-80 & K-55 LT&C casing cemented WSO squeezed 7130'.
 7116' - 7418' 6-5/8" 28# K55 cemented jet perforated in intervals 7350 to 7228. WSO 7196'.
 1946' - 2737' 6-5/8" - 24# casing patch between packers
 7415 - 7149' 2-7/8" gravel packed liner with 20 mesh slots - damage reported at top of liner
 0 - 7042' 2-7/8" 6.4# EUE tubing with Baker Retrieval-D packer at 7042'.

2. The total depth is: 7418' feet. The effective depth is: 7415 feet.

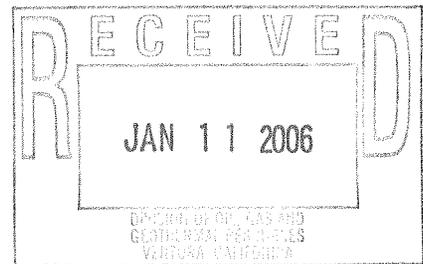
3. Present completion zone (s): Sesnon Anticipated completion zone (s): Sesnon
(Name) (Name)

4. Present zone pressure: 2500 psi. Anticipated/existing new zone pressure: 2500 psi.

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

Place cement plug across existing liner utilizing coiled tubing per attached supplemental program instead of placing with rig and small diameter tubing. Additionally a test of the faulty DV collar will determine if casing integrity is compromised and squeeze cementing is required prior to redrilling. The existing packer will be removed to allow for lower exit with whipstock.

See Supplemental Cementing program accompanying this notice.



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

Name of Operator Southern California Gas Company	Telephone Number 818 701 3251
Address 9400 Oakdale Ave	City Northridge
Name of Person Filing Notice Richard Jackson	Signature <i>Richard Jackson</i>
	Zip Code 91313
	Date 1/9/2005

File In Duplicate

January 9, 2006

Engineer: Richard Jackson

Supplemental Cementing Program

Fernando Fee 32F

Program to plug/sidetrack damaged liner

Re-Complete with Gravel Packed Wire Wrapped Screen

Operator: Southern California Gas Company
 Field: Aliso Canyon Gas Storage Field
 Well: Fernando Fee 32F (I.W. #62)
 Date: 12-14-2005
 Revisions: 12-20-2005RJ
 Supplemental coiled tubing cement placement. 1-9-2006 RJ

API Number: 037-21313

Work Order Authorization Number: WO 96098.006 IO 300415234

Scope of Program: Coiled tubing cement procedure to supplement placement of cementing setps 6, 7 and 8 of original program.

WELL STATUS

Current Status:	Well produces at low rates due to excessive sand production
Elevation:	All depths based on original KB, which is 15.00' above tubing hanger.
Max hole angle:	16° - S4 is at 7207' drilled depth (7086' TVD) Use this depth for kill/fluid calcs.
Effective clean out depth	7415' to top of cement
Casing Record:	0' - 724' 13-3/8", 48#, H-40 casing cemented. 0' - 7190' 8-5/8", 36#, K-55 & N-80 LT&C casing cemented.
Liner	6-5/8" - 28# at 7418' - top at 7116'. (conflicting data) cemented and jet perf'd Perforated 4) 1/2" holes per foot 7228-7258; 7278-7284; 7287-7297; 7300-7350. Squeezed 7200' and at 7116'. "55 sacks 8-12 behind 6-5/8".
Inner liner	2-7/8" 6.5# slotted 20 mesh GP. At 7415' top at 7149'. Liner top is reported to be "bad" "42sx 8-12 between liners"
Casing Patch	1946' - 2737' Baker Model "D" with pack off to straddle leaky DV collar
Tubing Record:	0 - 7039' 2-7/8" 6.5# N-80 8rd tubing
Fluid in hole:	KCl water.

Well Kill Requirements:

- Top of producing zone = 7207' MD (7086' TVD).
- Bottom hole pressure must be monitored daily.
- Calculated fluid density to provide 500 psi overbalance at storage zone
- Confirm mechanical conditions including: Plugs, position of sliding sleeve and GLM valve.

January 9, 2006

Engineer: Richard Jackson

Other considerations:

1. Due to other projects taking place in the immediate vicinity, stay in contact with construction foreman to coordinate equipment moves.
2. Install plugs in XN profile of all adjacent wells that will be covered with plates during this phase of work. AC operations to make determination of wells to be plugged and to be covered.
3. Aliso Canyon is a Title V Facility. Check with the onsite environmental specialist, John Clarke, confirm that all required permits and procedures are properly recorded.

Permits: Permit from the Ca DOGGR will be required for the operations described in this well work program.

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. Check with AC operations to confirm latest status/condition of well and field inventory.

- 1) Remove instrumentation. Remove laterals and install companion flanges and valves for killing well. Perform wireline work prior to removing laterals or connect hoses as required to allow equalization.
- 2) Set 2) 500 barrel closed top tanks and fill with 3% KCl water weighted as required for 500psi overbalance. Treat all water with ucarcide, 5 gallons per 100 barrels. Move in pump with 100b circulating tank, shaker and mixer. Well crew to provide labor for killing well and installing kill equipment.
- 3) Dead head 80 barrels of polymer KCl/salt water down tubing to provide required overbalance. Use aprox. 2#/barrel HEC polymer to achieve 60 sec minimum viscosity. Check wellhead pressure prior to pumping and calculate gradient using TVD=7086'. Weight as required.
- 4) Kill well per schedule: Maintain 500psi overbalance throughout kill.
 - a) Vent gas through choke to Gas Co. system.
 - b) Close sliding sleeve at completion of kill in preparation for coiled tubing placement of cement plug.

January 9, 2006

Engineer: Richard Jackson

PROCEDURE: To supplement steps 6,7 and 8 performed prior to moving in rig.

1. Move in and rig up coiled tubing unit. Schlumberger (805) 644 8160.
2. Install and test BOP for coil on top of tree. Use blind, shear, slip and tubing rams.
3. Run in well with 1-1/4" coil and clean out liner to 7415'. Note: Well files show damage exists at top of 2-7/8" inner liner use caution attempting to get into liner top.
4. Place class "G" cement plug from maximum cleanout depth to 7100'. If liner cannot be cleaned out, squeeze 100% theoretical cement from maximum cleanout depth to 7415'.
5. Pull coil to 7100' and circulate out excess cement.
6. Wait on cement and tag plug to confirm top. Add cement as required to bring cement above existing cemented liner. DOGGR to witness clean out, placement of cement and tag of top.
7. Rig out coiled tubing.

Notes:

Steps in the original will be modified:

After the removal of the casing patch a pressure test/rate of fluid loss will be performed on the leaky DV collar to determine if squeeze cementing is necessary before drilling into the storage zone. Notify DOGGR prior to performing this test.

Removal of existing Retrieva-D packer at 7072'.

Run scraper to top of cement at 7100' prior to setting Cast Iron bridge plug just below collar at 7092' (one joint lower than originally stated).

Richard Jackson
1-9-2005

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
9400 Oakdale Ave.
Chatsworth CA 91313

Ventura, California
December 23, 2005

Your _____ proposal to _____ redrill _____ well "Fernando Fee" 32F, A.P.I. No. 037-21313-02 Sec. 27, T. 3N, R. 16W, SB B.&M., Aliso Canyon field, _____ area, Sesnon-Frew pool Los Angeles County, dated 12/20/2005 received 12/20/2005 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Blowout prevention equipment conforming to DOGGR Class III 5M requirements shall be installed and maintained in operating conditions at all times during preparation for sidetracking.
2. Blowout prevention equipment conforming to DOGGR Class III B 5M requirements shall be installed and maintained in operating conditions at all times during open hole operations.
3. Drilling fluid of a quality and in sufficient quantity is used to control all subsurface condition in order to prevent blowouts.
4. A diligent effort shall be made to clean out the well to at least 7415'.
5. An approved blowout prevention and control plan shall be available during the proposed operations.
5. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
6. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To witness a pressure test of the blowout prevention equipment before commencing downhole operations.

In the event that problems are encountered while cleaning out the well to 7415' and a cement retainer is used then:

1. Sufficient cement shall be squeezed before the retainer to fill the hole to at least 7328'.
2. **THIS DIVISION SHALL BE NOTIFIED:**
 - a. To witness the squeeze cementing thru the retainer proposed to be set at 7065'

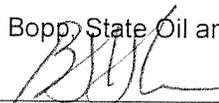
Note: In the event that a balance plug is used, this Division does not need to witness the placement or the location and hardness of the cement plugs.

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.

210
200
30

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
NOTICE OF INTENTION TO REWORK / REDRILL WELL

205-241

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

FOR DIVISION USE ONLY			
Bond	Forms		EDP Well
	OGD114 <input checked="" type="checkbox"/>	OGD121 <input checked="" type="checkbox"/>	File
1,000 200	111 <input checked="" type="checkbox"/>	115 <input checked="" type="checkbox"/>	

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

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

rework/redrill well Fernando Fee 32E (TW 62) API No. 037-21313 - 02
(Circle one) (Well designation)

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

1. The complete casing record of the well (present hole), including plugs and perforations, is as follows:
0'-724' 13-3/8" 48# H-40 casing cemented
0'-7190' 8-5/8" 36# N-80 & K-55 LT&C casing cemented WSO squeezed 7130'
7116' - 7418' 6-5/8" 28# K55 cemented jet perforated in intervals 7350 to 7228. WSO 7196'
1946' - 2737' 6-5/8" - 24# casing patch between packers
7415 - 7149' 2-7/8" gravel packed liner with 20 mesh slots

GS

2. The total depth is: 7418 feet. The effective depth is: 7415 feet.

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

4. Present zone pressure: 2500 psi. Anticipated/existing new zone pressure: 2500 psi.

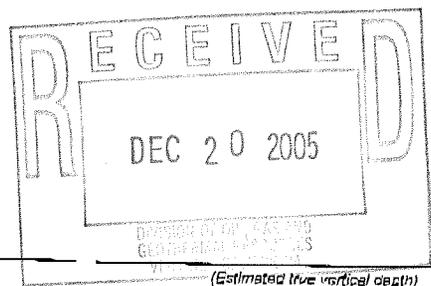
5. Last produced _____ Storage _____
(Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)

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

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

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

See Attached



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

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

Name of Operator Southern California Gas Company	Telephone Number 818 701-3251
Address 9400 Oakdale Ave	City Chatsworth
Name of Person Filing Notice Richard Jackson	Signature <i>[Signature]</i>
	Zip Code 91313
	Date 12/20/05

File In Duplicate

October 14, 2005

Engineer: Richard Jackson

Fernando Fee 32F
Program to plug/sidetrack damaged liner
Re-Complete with Gravel Packed Wire Wrapped Screen

Operator: Southern California Gas Company

Field: Aliso Canyon Gas Storage Field

Well: Fernando Fee 32F (I.W. #62)

Date: 12-14-2005

Revisions: 12-20-2005RJ

API Number: 037-21313

Work Order Authorization Number: WO 96098.006 IO 300415234

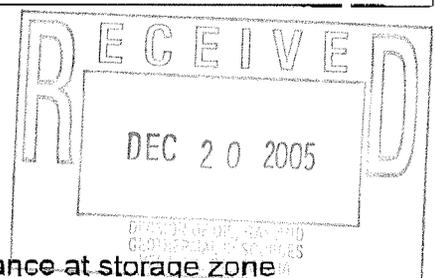
Objective: Remove completion tubing. Abandon current completion. Remove casing patch, and set whipstock above plugged existing packer and cemented liner. Side track and set new gravel packed liner across storage zone. Replace production packer and patch. Complete well as dual flow injection/withdrawal well.

WELL STATUS

Current Status:	Well produces at low rates due to excessive sand production
Elevation:	All depths based on original KB, which is 15.00' above tubing hanger.
Max hole angle:	16° - S4 is at 7207' drilled depth (7086' TVD) Use this depth for kill/fluid calcs.
Effective clean out depth:	7415' to top of cement
Casing Record:	0' - 724' 13-3/8", 48#, H-40 casing cemented. 0' - 7190' 8-5/8", 36#, K-55 & N-80 LT&C casing cemented.
Liner	6-5/8" - 28# at 7418' - top at 7116'. (conflicting data) cemented and jet perf'd Perforated 4) 1/2" holes per foot 7228-7258; 7278-7284; 7287-7297; 7300-7350. Squeezed 7200' and at 7116'. "55 sacks 8-12 behind 6-5/8".
Inner liner	2-7/8" 6.5# slotted 20 mesh GP. At 7415' top at 7149'. Liner top is reported to be "bad" "42sx 8-12 between liners"
Casing Patch	1946' - 2737' Baker Model "D" with pack off to straddle leaky DV collar
Tubing Record:	0 - 7039' 2-7/8" 6.5# N-80 8rd tubing
Fluid in hole:	KCl water.

Well Kill Requirements:

- Top of producing zone = 7207' MD (7086' TVD).
- Bottom hole pressure must be monitored daily.
- Calculated fluid density to provide 500 psi overbalance at storage zone
- Confirm mechanical conditions including: Plugs, position of sliding sleeve and GLM valve.



December 14, 2005

Engineer: Richard Jackson

Other considerations:

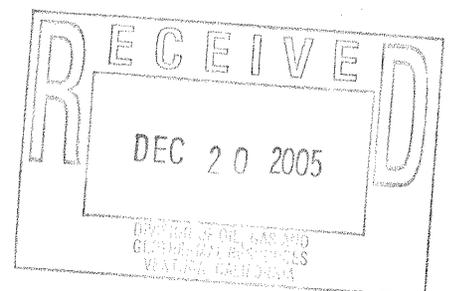
1. Due to other projects taking place in the immediate vicinity, stay in contact with construction foreman to coordinate equipment moves.
2. Install plugs in XN profile of all adjacent wells that will be covered with plates during this phase of work. AC operations to make determination of wells to be plugged and to be covered.
3. Aliso Canyon is a Title V Facility. Check with the onsite environmental specialist, John Clarke, confirm that all required permits and procedures are properly recorded.

Permits: Permit from the Ca DOGGR will be required for the operations discribed in this well work program.

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. Check with AC operations to confirm latest status/condition of well and field inventory.

- 1) Remove instrumentation. Remove laterals and install companion flanges and valves for killing well. Perform wireline work prior to removing laterals or connect hoses as required to allow equalization.
- 2) Set 2) 500 barrel closed top tanks and fill with 3% KCl water weighted as required for 500psi overbalance. Treat all water with ucarcide, 5 gallons per 100 barrels. Move in pump with 100b circulating tank, shaker and mixer. Well crew to provide labor for killing well and installing kill equipment.
- 3) Dead head 80 barrels of polymer KCl/salt water down tubing to provide required overbalance. Use aprox. 2#/barrel HEC polymer to achieve 60 sec minimum viscosity. Check wellhead pressure prior to pumping and calculate gradient using TVD=7086'. Weight as required.
- 4) Kill well per schedule: Maintain 500psi overbalance throughout kill.
 - a) Vent gas through choke to Gas Co. system.



December 14, 2005

Engineer: Richard Jackson

PROCEDURE:

1. Move in Torch #21 - heavy work over rig capable of 300,000#. Rig up with sub-base and rotary table. Additional pumping capacity will be required during operations in open hole. 2-7/8" drill pipe and handling equipment will be used.
2. Bleed all casings to atmospheric pressure.
3. Set 2-7/8" LH Shaffer BPV. (confirm thread). Install Weatherford Class III BOPE. Fit BOPE with 2-7/8" pipe rams and CSO. BOPE must have connection and valve below the blind rams. Fit with 5000psi valve.
4. Test BOPE system per Co. job instruction. Test to 5000psi. Notify DOGGR to witness testing.
5. Install 1 jt of 2-7/8" N-80 tubing in tubing hanger with Safety valve in top. Unland and work RH torque in tubing Aproximately 11 turns to release from packer. Pull out of well with seals. Lay down all tubing and accessories.
6. Pick up 1-1/4" Hydril clean out string with mule shoe on 2-7/8" drill pipe and run in well to top of 2-7/8" inner liner. Clean out liner to 7415'. Note: Well files show damage exists at top of 2-7/8" inner liner use caution attempting to get into liner top.
7. Equalize cement plug from 7415' to 6800'. Notify DOGGR to witness placement of plug. Pull to 6200' and reverse 2 tubing volumes. Shut in well and down squeeze cement. Do not squeeze top of cement below packer at 7072'. Note: squeeze through retainer at 7065' if liner cleanout cannot be achieved.
8. WOC and tag top of cement plug. Re-cement as required to bring cement above packer at 7072'. Pull out and lay down small diameter pipe.
9. Pressure test 8-5/8" casing to 1500 psi for 20 minutes.
10. Remove casing patch from 1946' - 2737'.
11. Drill out cement with 8-5/8" bit and all weight scraper to 7062'.
12. Wireline set CI Bridge plug just below collar at 7052'.
13. Run and set whipstock in 8-5/8" casing on top of bridge plug at approximately 7052'. Position in full joint so exit ramp does not mill through collar. Bottom of window should not be below 7052'. Orientation to be determined.
14. Change hole fluid over to 60 second viscosity calcium carbonate polymer mud.
15. Mill window in 8-5/8" casing using Weatherford Whipstock and mill assembly.
16. Run 7-5/8" bit and drill open hole from bottom of exit window to 7400'.

Note: Operations to be 24hr while in open hole.

17. Run under reamer and open hole to 13" from 7200' to 7370'. Circulate hole clean and pump high viscosity sweep to carry cuttings to surface.

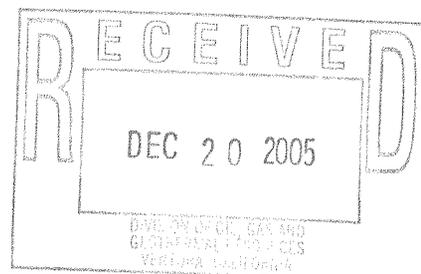


December 14, 2005

Engineer: Richard Jackson

18. Run open hole caliper log from 7400' to 7200'.
19. Place clean, 40sec viscosity HEC pill across open hole interval. Pull above pill and change over to filtered, inhibited 3% KCl water (weight with NaCl as necessary for overbalance). Use only clean fluid in well during remainder of job.
20. Run 4-1/2", 0.016" WWS from 7360' to 7200' with semi-perf above wirewrap. Use Baker SC-1. Run full joint of blank below SC-1.
 - a. 4-1/2" WWS to be equipped with shroud and centralizers. Max O.D. is 6.125"
 - b. Run circulating shoe on bottom of 4-1/2" WWS with bypass and circulate out pill before packing.
 - c. Top of SC-1 at approximately 7000'. SC-1 packer to have receptacle for receiving 2-7/8" production tubing.
21. Gravel pack with 20-40 gravel and filtered 3% KCl water, until packed off.
22. Reverse out excess gravel. Wait 2 hours for pack to settle. Lower crossover tool and restress pack. Repack if necessary.
23. Release from packer and pull out with Gravel packing tools.
24. Run seal assembly with latch and latch on to SC-1 packer. Seal assembly with latch:
 - a. 2-7/8" X 6' N-80 pup jt
 - b. 2-7/8" Baker on/off tool.
 - c. PRN plug in place in XN profile in on/off tool
 - d. Release from on/off tool and pull out of well.
25. Run 8-5/8" packer to 2800' and set. Test from 2800' to SC1 packer at 7000' to test SC1 packer and seals. Test to 1500psi for 20 minutes.
26. Run 8-5/8" X 5-1/2" casing patch with LTC pack off and Simplex hanger:
 - a. Top of Model "D" at 1950'
 - b. Bottom of SLP at 2750'
 - c. Run production tubing:
 - d. Top half of LH release on/off tool
 - e. 1jt 2-7/8 EUE 8R N-80 tubing
 - f. XD sliding sleeve
 - g. 1jt 2-7/8 EUE 8R N-80 tubing
 - h. Gas Lift mandrel with Dummy valve
 - i. 2-7/8 EUE 8R N-80 tubing to surface with a second GLM at approximately 3500'.
27. Land tubing, remove BOPE and install tree.
28. RDMO workover rig. Clean location.

Richard Jackson
12-14-2005



STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

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

Ventura, California
February 23, 1990

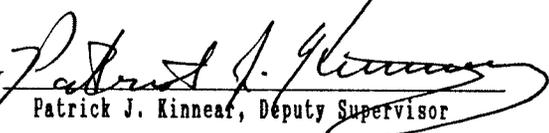
Your request, dated February 13, 1990, proposing to change the designation of wells in Sec. 27, T. 3N, R. 16W, SB B.&M., Aliso Canyon field Los Angeles County, District No. 2, has been received.

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

From:	To:
IW 56 (037-21354)	"Porter" 32F (037-21354)
IW 57 (037-21355)	"Porter" 32D (037-21355)
IW 58 (037-21321)	"Fernando Fee" 32E (037-21321)
IW 60 (037-21276)	"Porter" 32B (037-21276)
IW 61 (037-21277)	"Porter" 32A (037-21277)
IW 62 (037-21313)	"Fernando Fee" 32F (037-21313)
IW 73 (037-21358)	"Fernando Fee" 32B (037-21358)
IW 75 (037-21356)	"Fernando Fee" 32D (037-21356)
IW 76 (037-21359)	"Fernando Fee" 32C (037-21359)
IW 77 (037-21323)	"Standard Sesnon" 25B (037-21323)
IW 78 (037-21360)	"Porter" 32C (037-21360)
IW 81 (037-21363)	"Porter" 32E (037-21363)

bb

M.G. MEFFERD, State Oil and Gas Supervisor

By 
Patrick J. Kinneer, Deputy Supervisor

REPORT ON PROPOSED OPERATIONS

Santa Paula, California

June 7, 1977

Mr. P. S. Magruder, Jr., Agent
Southern California Gas Co.
P.O. Box 54700 Terminal Annex
Los Angeles, Calif. 90054

Your proposal to rework well IW 62
(Name and number)
A.P.I. No. 637-21313, Section 27, T. 7N, R. 10W
S.B. B. & M., Aliso Canyon field, Los Angeles County,
dated 6-2-77, received 6-6-77, has been examined in conjunction
with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Hole fluid of sufficient density shall be used in sufficient quantity to control any subsurface pressures, and a reserve supply of at least one hole volume of this fluid shall be kept on hand at the well site.
2. Blowout prevention equipment, at least of the Division of Oil and Gas Class III rating, shall be installed and maintained in operating condition at all times.
3. Blowout-prevention practice drills shall be conducted at least weekly for each crew, and recorded in the log book.
4. THIS DIVISION SHALL BE NOTIFIED TO WITNESS A PRESSURE TEST OF THE BLOWOUT PREVENTION EQUIPMENT BEFORE COMMENCING DOWNHOLE OPERATIONS.

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

Blanket Bond
PV:h

M. S. MEYERD (acting)
State Oil and Gas Supervisor
By *John L. ...*
Deputy Supervisor

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

DIVISION OF OIL AND GAS
RECEIVED

JUL 3 1985

VENTURA, CALIFORNIA

History of Oil or Gas Well

Operator Southern California Gas Co. Field Aliso Canyon County Los Angeles
Well IW #62, Sec. 27, T 3N, R 16W, SB B. & M.
A.P.I. No. 037-21313 Name J. W. Gourley Title Agent
Date June 27, 19 86 (Person submitting report) (President, Secretary or Agent)

Signature N.W. Buss 6/27/86
N.W. Buss for J.W. Gourley

Box 3249, Terminal Annex, Los Angeles, CA 90051 (213) 689-3925
(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.

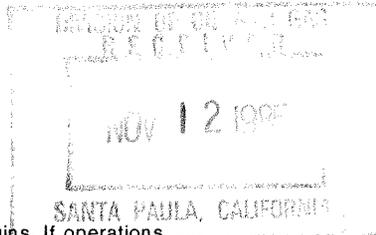
Date	
	MWO No.: 99586 was issued to recover junk and set casing patch
<u>1986</u>	
1-20	Moved CPS Rig M-72 from Well IW #73 to IW #62. Filled well with 142 bbls. of 63#/cu.ft. polymer completion fluid and displaced additional 125 bbls. of fluid from well. Installed back pressure valve in doughnut. Removed xmas tree and installed 9" x 3000 psi Class III BOPE. Pressure tested as follows with water: blind rams 3000 psi for 20 minutes; pipe rams 3000 psi for 20 minutes; Hydril 2300 psi for 20 minutes; choke manifold 3000 psi for 20 minutes. Witnessing of test declined by Mr. Bill Winkle of the D.O.G.
1-21	Using free point and rotational torque indicator, worked Baker seal assembly loose from packer at 7072'. Circulated well. Pulled out of well, laying down production equipment (one 2-7/8" Camco gas lift mandrel, one 2-7/8" Camco annular flow safety system, one 2-7/8" Camco heavy wall tube, one Baker anchor seal assembly with 4 seals and one 5' production tube). Made up 8-5/8" bit and casing scraper on 2-7/8" tubing and ran in well to packer.
1-22	Pulled out of well with bit and scraper. Made up Baker locator seals on 2-7/8" tubing. Ran seals to packer at 7072'. Pressure tested packer at 1500 psi for 15 minutes. Pulled out of well, changing 2-7/8" tubing collars on bottom 5208' of tubing. Baker sealed the threads.
1-23	Made up Baker 8-5/8" x 5-1/2" 17# casing patch on 2-7/8" tubing. Using wireline, oriented Baker patch from 1978'-2023', across stage collar at 2001'. Set Baker casing patch. Pulled out of well, laying down setting tools. Secured well.

1986

1-24 Made up one 2-7/8" x 5' Baker production tube on one 2-7/8" Baker anchor seal assembly with 2 seal units, one joint of 2-7/8" tubing, one BST PSI "DU" 2-7/8" x 1.0" gas lift mandrel; hydrotested tubing in well to 7073'. Spaced out and attached to Retrieva-D packer and landed with 10,000# on latch when doughnut was in place. Installed back pressure valve in doughnut. Removed BOPE and installed tree. Pressure tested tree and doughnut at 5000 psi. Displaced polymer completion fluid from well with 430 bbls. of 3% KCl water. Released rig at 10:00 p.m. on 1-24-86.

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
<i>AB</i>	✓ ✓

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 IW #62, API No. 037-21313
(Well designation)
Sec. 27, T. 3N, R. 16W SB B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

- Total depth 7423' plugged 7418'
- Complete casing record, including plugs and perforations (present hole)
 - 13-3/8" cemented 724'
 - 8-5/8" cemented 7190', WSO 7130', stage collar 2001'
 - 305' 6-5/8" cemented 7421', top 7116', cp'd 7200', WSO 7196', perforated 7350'-7300', 7297'-7287', 7284'-7278' and 7258'-7228'
 - 267' 2-7/8" landed 7415', top 7148', slotted 7415'-7157' and gravel packed with 42 sacks of gravel
- Present producing zone name Sesnon; Zone in which well is to be recompleted _____
- Present zone pressure 2800 psi; New zone pressure _____
- Last produced Gas Storage Well
(Date) *(Oil, B/D)* *(Water, B/D)* *(Gas, Mcf/D)*
(or)
Last injected _____
(Date) *(Water, B/D)* *(Gas, Mcf/D)* *(Surface pressure, psig)*
- Is this a critical well according to the definition on the reverse side of this form? (Yes) (No)

The proposed work is as follows:

- Move in and rig up. Kill well. Install BOPE and pressure test.
- Pull tubing. Recover packer. Clean out junk at 7149'. Run neutron and collar logs. Set packer near 7070'. Set casing patch 2020'-1980'.
- Run tubing and return well to gas storage service.

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, Terminal Annex
(Street)
Los Angeles, CA 90051
(City) *(State)* *(Zip)*
Telephone Number (213) 689-3925

Southern California Gas Company
(Name of Operator)
By *J.W. Buss* 11/04/95
(Name) *(Date)*
N.W. Buss for J.W. Gourley
Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

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

DIVISION OF OIL AND GAS
RECEIVED

SEP 22 1977

History of Oil or Gas Well

SANTA PAULA, CALIFORNIA

Operator Southern California Gas Company Field or County Aliso Canyon
Well name and No. I.W. #62 , Sec. 27 , T 3N , R 16W S.B.B. & M.
A.P.I. well No. 037-21313 Name P. S. Magruder, Jr. Title Agent
Date September 10, 1977 (Person submitting report) (President, Secretary or Agent)

Signature *P.S. Magruder, Jr.*

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

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

Date	
5-4-77	Killed well with 470 barrels of 75# polymer drilling fluid.
8-13-77	Moved in and rigged up C.P.S. #D-4. Noted 1600 psi on casing. Were unable to bleed off pressure.
8-15-77	Rekilled well with 83# polymer. Removed Xmas tree and installed B.O.P.E. Tested B.O.P.E. with water and nitrogen. Blind rams 4000 psi 20 minutes Pipe " " " " " Hydril 3000 psi " "
8-16-77	Installed flow line and unseated packer and circulated for two hours. Laid down seal lock tubing and started in hole with 7 5/8" bit and casing scraper.
8-17-77	Finished picking up tubing, found top of liner at 7133'. Circulated for two hours and pulled out of hole. Ran in hole with dumble rotating grab. Went over Udell packer fish and pulled free with 10,000#. Started out of well.
8-18-77	Pulled out of hole - no recovery of fish. Ran same grab second time - no recovery. Ran 6 7/8" impression block on wireline - showed top of 6 5/8" liner hanger. Ran 3 7/8" impression block and obtained clear impression of top of fish inside liner hanger. Ran in hole with 4 1/8" overshot, went over fish 1' and picked up about 3000# extra weight. Started out of well.
8-19-77	Finished pulling overshot. No recovery. Ran 3 7/8" impression block. Showed impression of top of fish. Ran Dumble rotating grab. Pulled off fish with 3000#. No recovery. Picked up Kelly. Going in hole with 4" wash over shoe.
8-20-77	Ran 4" wash pipe to 7150'. Pulled out of well and did not recover fish. Ran in with 3 7/8" overshot. Pulled out with no recovery (7150'). Ran 4 1/8" Servco junk mill and milled from 7148' to 7149'. Pulled two stands. Closed well in.
8-21-77	Rig and crew idle.

- 8-22-77 Circulated polymer fluid in well. Pulled out of hole. Ran 4" impression block on sand line. Ran in with 2 3/8" mill shoe and one stand of 1" tubing on 2 7/8" tubing. Milled for 2 hours with no progress. Pulled out of well.
- 8-23-77 Connected lines to gas withdrawal system for drill stem flow test. Ran in well with Johnston test tools. Since we're unable to recover fish decided to test to determine if withdrawal rate was satisfactory and that fish could be left in place.
- 8-24-77 Made surface connections for drill stem test. Tested all connections to 5000 psi with water - tests O.K. Opened tool at 2:00 P.M. and flowed well until 6:00 P.M. Initial flowing pressure 2900 psi. Stabilized with flowing pressure 1250 psi. Stabilized flow rate 10.7 mmscf/d. Closed tool at 6:00 P.M. Bled off tubing and lateral.
- 8-25-77 Unseated Johnston DST packer and reverse circulated polymer drilling fluid to fill the tubing. Pulled out of well. Ran in well with Baker bridge plug and set it at 7100'. Tested bridge plug to 1500 psi for 10 minutes - O.K. Displaced polymer drilling fluid in the well with fresh water. Started pulling out of well.
- 8-26-77 Finished pulling out of well. Ran in the well with Baker full bore cementing tool to 5000'. Tested casing as follows:
- | | | | | | | | | | | |
|---------|----|-------|----|------|------|-----|---|-------|------|------|
| 5000' | to | 7100' | at | 2000 | psi | for | 1 | hour. | Test | O.K. |
| Surface | to | 5000' | at | 2200 | psi, | for | 1 | hour. | Test | O.K. |
| " | " | 4800' | " | 2400 | " | " | 1 | " | " | " |
| " | " | 4200' | " | 2600 | " | " | 1 | " | " | " |
| " | " | 3800' | " | 2800 | " | " | 1 | " | " | " |
| " | " | 3300' | " | 3000 | " | " | 1 | " | " | " |
| " | " | 2800' | " | 3200 | " | " | 1 | " | " | " |
| " | " | 2200' | " | 3500 | " | " | 1 | " | " | " |
- 8-27-77 Pressure tested 8 5/8" casing surface to 1000' at 4000 psi for one hour. Pulled out of well. Ran in well with 2 7/8" tubing and Baker retrieving tool. Circulated fresh water out of well with polymer drilling fluid. Unseated Baker bridge plug at 7100' and pulled out of well. Ran 7.656" gauge ring to 7105' using GO-International Wireline Unit. Ran Baker Retrieva-"D" packer on wireline and set it in 8 5/8" casing at 7072'. Ran 30 stands in well and secured well.
- 8-28-77 Rig and crew idle.
- 8-29-77 Started running production string in the well while changing collars, applying Baker seal and Hydrotesting each joint to 5000 psi pressure for 1 minute. Production string includes Baker latch-in assembly and Camco safety system. Ran 146 joints of tubing.

8-30-77

Finished running production string while changing collars, applying Baker seal and hydrotesting it to 5000 psi for one minute. Landed on packer with 10,000# and pulled 20,000# over weight of tubing to check latch. Production string includes one pup joint; 230 joints of 2 7/8" tubing; Camco safety system including one MMG mandrel and Baker seal assembly. Set plug in tubing hanger. Removed B.O.P.E. and installed Christmas tree. Pressure tested tree to 5000 psi - tests O.K. Started displacing polymer fluid out of well with salt water. Displacement not complete at 440 barrels of water. Water tried to flow back through the annulus first and then it flowed gas through tubing. All valves closed in on Christmas tree. Pressure on tubing 2000 psi. Rig shut down at 9:30 P.M. until morning.

8-31-77

Set Camco CA-2 blanking plug in NO-GO nipple at 7060'...using Camco Wireline truck. Bled off gas in the well and filled well with salt water. Circulated salt water to get rid of gas-cut water. Pressure tested packer and seal assembly to 2000 psi for 20 minutes - test O.K. Rig released at 11:00 A.M. 8-31-77.

nd.

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

Report on Operations

No. T 277-214

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

Santa Paula, Calif.
Aug. 26, 1977

DEAR SIR:

Operations at well No. IV 62, API No. 037-21313, Sec. 27, T. 3N, R. 16W,
S.B. B & M. Aliso Canyon Field, in Los Angeles County, were witnessed
on 8/15/77. Mr. P.R. Wygle, representative of the supervisor was
present from 2200 to 2300. There were also present A. Smith, foreman

Present condition of well: No additions to the casing record since proposal dated
6/2/77.

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

DECISION:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

b

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

By John L. [Signature] Deputy

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
JUN -6 1977
SANTA ANA, CALIFORNIA

FOR DIVISION USE ONLY		
BOND		
	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 No. I.W. #62, API No. -, Sec. 27, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

- Total depth. 7423'
- Complete casing record, including plugs and perforations:
 - 13 3/8" cemented 724'
 - 8 5/8" cemented 7190' - stage collar 2001' - WSO 7130'
 - 305' 6 5/8" cemented 7421' - top 7116' - WSO 7196'
Perforated at intervals 7228'-7350'
 - 287' 2 7/8" landed 7415' - top 7129' - 20-mesh slots 7147'-7415'
gravel flow packed
- Present producing zone name SESNON Zone in which well is to be recompleted -
- Present zone pressure 2700 psi New zone pressure -
- Last produced Gas Storage Well
(Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)
or
- Last injected
(Date) (Water, B/D) (Gas, Mcf) (Surface pressure, psig.)

The proposed work is as follows:

- Move in and rig up. Kill well. Install B.O.P.E. and pressure test.
- Pull tubing and pressure test casing.
- Perform any remedial work indicated.
- Run packer. Run tubing with down-hole safety system.
- Recomplete as gas storage well.

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

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

SOUTHERN CALIFORNIA GAS COMPANY
(Name of Operator)
By P.S. Magruder, Jr. (Date) 6-2-77
Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Pacific Lighting Service Co. FIELD Aliso Canyon

Well No. I.W. #62, Sec. 27, T. 3N, R. 16W, S.B. B. & M.

Date December 20, 19 73

Signed

P.S. Magruder, Jr.
P. S. Magruder, Jr.

P. O. Box 54790, Terminal Annex

Los Angeles, California 90054 (213)

Title Agent

(Address)

(Telephone Number)

689-3561

(President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1973	
10-23	California Production Service moved in with rig and mud pump and rigged up. Hauled lease water and mixed 600 barrels of polymer drilling fluid.
10-24	Pumped 450 barrels of polymer drilling fluid down tubing, bleeding off pressure in annulus from 2600 psi to zero. Obtained full returns of drilling fluid with no gas. Circulated for 2-1/2 hours. Set Shaffer plug in doughnut, removed xmas tree and installed B.O.P.E., including hydril and Shaffer double gate. Removed Shaffer plug and tested B.O.P.E. to 1500 psi.
10-25	Unlatched from Otis WC packer. Pulled 2-7/8" seal lock tubing and 1/4" steel control line. Layed down tubing and control line as pulling. Left 75 single clamps and 3 double clamps in hole. Mixed 300 barrels of polymer drilling fluid. Made up 7-1/2" wash pipe with tungsten carbide facing on bottom. Ran in hole with wash pipe, junk sub, bumper sub, jars and 4-3/4" drill collars. Picked up 2-7/8" EUE 8rd. tubing as working string while running in well.
10-26	Finished measuring tubing and running wash pipe in well. Using power swivel, milled on Otis WC packer at 7090' for four hours. Circulated two hours.
10-27	Pulled out of well recovering pieces of clamps and one piece of packer slip. Reran mill shoe #1 as before and milled on Otis packer at 7090' for four hours and circulated for two hours.
10-28	Idle.

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 DEC 27 1973

SANTA PAULA, CALIFORNIA

1973

- 10-29 Pulled out of hole and found mill facing 80% worn. Recovered additional pieces of clamps and metal from packer. Ran 4" spear with bumper sub, jars and drill collars. Spear slipped out of packer mandrel. Pulled out of well. Made up wash pipe with mill facing #2, junk sub, bumper sub, jars and drill collars and ran in well.
- 10-30 Milled on Otis packer at 7090' for 1-1/2 hours, shut down to repair power swivel. Milled on packer for additional 5 hours when packer moved up the hole 30'. Pulled out of hole and found mill shoe 85% worn. Made up 4-1/2" overshot, bumper sub, jars and drill collars and ran in well.
- 10-31 Set down with overshot on 4" WC Otis packer mandrel. Pulled out of hole and recovered entire packer but bottom six slips fell off as pulled through B.O.P.E. Ran 7" magnet on sand line and recovered one of the six slip segments. Made two additional runs recovering pieces of clamps. Made up 5-5/8" bit and casing scraper on tubing and ran part way in well.
- 11-1 Ran in well to 7191' where bit stopped on junk and could not work same any deeper. Ran 5" magnet on sand line three times, recovering a few small pieces of clamps on each run. Made up 5-1/2" wash pipe with carbide tungsten mill facing and with two catchers inside wash pipe. Ran in well with junk sub, bumper sub, jars and 3-1/8" drill collars.
- 11-2 Milled on junk at 7191' for 1 hour & 45 minutes, circulated for one hour. Recovered some fine sand over shaker screen. Pulled out of hole and found mill 60% worn. Recovered no junk. Ran 5" magnet on sand line and recovered one slip segment partly milled. Made two more runs and recovered small pieces of iron. Made up 5-1/2" wash pipe with mill shoe #2, junk sub, bumper sub, jars and drill collars. Ran part way in hole.
- 11-3 Ran in hole and milled on junk for 2 hours & 45 minutes cleaning out from 7191'-7200'. Recovered some fine sand over shaker screen. Circulated one hour. Pulled out of hole and found one slip segment jammed inside wash pipe. Mill shoe 50% worn. Ran 5" magnet on sand line and recovered 4th slip segment. Ran 5-1/2" wash pipe with mill shoe #3, junk sub, bumper sub, jars and drill collars. Ran part way in hole.
- 11-4 Idle.

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- 11-5 Ran in hole and milled on junk at 7200' for 1 hour & 15 minutes. Circulated for 1 hour. Pulled out of hole and recovered no junk, mill shoe 10% worn. Ran 5" magnet on sand line three times and recovered a few small pieces of junk. Reran mill shoe #3.
- 11-6 Ran mill in hole and milled on junk 7202'-7205' for 2-1/2 hours using reverse circulation. Pulled out of hole and found mill shoe 20% worn. Recovered many small pieces of junk in junk sub. Ran 5" magnet on sand line twice with no recovery. Ran in hole with dumbel rotating grab, bumper sub, jars and drill collars.
- 11-7 Ran in hole and operated dumbel grab. Pulled out of hole and recovered a small amount of fine to medium grain sand. Ran in hole with 5-1/2" field made drag tooth basket. Pulled out of hole and recovered nothing in basket and showed no evidence of running on junk. Ran in hole with 5-5/8" bit, junk sub, bumper sub, jars and drill collars.
- 11-8 Finished running in hole with 5-5/8" bit and cleaned out sand to 7258'. Lost circulation but regained after losing 60 barrels. Pulled bit to 7100'. Mixed 420 barrels of polymer drilling fluid. Cleaned out to 7417' with no additional loss of drilling fluid.
- 11-9 Pulled out of hole. Ran Lynes Impression packer on 2-7/8" tubing, measuring in hole. Set packer 7259'-7248-1/2' and applied 1200 psi for 10 minutes. Pulled out of hole and found most perforations showing some enlargement due to sand erosion (Bottom of perforations checked at 7258'). Ran second Lynes Impression packer.
- 11-10 Finished running in hole with second Lynes Impression packer and set 7248-1/2'-7238'. Applied 1050 psi for 10 minutes. Pulled out of hole and found evidence of hole enlargement due to sand erosion. Ran in hole with third Lynes Impression packer and set 7238'-7227 1/2'. Applied 1100 psi for 10 minutes. Pulled out of hole and found little evidence of hole enlargement due to sand erosion but found many holes plugged with sand. Also found perforations top at 7230' instead of 7228'. Ran 40 joints of tubing and shut well in.
- 11-11 Idle.
- 11-12 Pulled tubing out of hole. Rigged up Dresser Atlas. Using 4" Golden jet gun, shot four 1/2" jet holes per foot as follows: 7350'-7300', 7297'-7287', 7284'-7278', 7258'-7228'. Ran in hole with 5-5/8" bit and casing scraper and cleaned out to 7417'. Pulled out of hole and ran part way in hole with Hampton straddle tool.

1973

- 11-13 Finished running in hole with straddle tool. Rigged up Byron Jackson cement pump truck. Pressure tested straddle tool in blank 6-5/8" casing to 3800 psi. Washed perforations with 1/2 barrel per foot using 2000 gallons of 12% Hcl, 6% HF, 10 gallons C-15 retarder and 4 gallons J-59 anti-sludge. Pressures ranged from zero to 1700 psi. Ran straddle tool to 7417' and circulated for 2-1/2 hours. Lost 60 barrels of drilling fluid obtaining circulation. Pulled out of hole with straddle tool. Ran in hole with Baker fullbore retainer to 7100'. Mixed 300 barrels of polymer drilling fluid.
- 11-14 Ran in hole with Baker fullbore retainer and set in 6-5/8" liner at 7145'. Using Byron Jackson cement truck, pumped away 25 cu. ft. of drilling fluid under 1300 psi to check retainer, lines and breakdown. Using Burns gravel packing equipment and Byron Jackson cement pump truck, mixed 85 sacks of 8-12 gravel with 475 cu. ft. of polymer drilling fluid and displaced through perforations in five stages. The final displacement pressure increased from 1500 psi to 1800 psi. Lost 3 hours waiting for second Burns gravel packing machine after line plugged and blew out control valve during the first stage. Pulled out of hole with Baker retainer.
- 11-15 Ran 5-5/8" bit on 2-7/8" tubing and located gravel fill at 7218' (10' above top of perforations). Attempted to circulate gravel out of well by pumping down tubing with no success. Rigged up power swivel and with reverse circulation cleaned out gravel to 7350' recovering 25 sacks of gravel. Pulled bit to 7100' and shut well in for the night. Lost 250 barrels of drilling fluid.
- 11-16 Mixed 420 barrels of polymer drilling fluid. Ran in hole with bit and found gravel fill at 7350'. Using power swivel and reverse circulation, cleaned out gravel to 7417'. Recovered a total of 30 sacks of gravel, leaving a net of 55 sacks of gravel behind 6-5/8" liner. Pulled bit to 7100' and after one hour, ran bit back to 7417' and found no gravel fill. Pulled out of hole. Made up 2-7/8" flush joint slotted liner, 1" circulating tail, gravel packing tools and liner hanger tools and ran part way in hole. Lost an additional 90 barrels of drilling fluid. (1" tail 5' from bottom of 2-7/8" liner).
- 11-17 Ran liner in hole and landed at 7415' with top 7128-1/2' and set lead seal liner hanger. Tested lead seal to 750 psi.

LINER DETAIL:

9 joints 2-7/8" 6.5# Security flush joint 268' (7415'-7147') fitted on bottom with a closed shoe and with fish tail welded on shoe. Perforated 7415'-7157' with 14 rows, 2" x 20 mesh 6" centers, blank 7157'-7147'. All 9 joints have 5 centralizing lugs welded on tubing 7' from each end.

2-7/8" x 5" extension tube with port collar and lead seal liner hanger 18.5'. (Port collar 7133')
Total liner 286.5' in well 7415'-7128.5'.

1973

- 11-17 Opened port collar and pumped 42 sacks of 8-12 gravel when pressure increased from 400 psi to 550 psi (theoretical fill 35 sacks). Closed port collar and pulled 1" circulating tail above 6-5/8" liner. Shut well in.
- 11-18 Idle.
- 11-19 Pulled out of well and layed down gravel packing tools. Made up circulating washer on 9 joints of 1" tubing and ran in well. Set washer in blank at 7152' and pressure tested to 750 psi. Washed perforations 7412'-7157' making several passes through each 30' interval. Used pump pressure of 550 psi and circulation rate of 1-1/2 barrels/minute. Pulled part way out of well.
- 11-20 Pulled out of hole and layed down straddle washing tools. Made up gravel packing tools with seven joints of 1" tubing on bottom. Opened port collar and circulated at 1 bbl/min under 750 psi indicating gravel had filled to blank at 7157'. Closed port collar and pressure tested to 1000 psi. Pulled part way out of well, laying down 2-7/8" 8rd. EUE tubing.
- 11-21 Finished pulling out of well, laying down 2-7/8" 8rd. tubing and gravel packing tools. Made up Brown Husky M-1 packer, landing nipple and ported nipple. Running in hole with 2-7/8" seal lock tubing, broaching, hydrotesting to 5,000 psi and measuring. Ran part way in hole and shut well in.
- 11-22 Idle.
- 11-23 Finished running in well with tubing, broaching, hydrotesting to 5000 psi and measuring. Landed tubing with Brown packer at 7079' with 10,000# compression on packer. Also landed tubing on doughnut. Removed B.O.P.E. and installed xmas tree. Tested to 4000 psi for 30 minutes. (Tubing detail attached)
- 11-24 Made up lines to xmas tree and tubing head. Crew and rig released at 10:00 A.M.

Drilling Fluid Summary:

Lost 1980 barrels to formation during above operations mostly during gravel squeeze and cleaning out gravel.

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 273-435

Mr. P. S. Magruder, Jr., Agent
 Pacific Lighting Service Company
 P. O. Box 54790, Terminal Annex
 Los Angeles, California 90054

Santa Paula Calif.
 October 26, 1973

DEAR SIR:

(037-21313)

Your proposal to alter casing Well No. IW 62,
 Section 27, T. 3N, R. 16W, S.B.B. & M., Aliso Canyon Field, Los Angeles County,
 dated 10/19/73, received 10/25/73, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Drilling fluid of proper weight and consistency shall be used to keep the well under control at all times; and a reserve supply of this material shall be kept on hand to meet any emergency. NO CONTAMINANTS OR TOXIC MATERIAL SHALL BE USED IN ANY DRILLING FLUID THAT IS TO BE PLACED IN AN UNLINED SUMP.
2. Blowout prevention equipment, at least of the Division of Oil and Gas Class III rating, shall be installed and maintained in operating condition at all times.
3. This Division shall be consulted before placing any plugs or sidetracking any hole.

Blanket Bond
 ALL:r
 cc: Operator

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

By DCR Pitman, Deputy

OCT 8 1973

DIVISION OF OIL AND GAS

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

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

SANTA PAULA, CALIFORNIA

Los Angeles, Calif. October 19, 1973

DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at Well No. IW 62

(Cross out unnecessary words)

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

Aliso Canyon Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 7423'

2. Complete casing record, including plugs:

13-3/8" 48# H-40 cmt'd. 724'
8-5/8" 36# K-55 & N-80 cmt'd. 7180' cpid 2000'
305' 6-5/8" 28# K-55 cmt'd. 7421', Top 7116'

Perf'd with 4 - 1/2" holes per foot

7228'-7258'
7278'-7284'
7287'-7297'
7300'-7350'

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

The proposed work is as follows:

1. Clean out to effective depth 7418'.
2. Reperforate with 4 - 1/2" holes per foot.
3. Land 280' of 2-7/8" Security flush joint slotted tubing at 7415' and gravel flow pack.
4. Recomplete well.

MAP	MAP Error	CARDS	INDEX	FORMS	
				10	11
			BB	✓	✓

P. O. Box 54790, Terminal Annex
Los Angeles, California 90054
(Address)

(213) 689-3561
(Telephone No.)

Pacific Lighting Service Company
(Name of Operator)

By P. S. Magruder, Jr.
P. S. Magruder, Jr. - Agent

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

SUBMIT IN DUPLICATE

Operator Pacific Lighting Service Company Well No. IW 62

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

Location From Station 84 1557' south and 1829' east

(Give location from property or section corner, or street center lines)

Elevation of ground above sea level 1995 feet USGS

All depth measurements taken from top of kelly bushing which is 15 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

In compliance with Sec. 3215, 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.

Date March 14, 1973

Signed [Signature]

E. A. Olson

B. F. Jones

Title Agent

(Engineer or Geologist)

(Superintendent)

(President, Secretary or Agent)

Commenced drilling <u>September 23, 1972</u>	GEOLOGICAL MARKERS	DEPTH
Completed drilling <u>October 29, 1972</u>	<u>Top Sesnon Zone S4</u>	<u>7207</u>
Total depth <u>7423'</u> Plugged depth <u>7418'</u>		
Junk <u>212' of fish consisting of 11" bit, monel and steel drill collars and four stabilizers from 5754' to 5966'</u>		
	Geologic age at total depth: <u>Miosene</u>	

Commenced producing _____ (Date) _____ Flowing/gas lift/pumping _____ Name of producing zone Sesnon
(Cross out unnecessary words)

Initial production

Production after 30 days

Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
GAS STORAGE WELL					

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drilled	Number of Sacks of Cement	Depth of Cementing if through perforation
3-3/8"	724'	sfc	48#	N	S	H-40	17-1/2"	563	
8-5/8"	7190'	sfc	36#	N	S	N-80 & K-55	11"	634 cu. ft	shoe
6-5/8"	7421'	7116'	28#	N	S	K-55	7-5/8"	260 cu. ft	2001
								60 cu. ft	shoe
								240	7200'

PERFORATED CASING

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

8-5/8" - 7130' four 1/2" jet holes for WSO
 6-5/8" - 7200' four 1/2" jet holes squeezed with cement;
 7196' four 1/2" jet holes for WSO
 Production perforation four 1/2" jet holes per foot 7228-7258', 7278-7284'
 7287-7297' and 7300-7350'

Was the well directionally drilled? Yes Electrical Log Depths 7180' and 7420' (Attach Copy of Log)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Pacific Lighting Service Co. FIELD Aliso Canyon

Well No. IW 62, Sec. 27, T. 3N, R. 16W, SB B. & M.

Date March 14, 1973 Signed *R. B. Magunder Jr.*

P.O. Box 54790, Terminal Annex
Los Angeles, CA 90054 (213) 689-3561 Title Agent

(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

1972

Date

Well drilled by Atlantic Drilling Company, rig #11.
All measurement taken from top of kelly bushing which was 15'
above mat.

- 9-23 Spudded well at 1:00 pm with 11" bit and drilled to 213'.
- 9-24 Drilled and surveyed 11" hole to 690'.
- 9-25 Drilled and surveyed 11" hole to 735'. Opened 11" hole to 17-1/2" from 53' to 313'. Mud: 74#, 80 sec., 5.6 cc, 10% solids.
- 9-26 Opened 11" hole from 313' to 529'.
- 9-27 Opened 11" hole from 529' to 730'. Mud: 83#, 110 sec., 5.2 cc., 14% solids.
- 9-28 TO CEMENT 13-3/8" SURFACE CASING: Ran 730' of 13-3/8", 48#, H-40, 8rd., ST&C new seamless casing and cemented same at 724'. Casing fitted on bottom with Baker stab-in float shoe. Cemented through stab-in tool run on 4-1/2" drill pipe with 563 sacks of Class "G" cement treated with 2% calcium chloride. Good cement returns to surface. Cement in place at 6:25 am. Used B-J bulk cement and power. Cut and recovered 13-3/8" casing. Installed BOP. Tested BOP with 1000# pressure. Test witnessed and approved by Engineer for Division of Oil and Gas. Drilled out shoe and drilled and surveyed 11" hole to 895'. Mud: 78#, 100 sec., 8 cc., 8% solids.
- 9-30 Drill collar parted while drilling at 895'. Ran fishing tool and recovered all of fish except one bit cone. Ran Globe junk basket and recovered cone. Drilled 11" hole to 1051'.
- 10-1 Drilled and surveyed 11" hole to 1246' when drill collars twisted off. Ran fishing tool and recovered fish. Mud: 80#, 43 sec., 6 cc., 10% solids.
- 10-2 Drilled and surveyed 11" hole to 1683'. Mud: 79#, 52 sec., 6 cc., 10% solids.

DIVISION OF OIL AND GAS
RECEIVED

MAR 26 1973

1972

- 10-3 Drilled and surveyed 11" hole to 2200'. Mud: 78#, 42 sec., 5.4 cc., 12% solids.
- 10-4 Drilled and surveyed 11" hole to 2616'. Mud: 80#, 48 sec., 6 cc., 12% solids.
-
- 10-5 Drilled and surveyed 11" hole to 3070'. Mud: 79#, 44 sec., 7.5 cc., 12% solids.
- 10-6 Drilled and surveyed 11" hole to 3437'. Mud: 77#, 41 sec., 7.5 cc., 12% solids.
- 10-7 Drilled and surveyed 11" hole to 3836'. Mud: 77#, 45 sec., 7.5 cc., 12% solids.
- 10-8 Drilled and surveyed 11" hole to 4298'. Mud: 77#, 40 sec., 8.0 cc., 12% solids.
- 10-9 Drilled and surveyed 11" hole to 4643'. Mud: 77#, 40 sec., 7.5 cc.
- 10-10 Drilled and surveyed 11" hole to 5078'. Mud: 79#, 40 sec., 6.8 cc., 13% solids.
- 10-11 Drilled and surveyed 11" hole to 5446'. Mud: 77#, 50 sec., 8 cc., 13% solids.
- 10-12 Drilled and surveyed 11" hole to 5738'. Mud: 78#, 42 sec., 6.8 cc., 13% solids.
- 10-13 Drilled and surveyed 11" hole to 5966'. Left 212' of fish in hole consisting of bit, 7 3/4" monel collar, steel collars and 4 stabalizers. Make up fishing tools. Mud: 79#, 41 sec., 5.8 cc., 14% solids.
- 10-14 Lost drill collar slips in hole. Ran Dumble grab to recover slips. No recovery. Ran socket, no recovery. Ran bit on junk sub and pushed fish down hole.
- 10-15 Ran magnet, no recovery. Ran grab, no recovery. Ran 9" OD wash pipe and washed over fish to 5754'. Mud: 74#, 40 sec., 6.2 cc., 9% solids. .01
- 10-16 Ran new wash pipe and washed over fish. Ran overshot but could not work over fish. TO PLUG HOLE WITH CEMENT: With 4-1/2", 16.6# open end drill pipe hanging at 5745', equalized 131 sacks of Class "G" cement mixed with .003% D-31, 20% sand and 3% calcium chloride. Cement in place at 9:35 pm. Used B-J bulk cement and power.

1972

- 10-17 At 4:00 am located top of cement at 5500' and cleaned out to 5550'. Dyna drilled 11" hole from 5550' to 5592'. Mud: 71#, 40 sec., 6.6 cc., 8% solids.
- 10-18 Reamed hole 5550' to 5592' and drilled and surveyed 11" hole to 5938'. Mud: 70#, 39 sec., 6.2 cc., 7% solids.
- 10-19 Drilled and surveyed 11" hole to 6224'. Mud: 72#, 37 sec., 5.8 cc., 8% solids.
- 10-20 Drilled and surveyed 11" hole to 6637'. Mud: 73#, 42 sec., 6.0 cc., 8% solids.
- 10-21 Drilled and surveyed 11" hole to 6854'. Mud: 74#, 37 sec., 6.2 cc., 9% solids.
- 10-22 Drilled and surveyed 11" hole to 7195'. Mud: 72#, 38 sec., 5.8 cc., 8% solids.
- 10-23 Ran Schlumberger Induction-Electrical Log and recorded from 724' to 7180'. Ran Caliper log from 5300' to 7180'. Condition mud for casing: 73#, 45 sec., 6 cc., 8% solids.
TO CEMENT 8-5/8" CASING: Ran 173 joints or 7195.14' of 8-5/8", 36#, N-80 & K-55, R-3, Buttress thread, new seamless blank casing and cemented same at 7190' with 317 sacks of Class "G" cement 1:1 Perf-A-Lite mixed with 4% gel, followed by 100 sacks of Class "G" cement. Preceded cement with 50 cu ft of water and displaced with 2476 cu ft of mud to bump one top rubber plug under 3400# pressure. Held for 5 minutes and bled back 26 cu ft for final displacement of 2450 cu ft. Cement Perf-A-Lite slurry 87#/cu ft. Cement 115#/cu ft. Cement in place at 10:40 pm. Opened stage collar at 2001' and displaced through ports 130 sacks Class "G" cement 1:1 Perf-A-Lite mixed with 4% gel using 695 cu ft of mud to bump plug and close ports under 3000# final pressure. Held OK for 30 minutes and bled back 12 cu ft for total displacement of 683 cu ft. Cement in place at 11:40 pm. Moved casing 15' while mixing and displacing cement around shoe. Good circulation throughout both jobs. Used Byron-Jackson bulk cement and power equipment.

CASING DETAIL

Bottom 39 jts or 1578.64 (7190' to 5611') N-80 fitted on bottom with Davis float shoe and at 7148' with Davis fill-up float collar, with centralizers at 7185', 7138', 7113', 7070', 7030', 6950' and 6870'.

Top 134 jts or 5611.36 (5611' to top of KB) K-55 fitted with Davis stage collar at 2001' and with centralizers at 1961' and 1923'.

Total 173 jts or 7190.00'

1972

- 10-24 Pulled BOP and cut and recovered 8-5/8" casing, installed packing and relanded BOP. Test same to 1000# OK. Ran 7-5/8" bit with casing scraper above and drilled out stage collar at 2001'.
- 10-25 Drilled out cement with 7-5/8" bit 7142' to 7148'.
TO TEST WATER SHUT-OFF ON HOLES IN 8-5/8" CASING AT 7130': Ran Johnston combination gun and tester on one stand of drill collars and 4-1/2" 16.6# drill pipe and shot four 1/2" jet holes at 7130'. GUN FAILED TO FIRE - NO TEST. Rubber and metal debris from drilling up plugs and stage collar caused tool to malfunction. Ran second gun and shot four 1/2" jet holes at 7130'. Set packer at 7070' with tail to 7095'. Opened tool at 3:33 pm for one hour test. Faint blow then dead balance of test. Recovered 200' rise consisting of drilling fluid. 11 cu ft rise; rat hole volume 20 cu ft. Charts OK. Test witnessed and WATER SHUT-OFF APPROVED BY COMPANY ENGINEER AND ENGINEER FOR DIVISION OF OIL AND GAS.
Ran open end drill pipe to 7148' and circulated out debris for squeeze job.
- 10-26 TO SQUEEZE HOLES AT 7130' WITH CEMENT: Ran Johnston retrievable cementer on 4-1/2" 16.6# drill pipe and set at 7025'. Applied pressure and holes broke down at 2800# pressure and took fluid at 24 cu ft per minute rate under 1200# pressure. Mixed 100 sacks of Class "G" cement to 115#/cu ft slurry and stage cemented using 543 cu ft of mud to displace. Used 20 cu ft of water ahead. 3 hours mixing and displacing cement to place under 1000# final pressure. Cement in place at 7:30 am. Pressure bled off after one hour. Used B-J bulk cement and power.
Install Shaffer tubing head.
and tested same and the 8-5/8" casing secondary pack-off with 4500# OK.
- 10-27 Install adapter flange, re-install pitcher nipple and BOP. Test BOP under 1000# OK. Drilled out cement to 7143', applied 750# pressure with rams closed and held same for 15 minutes. HOLES AT 7130' NOT LEAKING.
Reduced mud weight to 60# using foaming agent. Drilled 7-5/8" hole to 7234' where circulation was lost. Treated mud for lost circulation. Mud: 60#, 37 sec., 7.2 cc., 5% solids.
- 10-28 Lost 2400 barrels mud drilling to 7344'. Pump LCM down annulus and regain circulation. Remove jets and drilled 7-5/8" hole to 7378'. Mud: 64#, 34 sec., 8.2 cc., 4% solids.

1972

- 10-29 Drilled 7-5/8" hole 7418'. Ran Schlumberger Induction-Electrical Log and Density-Neutron Log with Caliper and recorded from 7420'-7185'. Mud: 64#, 34 sec., 8.0 cc., 4% solids. Drilled and surveyed 7-5/8" hole to 7423' total depth.
- 10-30 TO CEMENT 6-5/8" BLANK LINER: Ran 7 joints or 305.48' of 6-5/8", 27.65#, K-55, R-3, Security flush joint, new seamless blank casing on 4-1/2" drill pipe and liner cementing tool and hung liner at 7116'. Cemented same at 7421' with 30 sacks Class "G" 1:1 Perf-A-Lite cement treated with 2% gel and 2% calcium chloride mixed to an 86#/cu ft slurry. Reciprocated casing 15' for 15 minutes prior to hanging. Preceded cement with 200 gallons of "Mud Flush" and displaced with 606 cu ft of mud to shear liner wiping plug and followed with an additional 60 cu ft of mud to bump plug under 2000# final pressure. Bled back 3 cu ft. Good circulation throughout job. 25 minutes mixing and displacing cement to place at 4:00am. Used Byron-Jackson cementing equipment and bulk cement.
- LINER DETAIL
All 7 joints or 305.48' (7421' to 7116') fitted on bottom Davis-Lynch plug catching shoe, on top with Texas Iron Works plain off bottom liner hanger. Centralizers at 7415, 7400, 7380, 7360, 7340, 7300 & 7250. Scratcher clusters at 7413, 7398, 7358, 7338, 7298, 7248.
- 10-31 Ran 7-5/8" bit with casing scraper above and worked scraper 7078 to 7116'. Found no cement. Closed bag on drill pipe and pumped away fluid at 500# pressure. Ran 5-5/8" bit with casing scraper above and ran in to top of cement plug at 7418', EFFECTIVE DEPTH. Ran Schlumberger Cement Bond Log opposite liner and from 6650' - 7116' in 8-5/8" casing.
- TO SQUEEZE 8-5/8" x 6-5/8" LAP WITH CEMENT: Ran Baker Model K cement retainer on 4-1/2" drill pipe and set at 7022'. Lap took fluid at the rate of 32 cu ft per minute at 900# psi. Preceded cement with 100 cu ft of water. Pumped in 150 sacks of Class "G" cement with 2% calcium chloride mixed to average 115#/cu ft slurry. Followed with 10 cu ft of water and 275 cu ft of mud. Closed tool and pumped additional 308 cu ft of mud in stages to displace estimated 146 sacks away through lap under 200# psi final pressure. Cement in place at 8:40 pm. Used B-J bulk cement and power.
- 11-1 Drilled out retainer at 7022 and cement from 7044' - 7116' with 7-5/8" bit with casing scraper above. Cleaned out to 7208' with 5-5/8" bit with casing scraper above. Difficulty in cleaning out due to lost circulation material packing off around scraper.

1972

- 11-2 Cleaned out to 7418' with 5-5/8" bit with casing scraper above. Ran Schlumberger CBL. Closed blind rams and pressure tested to 1500# for 15 minutes, OK. Ran Schlumberger 4" O.D. Hyper-Jet gun with 19.5 gram charge and shot four 1/2" jet holes at 7200'. Pressure test indicated holes taking fluid.
TO SQUEEZE HOLES IN 6-5/8" LINER AT 7200' WITH CEMENT: Ran Johnston retrievable cement tool on 4-1/2" drill pipe and set tool at 7131'. Holes took fluid at rate of 20 cu.ft. per minute under 900# psi. Preceded 150 sacks Class "G" cement with 100 cu.ft. of water and followed with 10 cu.ft. of water and 340 cu.ft. of mud, then closed valve and displaced an additional 246 cu.ft. of mud in stages to clear holes of cement under 200# final pressure. Held 500# psi on annulus. 45 minutes mixing and displacing cement to place at 4:30 PM. Used B-J bulk cement and power equipment.
TO RESQUEEZE HOLES IN 6-5/8" LINER WITH CEMENT: After standing 4 hours, set tool at 7131', obtained breakdown of 24 cu.ft. per minute rate under 1200# psi. Preceded 150 sacks of Class "G" cement with 100 cu.ft. of water and displaced with 15 cu.ft. of water and 346 cu. ft. of mud. Closed tool and displaced an additional 243 cu.ft. Applied 1000# psi on annulus, and determined communication between lap and holes. Pumped in 100 sacks Class "G" with 2% clacium chloride and squeezed in stages estimated 90 sacks away under 750# final pressure. 40 minutes mixing and displacing cement to place at 9:40 PM. Used B-J bulk cement and power.
- 11-3 Ran 7-5/8" bit with casing scraper above and cleaned out to 7116' - no cement. TO PRESSURE TEST 6-5/8" x 8-5/8" LAP AT 7116': Closed rams and applied 1500# psi which slowly bled off to 800# psi. Tested surface lines to 1500# psi and same held OK. Reapplied 1500# psi which again bled off to 800# psi in 12 minutes.
TO RESQUEEZE 6-5/8" x 8-5/8" LAP WITH CEMENT: Ran Baker full bore retainer and set in 8-5/8" casing at 7020' and obtained breakdown of 4 cu.ft. per minute rate under 1200# psi. Preceded cement with 100 cu.ft. of water and followed with 30 cu.ft. of water. Mixed 50 sacks of Class "G" cement with 2% clacium chloride mixed to 115#/cu.ft. slurry and closed tool on 379 cu.ft. of displacement and followed with an additional 55 cu.ft. of displacement when pressure rose to 4250# psi. Held for 5 minutes and back scuttled out 50 sacks of cement. NO CEMENT AWAY. LAP HOLDING 4250# psi OK. Use B-J bulk cement and power.
 Located top of cement at 7200' and clean out to EFFECTIVE DEPTH 7418'.
- 11-4 Ran Schlumberger 4" O.D. Hyper-jet gun with 19.5 gram charges and shot four 1/2" jet holes at 7196'. TO TEST WATER SHUT-OFF ON HOLES IN 6-5/8" LINER AT 7196': Ran Johnston packer on 3-1/2" & 4-1/2" drill pipe and set in 6-5/8" liner at 7062' with tail to 7172'. Opened tool at 4:33 AM. Puff blow then very faint blow for balance of one hour test. No gas to surface. Recovered 60' rise in 3-1/2" drill pipe. Charts OK. WSO by Company test. Ran 5-5/8" bit with casing scraper above and cleaned out to 7418', EFFECTIVE DEPTH.

1972

11-5 Ran Schlumberger 4" O.D. Hyper-jet gun with 19.5 gram charge and shot four 1/2" jet holes at following intervals: 7350'-7300', 7297'-7287', 7284'-7278' and 7258'-7228'. Shot from collar at 7292'. After shooting holes below 7278', hole took 84 barrels of salt water during a six hour period.

Ran Otis type 212 WC 8502 permanent packer with pump out plug on Schlumberger wire line and set at 7090'. Ran Otis safety valve type 78 AO 112 with Otis flow nipple type 92C-1528 on 230 joints of 2-7/8", 6.5#, K-55, R-3, seal lock, new seamless tubing. 1/4" bundy control line ran simultaneously and clamped on either side of each collar protector and in the middle of each joint. Safety valve and all splices tested to 5000# psi for 15 minutes before going into hole.

11-6 Finish running 2-7/8" and 1/4" tubing. 1/4" tubing spliced at 2000' and 2864' from surface. Splices tested with 5000# pressure for 15 minutes.

TUBING DETAIL

230 joints or	7055.78	2-7/8
3 pups or	16.70	2-7/8 N-80
Doughnut or	.70	
Otis flow nipple	6.86	
	<u>7080.04</u>	
KB to tbg. head	13.00	
Tubing landed	<u>7093.04</u>	

11-7 Released rig, 3:00 PM

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 172-1264

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

Inglewood, Calif.
October 30, 1972

DEAR SIR:

Operations at well No. IW 62 (037-21313), Sec. 27, T. 3N, R. 16W, S.B. B & M.
Aliso Canyon Field, in Los Angeles County, were witnessed
on October 25, 1972. Mr. G. Ledingham, Engineer representative of the supervisor was
present from 1830 to 1930. There were also present O. Olson and O. McDonald,
Drilling Foremen.

Present condition of well: 13-3/8" cem. 724'; 8-5/8" cem. 7190', cp 2005', perf. 7130' WSO.
T.D. 7195'.

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

Mr. ---- reported:

THE 8-5/8" SHUT-OFF AT 7130' IS APPROVED.

CL:dr

cc Company

[Handwritten signature]

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

By W. E. Ingram Deputy

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 172-1171

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

Inglewood, Calif.
October 5, 1972

DEAR SIR:

Operations at well No. IW 62 (037-21313), Sec. 27, T. 3N, R. 16W, S.B. B & M.
Aliso Canyon Field, in Los Angeles County, were witnessed
on Sept. 29, 1972. Mr. R. Dreessen, Jr., Engineer, representative of the supervisor was
present from 0445 to 0615. There were also present H. Price, Drilling Foreman, and
H. Murphy, Driller. ²²⁴

Present condition of well: 13-3/8" cem. 730'. T.D. drilling 738'.

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

Mr. ----- reported:

THE BLOWOUT-PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

RD:dr

cc Company

dr/suv

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

By W.L. Ingram, Jr. Deputy

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 172-1108

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

Inglewood, Calif.
October 2, 1972

DEAR SIR:

Your proposal to drill Well No. IW 62 (037-21313),
Section 27, T. 3N, R. 16W, S.B.B. & M., Aliso Canyon Field, Los Angeles County,
dated 9/22/72, received 9/28/72, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. A COPY OF THIS REPORT SHALL BE POSTED AT THE WELL SITE PRIOR TO COMMENCING OPERATIONS.
2. Drilling fluid of a quality and in sufficient quantity to control all subsurface condition in order to prevent blowouts shall be used.
3. The surface casing shall be cemented in competent beds and blowout prevention equipment, conforming to this Division's Class III requirements, shall be installed and maintained in operating condition at all times.
4. Sufficient cement shall be pumped back of the 13-3/8" casing to reach to the surface.
5. Sufficient cement shall be used to fill all the space back of the 8-5/8" casing to above the top of any oil, gas or salt-water-bearing formations, or the casing shall be cemented also through ports at a point below the base of the fresh water-bearing formations with sufficient cement to fill above the Sesnon-Frew zones.
6. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
 - a. A test of the effectiveness of the blowout prevention equipment prior to drilling out cement in the shoe of the 13-3/8" casing.
 - b. A test of the effectiveness of the 8-5/8" shut-off above the Sesnon-Frew zones.

NOTE: All well records listed in Sec. 3215 of the Public Resources Code are due 30 days after completion of the well.

ADS:dr

cc Company

Blanket Bond

dr

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

By *W. E. Ingram*, Deputy

Gas Storage
DIVISION OF OIL AND GAS
RECEIVED
9

SEP 28 1972

037-21313

DIVISION OF OIL AND GAS
Notice of Intention to Drill New Well
This notice and surety bond must be filed before drilling begins

INGLEWOOD, CALIFORNIA

Los Angeles Calif. September 22 19 72

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. IW 62 (037-21313), Sec. 37, T. 3N,

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

Legal description of mineral-right lease, consisting of ~~XXXXXXXXXX~~ acres, is as follows: ~~XXXXXXXXXX~~
wells on Fernando Fee lease

DIVISION OF OIL AND GAS
RECEIVED

SEP 28 1972

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.

INGLEWOOD, CALIFORNIA

Location of Well: 1557.04 feet South ~~XXXXXXXXXX~~ property 1828.78 feet East
(Direction) along section line and (Direction)

~~at right angles to said line~~ from the Station 84 ~~corner of section~~ property

Elevation of ground above sea level 1993.07 feet S.L. datum.

All depth measurements taken from top of K.B. which is 12 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
13-3/8	48#	H-40 Smls	0	700	700
8-5/8	36#	Smls K-55 & N-80	0	± 7000	7000 & Cp if necessary
6-5/8	27.56#	K-55 Smls	± 6900	± 7200	7000 - 7200

Intended zone(s) of completion: Sesnon & Frew 7000'-7200' Estimated total depth 7200'
(Name) (Depth, top and bottom)

MAP	MAP BOOK	CARDS	INDEX	FOUNTS	
		ARG		114	101
7M6	7M6	ARG	B	ARG	ARG

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

Address P. O. Box 3249, Terminal Annex Pacific Lighting Service Co.
Los Angeles, California 90051
By P. S. Magruder, Jr. (Name of Operator)

Telephone Number 689-2345 Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)