

OPERATOR 3rd Cal Gas Co
 LSE & NO "Map" 3
 MAP 254

	(1)	(2)	()	()	()	()
INTENTION	Redrill for Observation Well	Convert to Observation Well	Convert to Observation			
NOTICE DATED	4-21-78	6-2-78	10-16-99			
P-REPORT NUMBER	278-115	278-149	298-91			
CHECKED BY/DATE						
MAP LETTER DATED	On Map	8-12-78				
SYMBOL	●	101	DC			

	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED	REC'D	NEED
NOTICE	4-21-78		6-7-78		10/18/99							
HISTORY	7-20-78 →		7-20-78									
SUMMARY	—		—									
IES/ELECTRIC LOG	—		—									
DIRECTIONAL SURV	—		—									
CORE/SWS DESCRIP	—		—									
OTHER	Casing Log 6-5-78 Cust Bond Log 8-7-78 Comp. Note Log 8-7-78											
RECORDS COMPLETE	—		8-8-78		OK							

ENGINEERING CHECK

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

CLERICAL CHECK

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

REMARKS: _____

PERMIT TO CONDUCT WELL OPERATIONS

010
(field code)
00
(area code)
99
(new pool code)
30
(old pool code)

Observation

James D. Mansdorfer, Agent
Southern California Gas Company
22245 Placerita Canyon Road ML9181
Newhall, CA 91322-1124

Ventura, California
July 6, 1999

Your proposal to convert to observation well "Ward" 3,
A.P.I. No. 037-00192, Section 27, T. 3N, R. 16W, S.B. B.&M.,
Aliso Canyon field, ----- area, Observation pool,
Los Angeles County, dated 6/16/99, received 6/18/99, has been examined in
conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. The well must be securely capped at the surface while in an observation status.
2. Annual temperature surveys are submitted to this office on an annual basis.

Blanket Bond
SAF:sf

Engineer Steven A. Fields

Phone (805) 654-4761

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

By Patrick J. Kinnear
Patrick J. Kinnear
Deputy Supervisor

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

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

NOTICE OF INTENTION TO REWORK / REDRILL WELL

010
20-91
-99
RECEIVED
JUN 18 1999
DIV. OF GEOTHERMAL RESOURCES
VENTURA CALIFORNIA

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	OGD121	File
BB	✓	✓	

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 See Below. This notice is provided to update well statuses in response to the Division's idle well API No. See Below.
(Circle one) program for 1999.

(Well designation)
Sec. 27, 28, 34 T. 3 N R. 16 W 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:
Per Steve Fields, all casing records are in the District office and details are waived for this section.

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

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

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

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

(or)

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

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

The proposed work is as follows: (A complete program is preferred and may be attached.) Listed below are the updated well statuses for Aliso Canyon:

- Mission Adrian Fee 1 037 00691 Water disposal (idle), Del Aliso and Porter completion, waterflood project. Well pressure is monitored monthly.
- Porter 26C 037 21353 Observation, plugged back storage zone well, no completion interval. Weekly well pressure, annual temperature survey.
- Porter 33 037 00720 Observation. Idle water injector, Porter completion, waterflood project. Well pressure monitored monthly.
- Porter 40 037 00727 Active withdrawal well, Sesnon completion, gas storage project. Annual temperature survey.
- Porter 58 037 00743 Observation, Aliso completion, waterflood project. Well pressure is monitored monthly.
- Standard Sesnon 5 037 00758 Observation (may be produced if needed), Sesnon completion, gas storage project. Ann. Temp. survey, daily pressure.
- Standard Sesnon 44 037 00788 Observation, plugged back gas storage well, no completion interval. Weekly well pressure, annual temperature survey.
- Ward 3 037 00192 Observation, plugged back gas storage well, no completion interval. Quarterly pressure surveys, annual temp. survey.

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

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

Name of Operator Southern California Gas Company	Telephone Number 805 253-7077
Address 22245 Placerita Canyon Road	City Newhall Zip Code 91321
Name of Person Filing Notice Steve Cardiff	Signature  Date June 16, 1999

File In Duplicate

C.E.Q.A. INFORMATION

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

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

Lead Agency: _____

Lead Agency Contact Person: _____

Address: _____

Phone: _____

FOR DIVISION USE ONLY

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

Remarks: _____

CRITICAL WELL DEFINITION

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

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

Exceptions or additions to this definition may be established by the State Oil and Gas Supervisor upon his or her own judgment or upon written request of an operator. The written request must contain justification for such an exception.

WELL OPERATIONS REQUIRING BONDING

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

JUL 20 1978

DIVISION OF OIL AND GAS

SANTA PAULA, CALIFORNIA

History of Oil or Gas Well

OPERATOR SOUTHERN CALIFORNIA GAS COMPANY FIELD Aliso Canyon

Well No. WARD #3, Sec. 27, T. 3N, R. 16W, S.B. B. & M.
 A.P.I. #037-00192

Date July 10, 1978 Signed P. S. Magruder, Jr.

P.O. Box 3249, Terminal Annex
Los Angeles, California 90051 Title Agent
 (Address) (213) 689-3561 (Telephone Number) (President, Secretary or Agent)

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

Date	
<u>1978</u>	
4-19	Moved California Production Service Rig #D-4 to well site.
4-20 thru 4-23	Rig and crew idle.
4-24	Finished rigging up. Pulled pump loose and laid down three 6' rod pups Replaced polish rod and circulated oil from well.
4-25	Rigged up and pulled 192 joints 3/4" rods. Removed Xmas tree and installed Class III B.O.P.E. Tested with water at 4000 psi on blind rams - dropped 100 psi; tested pipe rams to 4000 psi - dropped 100 psi; unable to test Hydril bag - doughnut leaking. Tested manifold to 2500 psi. Approved by Division of Oil and Gas.
4-26	Unlanded and laid down 189 joints of 2 7/8" tubing and 1 joint of 2 3/8" tubing. Made up 6 1/8" bit and casing scraper. Running in well, picking up 2 7/8" drill pipe.
4-27	Measured and picked up 2 7/8" drill pipe and same stopped at 5964'. Cleaned out fill to 6078'. Pulled out to check tools. Ran back in, picking up drill pipe and found tight casing at 6235'.
4-28	Made up 6 1/8" tapered mill. Ran in and milled through tight casing at 6235' to 6245'. Cleaned out to 6381'. Pipe stuck while pulling out but worked free. Pulled up 30' and circulated clean - pulled out. Tapered mill had worn down 1/2".
4-29	Pulled out and laid down 6 1/8" bit and casing scraper. Made up 5 7/8" tapered mill. Ran in and reamed tight casing from 6235' to 6245'. Ran in to 6410' and circulated clean - pulled out. Made up 6 1/8" tapered mill. Ran in and reamed tight casing from 6235' to 6245'. Cleaned out fill from 6361' to 6416'. Pulled above perforations at 5946'.

- 4-30 Rig and crew idle.
- 5-1 Reamed from 6416' to 6461' and circulated clean. Pulled out of well. Made up 6 1/8" bit. Ran in well and cleaned out from 6461' to 6472' - well started to unload. Changed over from lease water to 69#/cu.ft. polymer drilling fluid. Circulated shale. Pipe was stuck on bottom - worked free and pulled up to 300'.
- 5-2 Ran in and located fill at 6397'. Cleaned out to 6469'. Circulated out running shale. Drill pipe stuck at 6459'. Worked pipe free and pulled out of well. Changed bits and ran in to 5970'. Changed over to 74#/cu.ft. polymer drilling fluid.
- 5-3 Located top of fill at 6415' and cleaned out shale to 6489'. Pulled out and ran back open-ended. Hung drill pipe at 6410' - pumped in 50 cu.ft. water, 75 cu.ft. Class "G" Neat cement, followed by 10 cu.ft. water and 140 cu.ft. of drilling fluid.
- 5-4 Located top of cement at 6212'. Equalized 36 cu.ft. Class "G" cement at 6212'. Pulled up to 6030' and backscuttled out 13 cu.ft. of cement. Ran in and located soft cement at 6030'. Hung drill pipe at 6030' and pumped in 50 cu.ft. water, 25 cu.ft. Class "G" cement, 10 cu.ft. water and 139 cu.ft. of drilling fluid. Cement in place at 8:00 P.M. Pulled up to 5530' and backscuttled 150 cu.ft. Pressured up to 500 psi and held.
- 5-5 Ran in well with 6 1/8" bit and casing scraper. Drilled out firm cement from 5947' to 6030'. Pressure tested casing from 6030' to surface with 1050 psi. Drilled out cement to 6417. Unable to run bit and casing scraper below 6417'.
- 5-6 Ran 6 1/8" tapered mill. Reamed from 6412' to 6424'. Cleaned out to 6482'. Having some difficulty with sloughing shale. Ran open-end drill pipe. Halliburton equalized 60 sacks of Class "G" cement with drill pipe at 6424'. Pulled above cement and squeezed with 1000 psi and held for one hour. Well took 4 cu.ft. cement. Pulled to 5970' and circulated well.
- 5-7
5-7 Rig and crew idle.
- 5-8 Drilled out firm cement from 6196' to 6425'. Cleaned out to 6480'. Pulled to 6252', closed pipe rams and pressure tested casing to 1000 psi.
- 5-9 Ran McCullough Casing Inspection Log ^{mill} which stopped at 6415'. Recorded log from 6410' to 1656'. Ran 6 1/8" junk ^{mill} to 6415'. Reamed to 6417' and cleaned out to 6475'. Pulled to 6435' and circulated well clean. Pulled to 5955'.
- 5-10 Ran 6 1/8" junk mill to 6420'. Unable to clean out below 6475'. Pulled out and ran 5 1/2" junk mill but unable to clean out below 6470'. Stuck mill - circulated, worked and pulled to 6400'. Circulated well clean and pulled out.

- 5-11 Ran 4 1/4" tapered mill to 6401'. Cleaned out fill to 6435'. Drill string became stuck - worked pipe free. Circulated shale out from well and pulled out. Ran open-end drill pipe to 6424'. Washed out shale fill to 6440'. Pipe became stuck - worked pipe free and circulated well. With open-end drill pipe at 6420', Halliburton equalized 50 sacks of Class "G" cement. Pulled up to 6025' and squeezed away 10 cu.ft. of cement at 750 psi. Held pressure for 30 minutes.
- 5-12 Ran 6 1/8" bit and casing scraper. Drilled out cement from 6239' to 6423' but were unable to clean out below 6423'. Pulled out of well - bit showed severe tooth breakage. Ran 2000' open-end drill pipe.
- 5-13 Ran 6' tapered mill below two stabilizers. Milled from 6423' to 6433' - drill string became stuck. McCullough backed off drill collars at 6360', leaving 73' of fish - including one stabilizer, one drill collar, one stabilizer, two crossover subs and mill. Pulled out of well. Made up Midway fishing tools, bumper sub and jars).
- 5-14 Rig and crew idle.
- 5-15 Finished running in well, screwed into fish at 6360'. Jarred on fish but could not move same. Rigged up McCullough, ran string shot and backed off at 6396'. Pulled out and recovered 29' of drill collar and OMT 6" stabilizer. Made up Midway overshot, jars, bumper sub and accelerator with 8 drill collars.
- 5-16 Ran in well and latched on to fish with Midway overshot, jars, bumper sub, accelerator, drill collars and drill pipe. Jarred on fish but unable to move. Pulled out and laid down Midway tools. Ran in with drag shoe and 35' of wash pipe. Washed over fish and cleaned out solid fill from 6410' to 6422' (top of stabilizer).
- 5-17 Ran wash pipe to stabilizer at 6421' and found no fill. Made up overshot, bumper sub, jars and accelerator. Engaged fish and jarred with 140,000# but could not move fish. Made up screw-in sub, jars and accelerator.
- 5-18 Ran in well to 6392' with screw-in sub. Rigged up Dia-Log but could not get wash-out tool below 6260'. Pulled out and checked drift on drill collars. Ran in well, washed out to 6427' and circulated clean. Rigged down Dia-Log. Jarred on fish with 150,000# - could not circulate with rig pump at 2000 psi or move fish.
- 5-19 Ran in well and screwed into fish at 6392'. Rigged up and ran Dia-Log sinker bar to check for fill. Rigged up Halliburton and tried to pump through drill pipe but were unable to circulate. Ran in with Dia-Log string shot, which stopped at 6357'. Pulled out, leaving primer cord in well. Ran in with sinker bars - could not move cord. Pulled out, leaving 45' of sinker bar. Backed off at 6392'.

- 5-20 Finished pulling out of well but did not recover 1" Dia-Log sinker bar. Ran in with Midway 5 5/8" impression block. Located top of fish at 6379'. Ran in with 1" socket and bumper sub on drill pipe. Worked over fish and pulled out - recovered 1" x 45' sinker bar. Made up screw-in sub, jars and drill collar.
- 5-21 Rig and crew idle.
- 5-22 Ran in well and located top of drill collar. Fish at 6391' - screwed into fish. Rigged up and ran Dia-Log sinker bar but could not get below 6394'. Pulled out. Made up Midway 5 3/4" washover shoe dressed with tungsten carbide. Reamed tight casing and fill from 6405' to 6421'.
- 5-23 Pulled out of well and changed mill shoes. Milled on OMT 4 3/4" x 6" stabilizer and pulled out. Made up mill shoe #3 (5 1/2" x 4 5/8").
- 5-24 Ran in well with tungsten carbide wash shoe. Milled over 4 3/4" x 6" stabilizer but did not mill up any of stabilizer wings. Pulled out and laid down wash pipe which showed no wear on inside. Picked up new wash pipe and washover shoe. Ran in to 5930'; changed shaker screen and slip drilling line.
- 5-25 Ran in well with wash shoe #4 - could not get below 6416'. Worked on tight spot but could not ream below 6414'. Pulled out and left washover shoe in well over drill collar fish. Made up Midway screw-in sub, jars and accelerator. Ran in and jarred on fish at 6391' but could not move fish. Rigged up Dia-Log wash tool but could not get below 6356'. Pulled tools - found seating sleeve to be over 1 5/8". Pulling out of well.
- 5-26 Finished pulling out of well. Ran drift pin through drill collar (1 5/8"). Ran in and rigged up Dia-Log wash tool but unable to clean out below 6401'. Rigged down Dia-Log. Pulled out and laid down 1 1/2" seating sub.
- 5-27 Ran in well to top of 4 1/8" drill collar fish at 6391'. Screwed into fish. Ran Archer-Reed 1 3/8" hydrostatic bailer and had good recovery on first run. No recovery on second or third runs. Changed to junk catcher shoe - no recovery. Changed to a 45° shoe - no recovery. Rigged down Archer-Reed and pulled out. Laid down Midway fishing tools.
- 5-28
and
5-29 Rig and crew idle.
- 5-30 Pulled out of well. Made up Midway 2 7/8" RIF, 3 1/2" left-hand thread guide sub and screwed into fish. Pulled out and made up 1 1/4" drill tube - 33' - on 2 7/8" drill pipe and attempted to wash out 4 1/8" drill collar. Circulated down drill pipe and backscuttled at 6401' but unable to go deeper. Rigged down Halliburton and pulling out of well.

- 5-31 Pulled out of well. Laid down 1 1/2" drill tubing. Made up left-hand sub. Ran in well and screwed into adapter sub. Pulled out and laid down same. Ran in to 6380' with open-ended drill pipe and spotted 5 sacks of 6-9 gravel - gravel on top of fish at 6391'.
- 6-1 Ran in well to top of fish at 6391' and found no gravel. Rigged up Halliburton and spotted 10 sacks of 6-9 gravel on top of fish. Pulled up to 5900' and stood for one hour. Ran back in and located gravel at 6357'. Pulled out and rigged up Triangle. Ran in well with audio-analyzer - had a decreasing noise on bottom at 6340'.
- 6-2 Rigged up and ran Triangle Noise Log which indicated no fluid or gas movement. Rigged up Schlumberger and ran Cement Bond Log from 6350' to 4650' and Compensated Neutron Log from 6350' to 1660'. Ran jet gun and shot four 1/2" holes at 6096'.
- 6-3 Pulled 20 stands of drill pipe. Made up Lynes tester with three recorders. Ran in and set packer at 6036' with tail to 6057'. Opened tool at 9:50 A.M. - gas to surface at 10:31 A.M. Light blow for duration of 90-minute test. Closed tool at 11:20 A.M. Pulled out and recovered 495' rise of oil and gas-cut drilling fluid. WNSO by Company. Made up Baker bridge plug. Ran in and set at 6150'. Tested to 1000 psi for 15 minutes - O.K. Spotted five (5) sacks of Silca sand on top of plug with Halliburton.
- 6-4 Rig and crew idle.
- 6-5 Ran in well and located sand at 6099'. Backscuttled sand down to 6109'. Pulled out of well. Made up Baker Model "K" cement retainer. Ran in and set same at 6047'. Rigged up Halliburton - had breakdown of 6 cu.ft. per minute at 3000 psi. Pumped in 20 cu.ft. water, 25 sacks of Class "G" cement, 20 cu.ft. water and displaced with 150 cu.ft. drilling fluid. Squeezed away 20 sacks of cement under 2000 psi final pressure. Made up Baker retainer puller, ran in and milled on retainer. Pulling out of well.
- 6-6 Finished pulling out of well. Laid down Baker milling tool and left 11' of Baker cement retainer in well. Made up 6" junk mill - ran in and milled up junk. Drilled out cement from 6051' to 6096'. Circulated well clean. Pulled out. Rigged up McCullough and shot four 1/2" holes at 6095'.
- 6-7 Made up Lynes tester. Ran in and set packer at 6033' with tail to 6057. Opened tool at 9:00 A.M. with light blow for one minute and dead for balance of 60-minute test. Recovered 10' rise of drilling fluid. WSO by Company. Made up Baker retrieving tool. Ran in and cleaned out sand above bridge plug at 6150'. Pulled plug loose and circulated bottoms up. Pulled out and laid down bridge plug.
- 6-8 Pulled out of well. Made up Lynes tester. Ran in and set packer at 6134'

with tail to 6158'. Made 90-minute test with strong blow for one minute and light blow for balance of test. Pulled out and had 600' rise of drilling fluid with trace of oil. Pressures 200-250 psi. Ran in well with 6 1/8" bit and casing scraper to 6350'. Pulling out and laying down 2 7/8" drill pipe.

- 6-9 Finished laying down 2 7/8" drill pipe and drill collars. Ran in with Baker Lok-Set bridge plug. Set plug at 1943'. Pulled up and tested to 1000 psi. Laid down balance of drill pipe. Removed flooring and B.O.P.E. Unlanded 7" casing with Alco casing jacks (200,000#).
- 6-10 Cut off old wellhead. Welded on new 13 5/8" x 5000 psi casing head. Gamma-Ray checked fillet and butt welds.
- 6-11 Rig and crew idle.
- 6-12 Rigged up casing jacks, spear and bumper sub. Relanded 7" casing with 155,000#. Rigged down jacks. Installed 13 5/8" 5000 psi x 10" and 5000 psi x 7" double-studded seal flange and 10" 5000 psi x 6" 5000 psi Type 55 tubing head. Installed B.O.P.E. and tested seals on head to 3500 psi. Made up Baker retrieving tool. Ran in and pulled Lok-Set bridge plug loose. Circulated gas from well. Pulled out and laid down bridge plug.
- 6-13 Pressure tested B.O.P.E. with water at 4000 psi on blind rams and rope rams. Also pressure tested Hydril bag with 2500 psi. Rigged up and ran Baker Retrieval-"D" packer - set same at 6130' with Wellex wireline. Rigged up Hydrotest and pressure tested 2 7/8" J-55 tubing to 5000 psi.
- 6-14 Spaced out tubing and landed with 10,000# on packer. Pulled 25,000# over weight of tubing to check latch. Removed B.O.P.E. and installed Xmas tree and tested tree to 5000 psi. Changed over from polymer to salt water with inhibitor. Set plug in NO-GO nipple and tested seals and packer to 2000 psi. RIG RELEASED at 10:00 P.M.

DIVISION OF OIL AND GAS

Report on Operations

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

Santa Paula, Calif.
May 17, 1978

Your operations at well "Ward" 3, API No. 037-00192, Sec. 27, T. 3N R. 16W
S.B.B. & M. Aliso Canyon Field, in Los Angeles County, were witnessed
on 4/25/78 by Ms. T.M. Callaway, representative of the supervisor, was
present from 1700 to 2200. There were also present D. Barton, consulting engineer

Present condition of well: No additions to the casing record since proposal dated 4/21/78.

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
State Oil and Gas Supervisor
By John L. Hardoin
Deputy Supervisor
John L. Hardoin

REPORT ON PROPOSED OPERATIONS

Santa Paula, California

June 7, 1978

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

Your supplementary proposal to alter & convert to
observation well "Ward" 3
(Name and number)
A.P.I. No. 037-00192, Section 27 T. 3N R. 16W
S.B. B. & M. Aliso Canyon field, Los Angeles County,
dated 6/2/78, received 6/7/78, has been examined in conjunction
with records filed in this office.

THE PROPOSED OPERATIONS ARE APPROVED.

Blanket Bond
MWD:r

M. G. HEFFERD
State Oil and Gas Supervisor
By John L. Hardoin
Deputy Supervisor
John L. Hardoin

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

DIVISION OF OIL AND GAS
RECEIVED

JUN 7 1978

SUPPLEMENTARY NOTICE

SANTA PAULA, CALIFORNIA

FOR DIVISION USE ONLY		
BOND	FORMS	
	114	121
BB	-	✓

DIVISION OF OIL AND GAS

Santa Paula Calif.

A notice to you dated April 21, 19 78, stating the intention to

Re-Work Well No. WARD #3, API No. 037-00192
(Drill, rework, abandon)

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

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

The present condition of the well is as follows:

Total depth 7500'

Complete casing record including plugs and perforations:

11 3/4" cemented 1660'

7" cemented 7100', DV 6163', WSO 6980'
four 1/2" holes 6030'-5995' and 5927'-5920'
cast-iron bridge plug 6900'

465' 5 1/2" landed 7495', slotted 7101'-7495'
bad casing 6225'-6235' and 6415'-6430' cemented
perforations 6030'-5995' and 5927'-5920' cemented
fish left in well 6391'-6433' (4 1/2" drill collar, stabilizer,
two subs and 6" tapered mill)

We now propose

1. Cap fish with gravel from 6391'-6360'. Run Noise Log.
2. Run Cement Bond Log and Compensated Neutron Log.
3. Install new wellheads.
4. Set packer near 6100', run tubing and complete as Observation 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)

SOUTHERN CALIFORNIA GAS COMPANY

(Name of Operator)

By P. S. Magruder, Jr.
(Name) P. S. Magruder, Jr. (Date) 6-2-78

Telephone Number (213) 689-3561

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

APR 28 1978

WARD #3 - Aliso Canyon

SANTA PAULA, CALIFORNIA

REVISED PROGRAM (Supersedes Program dated 10/23/77)PRESENT CONDITIONS:

11 3/4" cemented 1660'
 7" cemented 7100', DV collar 6163'
 465' 5 1/2" landed 7495', slotted 7101'-7495'
 cast-iron bridge plug at 6900'
 four 1/2" holes perforated 6030'-5970'
 bad casing at unknown depth below 5800'

7" CASING DETAILS:

7100'-6383'	23#	N-80	LT&C
6383'-5069'	26#	J-55	ST&C
5069'-surface	23#	J-55	ST&C

TUBING AND ROD DETAILS:

5794' 2 7/8" 6.5# EUE (189 joints + 1 joint
 2 3/8" tubing on bottom)
 192 joints 3/4" rods and pump

PROGRAM

1. Move in rig and mud pump.
2. Unseat rods and kill well with lease waste salt water. Volume of well to bridge plug at 6900' = 275 barrels. Total volume of well = 300 barrels. Pull and lay down rods.
3. Install Class III 5000 psi B.O.P.E. with cross-over spool, as required. Pressure test B.O.P.E. , complete shut-off and pipe rams to 4000 psi with water and nitrogen. Pressure test Hydril bag to 3000 psi with water and nitrogen.
4. Pull and lay down tubing. Make up 2 7/8" drill pipe. Run 6 1/8" bit and casing scraper - locate possible bad 7" casing. Run impression block or other devices to determine nature of casing failure - and correct, as indicated. If casing problem is corrected, proceed with Program. If not, revised program will be submitted.
5. Set bridge plug at 5000'.
6. Remove B.O.P.E. and tubing head. Using casing jacks, unland 7" casing (estimated weight 160,000#). Remove old casing head. Cut off 11 3/4" casing as required and weld on new 5000 psi casing head at grade. Check weld with Gamma-Ray device. Install seal flange and spool for landing 5 1/2" innerstring. Pressure test seals. Reinstall B.O.P.E. and re-pressure test as before.

6-24-28-1370

- SANTA PAULA, CALIFORNIA
7. Run mills or other devices to clean out to bridge plug at 6900'. Circulate salt water out of well with 72#/cu.ft. brine-polymer drilling fluid.
 8. Squeeze off perforations from 6050' to 5970' with Class "G" cement with 0.75% CFR-2. Use open-end drill pipe, hanging at 6100' - do NOT exceed 2200 psi. Drill out cement and pressure test to 2000 psi. Repeat as required to seal perforations.
 9. Drill out bridge plug at 6900'. Circulate and condition drilling fluid to dispel gas. Clean out to 7030' - top of 5 1/2" liner. Run 4 5/8" bit and casing scraper. Clean out to bottom of liner at 7495'.
 10. Set Model "F" packer near 7020'.
 11. Run 7020' 5 1/2" Hydril triple-seal 20# K-55 casing and land on Model "F" packer with 50,000#. Hydrotest casing to 4000 psi. Inhibit drilling fluid behind casing. Set bridge plug at 100' - remove B.O.P.E., land, cut and pack-off 5 1/2" casing. Install seal flange and tubing head. Reinstall B.O.P.E. and pressure test as before. Remove bridge plug.
 12. Hook up flow-line to Gas Company lines through portable trap. Run formation tester with 4-way valve and with three recently calibrated pressure bombs - two below packer and one above packer. Also with backscuttle tool, set packer near 6950'. Make formation test as follows:
 - Open for initial flow for 60 minutes - measure rates and surface pressure.
 - Take 60 minute initial shut-in
 - Open tool for 8-hour flow period, measuring rates and surface pressure.
 - Take 16-hour final shut-in pressure, open backscuttle and clear drill pipe, pull tester and field-read bombs correcting for temperature - compare pressures to current reservoir pressures in this area of the Field.
 13. Assuming the above test does confirm that pressures are same in this well bore as in storage sands in the area, proceed as follows:
 - Re-run tester as above and set in 5 1/2" casing near 6950' - use three 8-day pressure bombs and charts.
 - Open tool and take one hour initial flow rate and one hour initial shut-in pressure. Re-open tool and flow well for 5 days - place rig on stand-by during testing period. Take 24-hour final shut-in pressure, open backscuttle valve and clear drill pipe. Pull tester and field read pressure charts, correcting for temperature.
 14. If above tests and pressures clearly indicate that well bore is not in storage fault block, consider possible redrill. If pressures and tests

APR 28 1978

WARD #3 - Aliso Canyon
REVISED PROGRAM

SANTA PAULA, CALIFORNIA

PAGE 3.

indicate at least part of well bore is in undamaged storage block, proceed to complete well.

15. Set Model "F" packer in 5 1/2" casing near 7000' - do NOT set in a collar and use wireline to set packer.
16. Lay down 2 7/8" drill pipe.
17. Pick up and run 2 3/8" tubing, remove collars, clean pins, apply Baker seal and hydrotest to 5000 psi. Tubing to include:
 - Baker Seals (4)
 - Baker Latch-in Locator
 - Otis 10' Blast Joint
 - Otis 1.56" "XN" NO-GO Nipple with 2 3/8" threads
 - Otis 20' Blast Joint
 - Otis 2 3/8" Tubing Flow Safety System
 - One Joint 2 3/8" Tubing
 - Otis Gas Lift Mandrel with Pump-out Plug
 - 2 3/8" Tubing to surface
18. Land tubing on packer with up to a maximum of 8000# - pull 25,000# over weight of tubing string to check latch.
19. Remove B.O.P.E. and install Xmas tree. Pressure test Xmas tree to 5000 psi.
20. Circulate drilling fluid out of well with waste lease salt water. Set tubing plug in 1.56" "XN" nipple. Pressure test seals and packer to 2000 psi. Remove tubing plug and release rig.

GCA
G. C. ABRAHAMSON
April 24, 1978

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

D.O.G. ✓
B. F. Jones
J. L. Melton (W. Davis)
D. Justice
M. Grijalva

Well File
GCA/jp

SOUTHERN CALIFORNIA  COMPANY

810 SOUTH FLOWER STREET • LOS ANGELES, CALIFORNIA

Mailing Address BOX 3249 TERMINAL ANNEX, LOS ANGELES, CALIFORNIA 90051
M.L. #279

April 21, 1978

DIVISION OF OIL AND GAS
RECEIVED

APR 21 1978

SANTA PAULA, CALIFORNIA

Mr. J. L. Hardion
Division of Oil and Gas
146 So. Ojai Street
P.O. Box 67
Santa Paula, California 93060

Dear Mr. Hardion:

Please find attached D.O.G. Notice #OG107 and Drilling Program to convert Chevron Ward #3 to Southern California Gas Company Ward #3-Observation Well.

You have received the Transfer of Well to Southern California Gas Company.

We are still studying the structural control of this well and we may not redrill the well but merely recomplete with present liner and 5 1/2" innerstring. We would then obtain pressure and gas flow data to determine structural position of the well in relation to the Ward fault. We will advise you and/or submit a revised Program when we have completed our review of the available well information.

We now anticipate starting work on this well on or about April 24, 1978.

Thank you for your consideration.

Yours very truly


G. C. ABRAHAMSON
Chief Consulting Engineer
Southern California Gas Company

cc: Ben Jones

GCA/jp

REPORT ON PROPOSED OPERATIONS

Santa Paula, California

April 21, 1978

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

Your proposal to redrill well "Ward" 3
(Name and number)
A.P.I. No. 037-00192, Section 27, T. 3N, R. 16W

S.B. B. & M., Aliso Canyon field, Los Angeles County,

dated 4/21/78, received 4/21/78, has been examined in conjunction
with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Hole fluid of sufficient quality and quantity shall be maintained in the hole to control any subsurface condition, and a reserve supply shall be on hand for emergencies.
2. Constant surveillance of the volume and physical properties of hole fluid shall be maintained by the crew with the assistance of a monitoring system of at least a DOG Class B.
3. Materials placed in an unlined sump shall not contain contaminants or toxic substances.
4. Blowout prevention equipment of at least DOG Class III (3M) on the 7" casing shall be installed and maintained in operating condition at all times.
5. Blowout prevention practice drills shall be conducted at least weekly for each crew, and recorded in the log book.
6. There shall be a minimum overlap between the 7" and 5" casings of at least 100'.
7. This office shall be consulted before initiating any changes or additions to this proposed operation, or if operations are to be suspended.
8. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
 - a. A pressure test of the blowout prevention equipment before commencing downhole operations.
 - b. A test after cleaning out below the top of the 5" casing to demonstrate that no fluid has access to the well from between the 7" and 5" casings.

MISSO proposed also at 727, will notify operator to cover us

NOTE: A COPY OF THIS APPROVAL SHALL BE AVAILABLE AT THE WELL SITE DURING THE PROPOSED OPERATIONS.

Blanket Bond

JLH:b *Administrative/PH 4/18 - by 275-45 (copy), by 275-45 (copy) -
May 1978 - proposed hole, casing - 275-45 (copy) - 275-45 (copy)
proposal - 275-45 (copy) - 275-45 (copy) - 275-45 (copy)
HK of 275-45 (copy) - 275-45 (copy) - 275-45 (copy)*

M. G. MEFFERD

State Oil and Gas Supervisor

By

John L. Hardoin

Deputy Supervisor

John L. Hardoin

DIVISION OF OIL AND GAS
RECEIVED

APR 21 1978

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.

SANTA PAULA, 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. WARD #3, API No. 037-00192, 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. 7500'

2. Complete casing record, including plugs and perforations:

11 3/4" cemented 1660'

7" cemented 7100', DV collar 6163', WSO 6980'
four 1/2" holes per foot 6030'-5920'
WSO 6050' and 5900'
cast-iron bridge plug 6900'
bad casing at unknown depth below 5800'

3. Present producing zone name 465' 5 1/2" landed 7495' - slotted 7101'-7495' Sesnon Zone in which well is to be recompleted Sesnon

4. Present zone pressure _____ New zone pressure _____

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

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

The proposed work is as follows:

1. Move in and rig up. Kill well. Install B.O.P.E. and pressure test.
2. Clean out and locate bad casing. Set bridge plug at 5000'.
3. Install new wellheads. Seal off perforations 6050'-5920'.
4. Plug with cement from 7495' -7350'. Mill section in 5 1/2" 7280'-7320'.
5. Plug with cement from 7350'-7200'. Mill up 5 1/2" liner to 7150'.
6. Redrill 7150'-7500' and log. Cement 450' of 5" casing at 7500'. (7). Test WSO on splice and hear 7275'. Perforate from 7490'-7100'. (8). Run 7025' 5 1/2" casing and land on packer and in wellhead. (9). Set packer and run tubing with down-hole safety system.

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 Guy C. Abrahamson for Phil S. Magruder, Jr
(Name) (Date) 4-21-78
Type of Organization GCAC for Phil Magruder Jr, Corporation
(Corporation, Partnership, Individual, etc.)

WARD #3 - Aliso Canyon

Program to Recomplete as Observation Well

PRESENT CONDITIONS:

11 3/4" cemented 1660'
7" cemented 7100', DV collar 6163'
465' 5 1/2" landed 7495', slotted 7101'-7495'
cast-iron bridge plug 6900'
four 1/2" holes perforated 6030'-5970'
bad casing at unknown depth below 5800'

7" CASING DETAILS:

7100'-6383'	23#	N-80	LT&C
6383'-5069'	26#	J-55	ST&C
5069'-surface	23#	J-55	ST&C

TUBING AND ROD DETAILS:

5794' 2 7/8" 6.5# 8rd EUE (189 joints + 1 joint 2 3/8")
tubing on bottom
192 joints 3/4" rods and pump

PROGRAM

1. Move in rig and mud pump.
2. Unseat rods and kill well with 87#/cu.ft. brine-polymer drilling fluid. Volume of well to bridge plug at 6900' = 275 barrels. Volume of well = 300 barrels. Pull rods.
3. Install Class III 5000 psi B.O.P.E. with cross-over spool, as required. Pressure test B.O.P.E., rams to 4000 psi with water and nitrogen; Hydril bag to 3000 psi with water and nitrogen.
4. Pull tubing. Run 6 1/8" bit and casing scraper and locate bad casing. Run impression block or other devices to determine nature of casing failure.
5. Set bridge plug at 5000'.
6. Remove B.O.P.E. and tubing head. Using casing jacks, unland 7" casing (estimated weight 160,000#). Remove old casing head. Cut off 11 3/4" casing, as required, to bring wellhead to proper level and orientation.

Ward #3 - Aliso Canyon
Program to Recomplete as Observation Well

Weld on new 5000 psi casing head and check weld with Gamma-ray device. Install sand flange and spool. Check seals. Reinstall B.O.P.E. with spool. Re-pressure test B.P.O.E. as before. Pick up 2 7/8" drill pipe.

7. Run mills or other devices, as required, to clean out through bad casing to bridge plug at 6900'.
8. Cement off perforations 6050' - 5970' with Class "G" cement plus 0.75% CFR2. Hang open-end drill pipe at 6100' DO NOT exceed 2200 psi. Pressure test casing to 2000 psi.
9. Drill out bridge plug at 6900'. Circulate and condition drilling fluid. Clean out to 7030' (top of 5 1/2" liner.) Run 4 5/8" bit and casing scraper - clean out to 7495'. Plug liner with cement from 7495' to 7350'.
10. Cut section in 5 1/2" liner 7280' - 7320'. Open 6" hole to 8". Plug with cement from 7350' to 7200' and squeeze with 1500 psi.
11. Cut and recover 5 1/2" liner from 7095'.
12. Mill up 5 1/2" liner 7095' to 7150' or deeper if mill is making good progress.
13. Open 6" hole to 9" from 7100' to 7150' or deeper.
14. Plug from 7200' to 7100' with Class "G" cement mixed with 20% sand.
15. Using Dyna-drill, directionally redrill 6 1/8" hole from 7100' to 7600'. Run Induction Log and dip meter. Take sidewall cores and take ditch samples on 10' intervals. Determine Paleo correlations from ditch samples and cores.
16. Consider running selected wire line formation tests to determine formation pressures.
17. Run 550' of 5" 18# flush joint blank liner to 8595' and cement with 75 sacks of Class "G" cement. Drill out cement to 7590'. Run Cement Bond Log. Test for segregation at depth equal to 7275' in original well. Also test splice. If necessary selectively perforate and test formations for structural control.
18. Completion program to be developed based on information obtained in steps 15, 16 and 17.

19. Set Model "D" packer near 7275'.
20. Set Model "F" packer near 7025'.
21. Run 7025' 5 1/2" Hydril triple-seal 20# K-55 casing and land on Model "F" packer with 50,000#. Inhibit drilling fluid behind casing. Set bridge plug at 100'. Remove B.O.P.E. Land, cut and pack off 5 1/2" casing. Install seal flange and tubing head. Reinstall B.O.P.E. and re-pressure test as before. Remove bridge plug.
22. Set Model "F" packer in 5 1/2" casing at 7000'.
23. Run 2 3/8" tubing, remove collars, clean pins, apply Baker seal and hydrotest to 5000 psi. Tubing to include:
 - Baker Production Tube
 - Baker Seals (12)
 - One Joint of 2 3/8" Tubing
 - Otis 1.56" NO-GO nipple
 - Open Baker Sliding Sleeve
 - 2 3/8" Tubing to 7000'
 - Baker Seals (4)
 - Baker Latch-in Locator
 - Otis 10' Blast Joint
 - Otis 1.79" NO-GO nipple
 - Otis 20' Blast Joint
 - Otis 2 3/8" Tubing Flow Safety System
 - One Joint 2 3/8" Tubing
 - Otis Gas Lift Mandrel (EMPTY)
 - 2 3/8" Tubing to Surface
24. Land tubing on packer with up to a maximum of 8000# - pull 25,000# over weight of tubing string to check latch.
25. Remove B.O.P.E. and install Christmas tree. Pressure test Christmas tree to 5000 psi.
26. Circulate drilling fluid out of well with waste lease salt water. Set tubing plug in NO-GO (1.79"). Pressure test seals and packer under 2000 psi. Remove tubing plug and release rig.

G. C. ABRAHAMSON
October 23, 1977

cc: Rig Supervisor
Relief Rig Supervisor
Contract Pusher (2)
Book Copy
D.O.G.

B. Jones
J. Melton
D. Justice/M. Grijalva

Well File
Spore Copy

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

REPORT OF PROPERTY AND WELL TRANSFER

Field or county Aliso Canyon	Former owner Chevron U.S.A. Inc.	
Name and location of well(s) <u>Sec. 27, T. 3N., R. 16W., S.B.B.& M.</u> "Ward" 3 (037-00192) <u>Sec. 29, T. 3N., R. 16W., S.B.B.& M.</u> "Del Aliso 1" 1 (037-00655)		
Description of the land upon which the well(s) is (are) located 		
Date of transfer, sale, assignment, conveyance, or exchange 10/27/77	New owner Southern California Gas Company Address 810 So. Flower St. Los Angeles, California 90051	Type of organization Corporation Reported by So. Calif. Gas Co. Confirmed by Chevron U.S.A. Inc.
New operator new status (status abbreviation) PA	Remarks	
Old operator new status (status abbreviation) PA		
Date 10/28/77	District 2	Deputy Supervisor John L. Hardoin <i>John L. Hardoin</i>

OPERATOR STATUS ABBREVIATIONS	FORM AND RECORD CHECK LIST					
	Form or record	Initials	Date	Form or record	Initials	Date
PA - Producing Active	Form OG134A or OG134B			Map and book		
NPA - No-Potential, Active	Form OGD121			Notice to be cancelled		
PI - Potential Inactive	Form OGD148			Bond status		
NPI - No-Potential, Inactive	New well cards			EDP files		
Ab - Abandoned or No More Wells	Well records					
	Electric logs					
	Production reports					

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

REPORT OF PROPERTY AND WELL TRANSFER

Field or County Aliso Canyon

District 2

Former Owner: Standard Oil Company of California

Date March 8, 1977

Description of Property Sections 27, 28, & 29, T. 3N., R. 16W., S.B.B. & M.

Section 27

Section 28

List of Wells "Ward" 3 ✓ (037-00192)
"Ward" 2 (037-00680)
"Ward 3" 1 (037-00681)
"Orcutt Trustee" 2 (037-00676)
"Orcutt Trustee" 3-A (037-00677)

"Orcutt" 1 (037-00673)
"Orcutt-Sesnon L.W." 1 (037-00675)

Section 29

"Del Aliso 1" 1 (037-00655)
"Del Aliso 1" 2 (037-00656)
"Del Aliso 1" 3 (037-00657)
"Del Aliso 1" 4 (037-00034)

"Del Aliso 1" 5 (037-00658)
"Del Aliso 1" 6A (037-00659)
"Del Aliso 1" 7A (037-00660)
"Del Aliso 1" 8B (037-00661)
"Del Aliso 1" 9 (037-00662)
"Del Aliso 1" 10 (037-00663)
"Frew" 1 (037-00664)
"Orcutt-Del Aliso-Sesnon L.W." 1 (037-00674)
"Roosa" 1 (037-00678)
"Roosa" 2 (037-00679)

Date of Transfer January 1, 1977
New Owner: Chevron U.S.A. Inc.
Address: P. O. Box 7643
San Francisco, CA 94120
Telephone No. 415-434-7700

Type of Organization Corporation
Reported by: Standard Oil Co.
Confirmed by: Chevron U.S.A. Inc.
New Operator New Status PA
Request Designation of Agent ~~AK~~

, Old Operator New Status Ab

Remarks: NAME CHANGE ONLY

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

John L. Herd
Deputy Supervisor

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

12

COMPLETION REPORT -- NEW WELL PRO-318-D

DIVISION OF OIL AND GAS
P. O. BOX 1000
LOS ANGELES, CALIFORNIA

STANDARD OIL COMPANY OF CALIFORNIA

NOV 19 1954

FIELD: Aliso Canyon

PROPERTY: "Ward"

LOS ANGELES, CALIFORNIA

WELL NO: 3 Sec. 27, T. 3-N., R. 16-W., S.B. B.& M.

LOCATION: From station #84, 167.85' northwesterly along the Rancho Ex Mission De San Fernando line; thence 100.82' northeasterly at right angles.

ELEVATION: 2233.87' D.F. U.S.G.S. D.F. above concrete mat 7.83'

DATE: November 2, 1954

By W. C. JOHNSON
Manager, Dept., So., Dist.

=====

DRILLED BY: Loffland Brothers Drilling Company, contractor, using portable equipment.

COMMENCED DRILLING: March 22, 1954

COMPLETED DRILLING: July 15, 1954

DATE OF INITIAL PRODUCTION: July 15, 1954

PRODUCTION:	*Daily average for 22 days	Gravity 22.3° API	<u>PUMPING</u>
	Oil 13 Bbl.	T. P. 300#	<u>X FLOWING</u>
	Water 3 Bbl.	C. P. 1000#	
	Gas 89 Mcf.	Orifice -	

*August, 1954 Pre-4.20 figures.

S U M M A R Y

TOTAL DEPTH: 7500'

PLUG: Cast iron bridge plug at 6900'.

CASING: 20" cemented 37' Not tested.

11-3/4" cemented 1660' with 1400 cu.ft. perlite and 100 sacks neat cement. Cemented annulus at 40' with 50 sacks. 16" hole.

7" cemented 7100' with 230 sacks. Cemented through "DV" collar at 6163' with 385 sacks; pressure tested O.K. W.S.O. on holes at 5900' and 6980' by D.O.G.; on holes at 6050' by Co. test. Gun perforated with four 1/2" holes at 5922', 5925', 5998', 6003', 6008', 6013', 6018' and 6025'. Gun perforated with two 1/2" holes/foot from 5920-5927' and 5995-6030'. Hole Size: 10-5/8" 1660-6201'; 9-7/8" to 7100'.

465' 5-1/2" hung 7495' Perforated 7101-7493'. 9-7/8" hole.

465
7030

(Summary continued next page.)

Ward #3
 Aliso Canyon

Standard Oil Company of California

S U M M A R Y (Continued)

Perforations: 7" gun perforated with four 1/2" holes at 5900' (W.S.O.); at 6050' (W.S.O.) and at 6980' (W.S.O.), Johnston gun.
 7" gun perforated with four 1/2" holes at 5922', 5925', 5998', 6003', 6008', 6013', 6018' and 6025', Lane-Wells gun.
 7" gun perforated with two 1/2" holes/foot from 5920-5927' and 5995-6030', Lane-Wells gun.
 5-1/2" perforated from 7101-7493' with 16 rows, 2" x 80 mesh, 6" centers, 6" undercut, Hearn, machine-cut slots.

JUNK: None

	<u>Type</u>	<u>Intervals Logged</u>
LOG RUNS:	Schlumberger	65-2597'
	Schlumberger	2597-4900'
	Schlumberger	4900-5150'
	Schlumberger	5150-5300'
	Schlumberger	5300-5450'
	Schlumberger	5450-6650'
	Schlumberger	6650-7342'
	Schlumberger	7342-7500'
	Schlumberger dipmeter	1660-7500'
	Schlumberger section gauge	1660-7500'
	Lane-Wells gamma ray and neutron log	5000-6892'

NOV 19 1954

2.

Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

Well drilled by Loffland Brothers Drilling Company, contractor, using a portable mast and Wilson Roadair equipment, with the derrick floor 7.83' above the concrete mat.

March 5, 1954, Callighen Oilfield Service, contractor, moved in and drilled a 30" hole to 37'.

March 5, 1954, cemented 20" conductor pipe at 37' with 3-1/2 cubic yards of ready mixed concrete.

Casing Detail: All 1 joint, or 37', is 20", 79#, grade B, range 3, plain end, secondhand, unknown make, seamless blank casing. Fitted on bottom at 37' with a 1/2" x 4" steel band welded on for a shoe.

March 22, 1954, spudded in at 5:00 a.m. and drilled 10-5/8" hole from 37' to 193'.

March 23-April 10, 1954, drilled 10-5/8" hole from 193' to 2600'.

April 10, 1954, ran Schlumberger electric log and recorded from 65' to 2597'.

Opened 10-5/8" hole to 16" from 37' to 1660'.

April 16, 1954, cemented 11-3/4" casing at 1660' with 1400 cubic feet of 1:1 ratio perlite and type "O" cement, mixed to an average 94#/cu.ft. slurry, followed by 100 sacks of neat cement, mixed to an average 117#/cu.ft. slurry. Used one top plug. Displaced cement with 1070 cubic feet of drilling fluid under 0-400# working pressure. Plug bumped under 1000# final pressure. Moved casing while cementing around the shoe. Pipe free and good circulation throughout with cement returns to the surface. Fifty-five minutes mixing and twenty-five minutes pumping cement to place. Finished job at 8:40 a.m. Used Byron Jackson power equipment and bulk cement.

Casing Detail: All 41 joints, or 1660', are 11-3/4", 47#, J-55, range 3, short 8-round thread, new, Jones & Laughlin, and Spang, seamless blank casing. Fitted from 1658' to 1660' with a 2' x 11-3/4" Baker cement float shoe; from 1573' to 1575' with a 2' x 11-3/4" Baker cement float collar and at intervals with a total of 6 B & W scratchalizers.

Pumped 50 sacks of cement through 1" line pipe hanging at 40' in annulus of 20" and 11-3/4" casings to bring cement to the surface.

NOV 19 1954

LOS ANGELES, CALIFORNIA

Ward #3
Aliso Canyon

Standard Oil Company of California

3.

Cut and recovered 13' of 20" conductor pipe, all of which was below the derrick floor.

Cut and recovered 30' of 11-3/4" casing, 11' of which was below the derrick floor.

April 17-18, 1954, installed Class III B.O.P. and tested B.O.P. and casing to 1571' under 1000# pressure - held O.K.

April 18, 1954, drilled out cement from 1571' to 1665' including shoe of 11-3/4" casing at 1660' and cleaned out to 2600'. Converted clay water fluid to emulsion fluid.

April 19, 1954, drilled 10-5/8" hole from 2600' to 2620'.

April 19-20, 1954, set retrievable whipstock (#1) at 2620', facing S. 75° W. and directionally drilled 7-1/2" hole to 2628'.

Opened 7-1/2" hole to 10-5/8" from 2620' to 2628'.

April 20-21, 1954, directionally drilled 10-5/8" hole from 2628' to 2702'.

April 21-22, 1954, set retrievable whipstock (#2) at 2702', facing N. 50° W. and directionally drilled 7-1/2" hole to 2717'.

Opened 7-1/2" hole to 10-5/8" from 2702' to 2717'.

April 22-30, 1954, directionally drilled 10-5/8" hole from 2717' to 3769'.

April 30, 1954, set retrievable whipstock (#3) at 3769', facing S. 25° E. and directionally drilled 7-1/2" hole to 3784'.

Opened 7-1/2" hole to 10-5/8" from 3769' to 3784'.

April 30-May 10, 1954, directionally drilled 10-5/8" hole from 3784' to 4500', reduced 10-5/8" hole to 9-7/8" at 4500' and directionally drilled to 4900'.

May 10, 1954, ran Schlumberger electric log and recorded from 2597' to 4900'.

Ward #3
Aliso Canyon

Standard Oil Company of California

May 10, 1954, took Schlumberger sidewall samples as follows:

- 4743' - recovered 1/2" - very fine grained, silty, light tan OIL SAND. Fair odor. Light amber cut
- 4752' - recovered 1/2" - same as above
- 4759' - recovered 1/2" - same as above
- 4867' - recovered 3/4" - very fine grained, silty, greenish gray sand. Faint odor. Light straw cut
- 4882' - no recovery
- 4896' - recovered 1" - very fine grained, silty, greenish gray sand. Faint odor. Light staw cut

Opened 9-7/8" hole to 10-5/8" from 4500' to 4900'.

May 11-12, 1954, directionally drilled 10-5/8" hole from 4900' to 4979', reduced 10-5/8" hole to 9-7/8" at 4979' and directionally drilled to 5150'.

May 13, 1954, ran Schlumberger electric log and recorded from 4900' to 5150'.

May 13-14, 1954, directionally drilled 9-7/8" hole from 5150' to 5300'.

May 14, 1954, ran Schlumberger electric log and recorded from 5150' to 5300'.

May 14-16, 1954, directionally drilled 9-7/8" hole from 5300' to 5450'.

May 16, 1954, ran Schlumberger electric log and recorded from 5300' to 5450'.

Opened 9-7/8" hole to 10-5/8" from 4979' to 5450'.

May 17-28, 1954, directionally drilled 10-5/8" hole from 5450' to 6201', reduced 10-5/8" hole to 9-7/8" at 6201' and directionally drilled to 6650'.

Spot reamed 10-5/8" hole from 2863' to 6200'.

May 31, 1954, ran Schlumberger electric log and recorded from 5450' to 6650'.

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5.

Ward #3
Alise Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

May 31, 1954, took Schlumberger sidewall samples as follows:

- 5487' - recovered 1/2" - very fine to medium grained, biotitic, silty, friable, tan OIL SAND. Good petroleum odor. Brown cut
- 5923' - recovered 1/2" - fine to medium grained, biotitic, friable, light tan OIL SAND. Fair petroleum odor, straw cut
- 6005' - recovered 1/4" - fine to medium grained, silty, easily friable, light tan OIL SAND. Good petroleum odor. Dark amber cut
- 6025' - recovered 3/4" - fine to medium grained, silty, easily friable, light tan OIL SAND. Good petroleum odor. Dark amber cut
- 6130' - recovered 3/4" - brittle to friable, sandy, dark brown, fractured shale with occasional calcite veinlets
- 6266' - recovered 3/4" - hard, dark brown, fractured shale
- 6614' - recovered 1-1/4" - soft, dark brown, fractured and slickensided shale

May 31-June 7, 1954, directionally drilled 9-7/8" hole from 6650' to 7034'.

June 8, 1954, set a shoe horn retrievable whipstock (#4) at 7034', facing S. 70° E. and directionally drilled 7-7/8" hole to 7046'.

Opened 7-7/8" hole to 9-7/8" from 7034' to 7046'.

June 8-10, 1954, directionally drilled 9-7/8" hole from 7046' to 7061'.

June 10, 1954, set a retrievable whipstock (#5) at 7058', facing S. 50° E.

June 11, 1954, drilled 7-1/2" hole by whipstock from 7058' to 7068'.

Opened 7-1/2" hole to 9-7/8" from 7058' to 7068'.

June 11-12, 1954, directionally drilled 9-7/8" hole from 7068' to 7146'.

June 13, 1954, set a retrievable whipstock (#6) at 7146', facing N. 80° E. and directionally drilled 7-1/2" hole to 7159'.

Opened 7-1/2" hole to 9-7/8" from 7146' to 7159'.

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6.

Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

June 14-15, 1954, directionally drilled 9-7/8" hole from 7159' to 7240'.

June 15-16, 1954, set retrievable whipstock (#7) at 7240', facing S. 25° E. and directionally drilled 7-1/2" hole to 7253'.

Opened 7-1/2" hole to 9-7/8" from 7240' to 7253'.

June 16-17, 1954, directionally drilled 9-7/8" hole from 7253' to 7342'.

June 17, 1954, ran Schlumberger electric log and recorded from 6650' to 7342'.

June 17, 1954, took Schlumberger sidewall samples as follows:

6630' - no recovery

6653' - no recovery

7130' - no recovery

7215' - OIL SAND

7235' - light brown OIL SAND

7310' - siltstone

7325' - OIL STAINED siltstone

Johnston Formation Test of Interval 7123' to 7342': June 18, 1954, ran tester and set packers at 7118' and 7123' with tail to 7342'. Open forty-five minutes. Gas to surface in three minutes at estimated rate in excess of 5000 M/D. Medium steady blow for two minutes, strong blow after three minutes and for remainder of test. Gas at 390 MCF rate for last twenty minutes of test. Recovered 890' rise in 4-1/2" drill pipe: Top 310' gas-cut drilling fluid, bottom 680' gas-cut drilling fluid with slight scum of OIL. No free water. Rat hole volume equivalent to 1050' rise in 4-1/2" drill pipe. Charts indicated tool open.

Tool Assembly: 3/4" bean, two 8-1/4" packers, Baash-Ross safety joint, lefthand joint, shut-in tool, Shaffer jars and 219' of 5-1/2" drill collar tail (top 3' blank, next 206' perforated, next 5' blank including two pressure recorders, bottom 5' perforated).

June 19-22, 1954, directionally drilled 9-7/8" hole from 7342' to 7500'.

June 22, 1954, ran Eastman multi-shot directional survey. Ran Schlumberger electric log and recorded from 7342' to 7500'. Ran Schlumberger continuous dipmeter and recorded from 1660' to 7500'.

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7.

Ward #3
Aliso Canyon

Standard Oil Company of California
LOS ANGELES, CALIFORNIA

June 23, 1954, ran Schlumberger section gauge and recorded from 1660' to 7500'.

June 23, 1954, took Schlumberger sidewall samples as follows:

7075' - no recovery

7126' - recovered 3/4" - friable, silty, fine grained, brown OIL SAND. Fair petroleum odor

7341' - no recovery

7367' - no recovery

7391' - recovered 1" - friable, silty, fine grained, brown OIL SAND. Fair petroleum odor

7455' - recovered 3/4" - friable, brown siltstone with streaks of gray siltstone. Faint petroleum odor

7473' - recovered 3/4" - friable, sandy, gray siltstone

7488' - recovered 1/2" - friable, silty, fine to medium grained, light brown OIL SAND with 1/8" shell. Fair to good petroleum odor

Cleaned out to 7500' and conditioned drilling fluid.

Johnston Formation Test of Interval 7340' to 7500': June 25, 1954, ran tester and set packer at 7340' with tail to 7500'. Open nine minutes. Gas to surface in six minutes at 150 M/D. Steadily increasing blow for nine minutes to a maximum of 180 M/D when packer failed. Fluid in annulus dropped 60', equivalent to 730' rise in 4-1/2" drill pipe. Next seventeen minutes a steadily decreasing blow to a minimum of 45 M/D when tool was closed. Recovered 820' rise in 4-1/2" drill pipe and 80' of 7" drill collars: top 380' slightly gassy drilling fluid, bottom 440' fluffy, gas-cut drilling fluid. Samples 730', 550', 460', 280' and 80' above tool, at tool and ditch tested 34, 48, 48, 48, 34, 48 and 34 G/G, respectively. Rat hole volume equivalent to 970' rise in 4-1/2" drill pipe.

Tool Assembly: Baash-Ross safety joint, Schaffer jars, 3/4" bean, hydraulic tool, single 8-1/4" packer, lefthand joint, 160' of 5-1/2" drill collar tail (top 3' blank, next 151' perforated, bottom 6' blank including two pressure recorders).

Cleaned out to 7500' and conditioned hole.

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8.

Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

June 27, 1954, cemented 7" casing at 7100' with 230 sacks of Colton type "S" cement, mixed to an average 117#/cu.ft. slurry. Displaced cement, using hesitation method, with 1665 cubic feet of drilling fluid to leave 300 lineal feet above the float collar. Working pressure 300# - final pressure 1500#. Moved casing between 7100' and 7120' while pumping cement to place. Pipe free and good circulation throughout. Three hours and thirty minutes pumping cement to place. Finished job at 1:45 p.m.

Cemented through "DV" collar at 6163' with 385 sacks of Colton type "S" cement. Displaced cement with 1449 cubic feet of drilling fluid under 300-600# pressure. Closed "DV" collar and tested under 2000# pressure - held O.K. Two hours and fifteen minutes mixing and pumping cement to place. Finished job at 4:00 p.m. Used Halliburton Cementing Company power equipment and bulk cement.

Casing Detail:

Bottom	17 joints, or 717'	are 7", 23#, N-80, range 3, long 8-round thread, new, Republic and National, electric weld and seamless, blank casing. Fitted from 7098' to 7100' with a 2" x 7" Baker differential cement shoe; from 7014' to 7016' with a 2" x 7" Baker differential collar and at 7090', 7076', 7062', 7005', 6992' and 6978' with B & W scratchalizers.
Next	30 joints, or 1314'	are 7", 26#, J-55, range 3, short 8-round thread, new, National, seamless, blank casing. Fitted from 6162' to 6164' with a 2" x 7" Halliburton "DV" collar with cement ports at 6163'. Fitted with a total of 4 B & W scratchalizers.
Top	122 joints, or 5069'	are 7", 23#, J-55, range 3, short 8-round thread, new, Jones & Laughlin, and National, seamless, blank casing.
<u>Total</u>	<u>169 joints, or 7100'</u>	

Cut and recovered 38' of 7" casing, 10' of which was below the derrick floor.

June 28, 1954, re-installed and tested Class III B.O.P. under 1000# pressure - held O.K. Ran Schlumberger temperature survey from 4100' to 5800'.

June 29, 1954, drilled out cement opposite "DV" collar from 6162' to 6164', cleaned out to 7013' and drilled out cement to 7080'.

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Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

June 30, 1954, Johnston Water Shut-Off Test on Gun Holes in 7" Casing at 6980': Ran combination gun and tester and shot four 1/2" holes at 6980'. Set packer at 6916' with tail to 6939'. Open sixty minutes. Light steady blow for twenty-two minutes, then heading blows ranging from near dead to peaks of 160-175 MCF/D, (four peak blows during last thirty-eight minutes of test - blow was 65 MCF/D when packer was pulled loose. Recovered 180' rise of gassy, cement-cut drilling fluid. Sample at tool tested 120 G/G. Test witnessed and water shut-off approved by Inspector J. F. Matthews, Jr., of the Division of Oil and Gas.

Tool Assembly: 5/8" bean, 7" casing packer, 3" x 23" tail (top 5" blank, next 8" perforated, bottom 10" blank including two pressure recorders).

June 30, 1954, drilled out cement from 7080' to 7112' including shoe of 7" casing at 7100' and cleaned out to 7500'.

Wallscraped 9-7/8" hole from 7100' to 7500'.

July 1, 1954, hung 465' of 5-1/2" liner at 7495', perforated from 7101' to 7493'.

465'
7030'

Liner Detail:

Bottom 13 joints, or 394', are 5-1/2", 20#, J-55 and grade D, range 1 and 2, short 8-round thread, new and secondhand, unknown make, seamless casing. Perforated from 7101' to 7493' with 16 rows, 2" x 80 mesh, 6" centers, 6° undercut, Hearn, machine-cut slots. Fitted from 7493' to 7495' with a 2" x 5-1/2" Baker closed cement bull plug shoe with babbitt on top.

Top 2 joints, or 71', are 5-1/2", 20#, J-55, range 2, short 8-round thread, new, Pittsburgh, seamless, blank casing. Fitted from 7030' to 7036' with a 6" x 5-1/2" x 7" Knowlton lead seal liner hanger.

Total 15 joints, or 465'

July 2, 1954, set a Baker cast iron bridge plug in 7" casing at 6900'.

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10.

Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

July 2, 1954, Johnston Water Shut-Off Test on Gun Holes in 7" Casing at 6050': Ran combination gun and tester and shot four 1/2" holes at 6050'. Set packer at 5987' with tail to 6007'. Open sixty minutes. Light blow for twenty-five minutes then dead for remainder of test. Recovered 165' rise of drilling fluid in 2-7/8" drill pipe. Samples 120' and 30' above tool, at tool and ditch tested 123, 48 78 and 55 G/G, respectively. Water shut-off by Company test.

Tool Assembly: Hydraulic tool, 7/8" bean, 7" Olympic packer, 2-7/8" x 20' drill pipe tail (top 6' perforated, next 6' blank including two recorders, bottom 8' gun assembly).

July 2, 1954, Johnston Water Shut-Off Test on Gun Holes in 7" Casing at 5900': Ran combination gun and straddle tester and shot four 1/2" holes at 5900'. Set packers at 5895' and 5916'. Open sixty minutes. Light blow for four minutes then dead for remainder of test. Recovered 90' rise of gas-cut drilling fluid in 2-7/8" drill pipe. Samples 90' above tool, at tool and ditch tested 124, 130 and 55 G/G, respectively. Test witnessed and water shut-off approved by Inspector J. F. Foster of the Division of Oil and Gas.

Tool Assembly: Hydraulic tool, 7/8" bean, 5-1/4" x 24" bob tail straight hole packer, 1/4" of 4-1/2" perforated drill collar anchor, two 4-1/2" pressure recorders, one 7" Olympic packer, one 3-1/4" pressure recorder and one 7" gun.

July 3, 1954, ran Lane-Wells gamma ray and neutron log and recorded from 5000' to 6892'.

July 3, 1954, scraped 7" casing opposite shot holes at 5900' and 6050' and spotted 15 barrels of Oil Base drilling fluid at 6100'.

July 4, 1954, ran Lane-Wells gun and perforated 7" casing with four 1/2" holes at 5922', 5925', 5998', 6003', 6008', 6013', 6018' and 6025'.

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Ward #3
Aliso Canyon

LOS ANGELES, CALIFORNIA
Standard Oil Company of California

Johnston Formation Test on Selected Gun Holes in 7" Casing from 5922' to 6025': July 4, 1954, ran tester and set packer at 5894' with tail to 5948'. Open eighty-two minutes. (1" Shaffer bean side open at well head,) Light blow incr as- ing to 160 M/D in seven minutes. Turned to portable trap and meter run at 3:36 p.m. 26/64" opening on Shaffer bean upstream from trap 1590 MCF/D blow after next twenty- two minutes with 300 psi upstream pressure from trap and 200 psi trap working press- ure. Next forty-five minutes had average 1100 MCF/D blow with average 225 psi up- stream from trap and 200 psi trap working pressure. Clay water fluid reached surface at 4:04 p.m. in heading slugs. Maximum salinity 150 G/G. Approximately two barrels recovered during test. At 4:45 p.m. trap outlet valve cut out. Shut well head in at 4:50 p.m. for buildup. In sixty minutes pressure increased from 400 psi to 1475 psi. Pulled loose at 5:50 p.m. as well head fittings were leaking. Bled off press- ure and pulled. Recovered 585' rise of slightly oily, gassy mud in 2-1/2" tubing. Samples 484', 302' and 30' above tool cut 80%, 98% and 98% sand and mud, respectively. Samples 575', 393', 211' and 120' above tool tested 89, 68, 68 and 55 G/G, respect- ively.

Tool Assembly: 1" Shaffer bean at surface, hydraulic tool, 3/4" bean in tool, backscuttle valve 90' above tool, 7" Olympic packer, 54' of 2-7/8" drill pipe tail (top 49' perforated, bottom 5' blank including two pressure recorders).

Scraped 7" casing from 5915' to 6020'.

July 5, 1954, ran Lane-Wells gun perforator and perforated 7" casing with two 1/2" holes/foot from 5920' to 5927' and 5995' to 6030'.

Del Aliso

July 6, 1954, hung 2-1/2" tubing at 6024' with the pump shoe at 6023'.

Tubing Detail: All 197 joints, or 6024', are 2-1/2", 6.5#, grade unknown, range 2, short 8-round thread, new, unknown make, seamless blank tubing. Fitted from 6023' to 6024' with a 1" x 2-1/2" swab shoe and from 6022' to 6023' with a 1" x 2-1/2" pump shoe.

Displaced drilling fluid with oil.

July 7, 1954, swabbed and well commenced to flow at 7:00 p.m.

Crew released at 11:59 p.m., July 15, 1954

J. Del Aliso

Ward #3
 Aliso Canyon

Standard Oil Company of California.

PRODUCTION TREND

<u>1954</u> <u>Date</u>	<u>Hrs.</u> <u>Flwg.</u>	<u>B/D</u> <u>Oil</u>	<u>B/D</u> <u>Wtr.</u>	<u>%</u> <u>Cut</u>	<u>°API</u> <u>Grav.</u>	<u>MCF/D</u> <u>Gas</u>	<u>#</u> <u>G.P.</u>	<u>#</u> <u>T.P.</u>	<u>Remarks</u>
7-7	3½	*138	0				1300	250	
7-8	23	*100	0				1300	250	Gas rate progressively declined from 1400 M/D to 360 M/D at 6:00 a.m. 30/64" bean
7-9	Off 24 hrs. not prod. Tbg. filled with mud. Injected 60 barrels hot oil down tbg.								
7-10	Hooked csg. to tbg. and attempted to knock plug out of tbg. Unable to loosen plug. Rocked well.								
7-11	Blew well down and recovered 65 bbls. oil from csg. Hooked up and circ. 290 bbl. oil down tbg at pressures ranging from 0-300 psi. Recovered 50 bbls. heavy mud.								
7-12	Circ. 80 bbls. oil down tbg & out csg. Circ. O.K. Swabbed 50 bbls. oil. lowering F.L. to 1200'.								
7-13	4	*70	0				1200	0	Swabbed 80 bbls. oil from tbg. and lowered F.L. from 1200' to 3600'.
7-14	22	*145	15		20.1	290	1150	200	Well flowed oil 1st 3 hrs. and then turned to gas for remainder of 19 hrs. Changed bean from 26/64" to 10/64" at 12:00 noon.
7-15	24	14	15	52.0	13.0	340	1050	775	Changed bean from 8/64" to 14/64" in stages with 12/64" bean at 12:00 midnight.
7-16	24	14	7	32.0	19.1		1050	775	12/64" bean.
7-17	24	12	4	23.3	18.2	205	1050	625	Changed bean to 8/64" at 6:30
7-18	24	10	3	19.5	19.8	170	1100	650	8/64" bean.
7-19	24	10	6	37.3	18.0	165	1100	700	
7-20	22	10	6	40.0	17.9	180	1100	400	Changed flow line.
7-21	3½	2	1				1300	575	
7-22/26	shut in for static test.								
7-27/30	shut in - installing tank and trap facilities.								
7-31	4	10	2				1250	60	Well died.
8-1/3	shut in to build up pressure								
8-4	rig up to swab								
8-5		57	19	26.0	17.8		750	200	12 hrs. swabbing.
8-6	2	38	13	25.0	17.8		800	20	6/64" bean. (8 hrs. swabbed)
8-7	9½	18	6	26.0	18.4				5 hrs. swabbed.
8-8	24	9	3	26.0	18.4		1100	20	

*Recoverable oil.

During August, 1954, well averaged 13 B/D oil, 3 B/D water, 89 MCF/D gas, 22.3° gravity, for 22 days. (Pro-4,20 figures)

NOV 19 1954

LOS ANGELES, CALIFORNIA

13.

Ward #3
Aliso Canyon

Standard Oil Company of California

DRILLING FLUID HISTORY

<u>1954 Date</u>	<u>Interval</u>	<u>Type of Fluid</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Filter Loss</u>
3/22-4/16	37-2600'	Gel-natural	70-73 pcf.	65-75 sec.	6-8 cc.
4/18-7/6	2600-7500'	Emulsion	72-80 pcf.	55-75 sec.	3-4 cc.

Stan Young / Zolberti 7-20-66

Pool: Ward

Zone: Sesnon ? Knutson / Zolberti 1-11-67 Not so; L. Del Aliso

Contractors: Loffland Brothers Drilling Company

Jim Wierda / Zolberti
SOCo. Carpinteria

- Drillers:
- M. P. Forrest
 - E. E. Hubatka
 - N. I. Doyle
 - L. A. Hughes
 - W. Butler
 - W. Van Dewenter

Sesnon zone was tested and found very gassy. Plugged it above it and speared L Del Aliso. Well has always produced from L. Del Aliso. Rosa fault at 6360'. (This N. Twerell does not seem right.)

November 2, 1954

1	STANDARD OIL CO
2	RW
3	8106345

FAUNAL INFORMATION REPORT

(For Graphic Well Logs)

JULY 1, 1954.

Company STANDARD OIL CO Well No. WARD #3

Field ALISO CANYON Elevation 2233.87' DF

Faunal Marker	In Hole Depth	Sub-Sea Depth
<u>WITHIN PLIOCENE</u>	<u>4920' DITCH</u>	
<u>PLIOCENE / UPPER MIOCENE</u> <u>PICO / LOWER MIOCIAN</u>	<u>6180' DITCH</u>	
<u>UPPER MIOCENE / MIDDLE MIOCENE</u> <u>LOWER MIOCIAN / LUISIAN</u>	<u>6840-60 DITCH</u>	
<u>MIDDLE MIOCENE / EOCENE</u> <u>LUISIAN / UNDIFFERENTIATED</u>	<u>7420 DITCH</u>	

Faunal Information by: AVUS

July 12, 1954 **IBM**

S.O.Co. Ward #3

Sec. 27-3N-16#

Aliso Canyon

Paleontologic Points

- 4920 (Top ditch sample in hole) - within Pliocene on basis of microfauna which includes Uvigerina peregrina, Cibicides conoideus, Cassidulina cushmani, Pulvinulinella cf. bradyana.
- 6130 Sidewall sample - considered to be basal Pliocene on basis of lithology - sporboic, glauconitic limy shale.
- 6162 Electric log break - represents lower Pliocene/upper Miocene, lower Mohnian stage unconformable contact.
- 6180 Ditch sample - upper Miocene, lower Mohnian shale on basis of lithology and microfauna which includes Pulvinulinella gyroidinaformis, Bulimina uvigerinaformis, Uvigerina hootsi, Bolivina californica, Bolivina sinuata var. alisoensis, Bolivina cf. decurtata and Cassidulina monicana.
- 6266 Sidewall sample - Modelo shale, lower Mohnian stage; largely on basis of lithology.
- 6614 Sidewall sample - Modelo shale, lower Mohnian stage; largely on basis of lithology.
- 6840 Ditch sample - estimated Mohnian/Luisian contact on basis of first occurrence of fine, gray siltstone and first occurrence of Angulogerina californica and Mohnion costiferum. Note: Other Luisian forams including Valvulinaria californica show on ditch shortly below.
- 7400 Ditch sample - estimated top of Eocene (sample 7380 - 7400 missing) on basis of flood of glauconite and glauconitic sandstone. Very few Eocene forams include Robulus pseudovortex, Anomalina sp. and Elphidiella sp.

sent copy to TWA by mail
att. Sam Boyer:

July 21, 1975

IBM

WE

Standard Oil Company
 Box 397
 La Habra, California

Field: Aliso Canyon
 Well: Ward #3
 Oil: 25.5° API
 Mud: Water Base
 Samples: Schlumberger
 Sidewalls

CORE ANALYSIS REPORT

<u>Depth</u>	<u>% Porosity</u>	<u>md. Air Permeability</u>	<u>O/W Ratio</u>	<u>Saturation of Pore Space</u>		
				<u>% Oil</u>	<u>% Water</u>	<u>Total Liquid</u>
KBM: #207						
4743	28.8	25	.05	4.0	74.0	78.0
4752	26.1	129	.07	4.8	70.0	74.8
4759	25.9	25	.09	6.3	72.1	78.4
4867	29.3	90	.06	4.5	75.1	79.6
4896	31.2	46	.06	5.2	87.1	92.3
KBM: #221						
7215	26.7	2.4	.19	12.5	66.4	78.9
7235	35.2	34	0	0	81.2	81.2
7310	28.7	32	0	0	78.1	78.1
7325	34.3	15	.13	9.3	72.2	81.5

} Season
Zone

Norris Johnston
 Norris Johnston

3cc TWA
 ✓ dayman (thru JTC)

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

(FORMATION TESTER)

No. T 154-771

Mr. W C Johnson
Los Angeles 54

Los Angeles Calif.
July 13 19 54

Agent for STANDARD OIL CO OF CALIFORNIA

DEAR SIR:

Your well No. "Ward" 3, Sec. 27, T. 3 N, R. 16 W, S B B & M.
Aliso Canyon Field, in Los Angeles County, was tested for water shut-off
on June 30, 19 54. Mr. J F Matthews, Engineer, designated by the supervisor was present
from 4:00 a.m. to 5:00 a.m. as prescribed by law; there were also present B Wittaker, Engineer
R Tynar, Drilling foreman

Shut-off data: 7 in. 23 & 26 lb. casing was cemented XXX at 7100 ft.
on June 27, 19 54 in. 9-7/8 in. hole with 230 sacks of cement
XXX calculated to fill behind casing to XXX ft. below surface.

Casing record of well: 11-3/4" cem. 1660'; 7" cem. 7100', c.p. 6162'; four 1/2" test holes
6980', W.S.O.

Present depth 7500 ft. cmt. bridge 7100 ft. to 7080 ft. Cleaned out cmt. 7013 ft. to 7080 ft. for test.
A pressure of 1400 lb. was applied to the inside of casing for 10 min. without loss after cleaning out to 7080 ft.
A Halliburton gun and tester was run into the hole on 2-7/8 in. drill pipe-tubing
with XXX ft. of water-mud cushion, and packer set at 6916 ft. with tailpiece to 6939 ft.
Tester valve, with 5/8 in. bean, was opened at 12:38 a.m. and remained
open for 1 hr. and XXX min. During this interval there was a light steady blow for 22 minutes and
light heads for the balance.

Mr. Tynar reported:

1. A 10-5/8" rotary hole was drilled 1660'-6201' and a 9-7/8" rotary hole 6201'-7500'.
2. On June 27, 1954, 7", 23 and 26 lb. casing was cemented at 7100' with 230 sacks of cement and was cemented through a cementing device at 6162' with 385 sacks of cement.
3. A thermometric survey indicated that the top of the cement in back of the 7" casing is at 4640'.
4. The 7" casing was shot-perforated with four 1/2" holes at 6980'.

THE INSPECTOR NOTED THE FOLLOWING:

1. When the drill pipe was removed, 900' (180' frothy drilling fluid and the remainder gas pockets) was found in the drill pipe above the tester, equivalent to 4.5 bbl.
2. The recording pressure bomb chart showed that the tester valve was open 1 hour.
3. There was no free water in the fluid recovered.

THE 7" SHUT-OFF AT 6980' IS APPROVED.

cc K B McNamara
C W Gibbs

BF

JFM:RS

E. H. MUSSER
R. D. BUSH, State Oil and Gas Supervisor

By R. W. Walling, Deputy
RWK

DIVISION OF OIL AND GAS

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

No. T 154-772

Mr. V. G. Johnson
Los Angeles 54 CaliforniaLos Angeles 15 Calif.
July 13 19 54Agent for STANDARD OIL CO OF CALIFORNIA

DEAR SIR:

Your well No. "Ward" 3, Sec. 27, T. 3 N, R. 16 W, S B B & M.
Aliso Canyon Field, in Los Angeles County, was tested for water shut-off
on July 2, 19 54. Mr. J F Foster, Engineer, designated by the supervisor was present
from 5:00 p.m. to 6:00 p.m. as prescribed by law; there were also present J P Gulen, Engineer
H Hubatka, Driller

Shut-off data: 7 in. 23 & 26 lb. casing was cemented at 7100 ft.
on June 27, 19 54 in 9-7/8 in. hole with 230 cu. ft. sacks of cement
XXX calculated to fill behind casing to XXX ft. below surface.

Casing record of well: 11-3/4" cen. 1660'; 7" cen. 7100', c.p. 6162'; 4, 1/2" holes 6050';
4, 1/2" test holes 6980', W.S.O.; 4, 1/2" test holes 5900', W.S.O.

Present depth 7500 ft. XXX bridge plug XXX ft. to 6900 ft. Cleaned out cmt. XXX ft. to XXX ft. for test.
A pressure of XXX lb. was applied to the inside of casing for XXX min. without loss after cleaning out to XXX ft.
A Johnston gun and tester was run into the hole on 2-7/8 in. drill pipe tubing
with XXX ft. of water-mud cushion, and packer set at 5895 ft. with tailpiece to 5916 ft.
Tester valve, with 7/8 in. bean, was opened at 2:30 p.m. and remained
open for 1 hr. and XXX min. During this interval there was a light blow for 4 minutes and
no blow thereafter.

Mr. Gulen reported:

1. A Baker cast-iron bridge plug was set at 6900'.
2. The 7" casing was shot with 4, 1/2" holes at 6050' and tested dry.
3. The 7" casing was shot-perforated with four 1/2" holes at 5900' and the test was made as noted above.

THE INSPECTOR NOTED THE FOLLOWING:

1. When the drill pipe was removed, 90' of gas-cut drilling fluid was found in the drill pipe above the tester, equivalent to 0.4 bbl.
2. The recording pressure bomb chart showed that the tester valve was open 1 hour.

THE 7" SHUT-OFF AT 5900' IS APPROVED.

JFF:ES

cc K B McNamara
C W Gibbs

B. H. MUSSER

R. D. BUSH, State Oil and Gas Supervisor

By R. W. Walling, Deputy
73K

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T 154-472

Mr. W. G. Johnson Los Angeles Calif. April 28 19 54
Los Angeles Calif.
Agent for STANDARD OIL CO OF CALIFORNIA

DEAR SIR:

Operations at your well No. "Ward" 3 Sec. 27, T. 3 N, R. 16 W, S B B. & M.,
Aliso Canyon Field, in Los Angeles County, were witnessed by
J. F. Foster, Inspector, representative of the supervisor,
on April 20, 19 54. There was also present N I Doyle, Driller
J H Bolten, Derrickman

Casing Record <u>11-3/4" cem. 1660'; T.D. 2628'</u>	Junk (None)

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

The inspector arrived at the well at 9:00 a.m. and Mr. Doyle reported:

1. A 16" rotary hole was drilled from the surface to 1660'.
2. On April 16, 1954, 11-3/4" 47 lb. casing was cemented at 1660' with 1400 cu. ft. of cement and Perlite (1:1 mix) plus 100 sacks of cement.
3. An additional 50 sacks of cement was pumped in around the surface through 1" pipe hanging at 40'.
4. A 10-5/8" rotary hole was drilled 1660'-2628'.

THE INSPECTOR NOTED that the well was equipped with the following blowout prevention equipment:

1. A Shaffer double cellar control gate for closing in the well with the drill pipe out of the hole, and for closing around the 4-1/2" drill pipe.
2. A Hydril blowout preventer for closing around the 4-1/2" drill pipe.
3. The controls for the above equipment were located outside the derrick.
4. A 2" mud fill-up line with a 2" high pressure Nordstrom stopcock into the 11-3/4" casing below the above equipment.
5. A high pressure Shaffer Kelly stop.

The inspection was completed at 9:20 a.m.

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

JFF:ES

cc: C W Gibbs
K B McNamara

E. H. MUSSER

State Oil and Gas Supervisor

By R. N. Halling Deputy

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS
REPORT ON PROPOSED OPERATIONS

No. P 154-412

Los Angeles 15 Calif. March 31 1954

Mr. W. C. Johnson
Box 2437 Terminal Annex
Los Angeles 54 Calif.

Agent for STANDARD OIL CO OF CALIFORNIA

DEAR SIR:

Your proposal to drill Well No. "Ward" 3

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

dated March 22, 1954, received March 29, 1954, has been examined in conjunction with records filed in this office.

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

THE NOTICE STATES

"Location of Well: From station #84, 167.85' northwesterly along the Rancho Ex Mission De San Fernando line; thence 100.82' northeasterly at right angles. (Final)
Elevation of derrick floor above sea level 2233.87 feet U.S.C.S. datum. (Final)
All depth measurements taken from top of derrick floor which is 7.83 feet above concrete mat."

PROPOSAL

*PROPOSED CASING PROGRAM

Size of Casing

Inches A.P.I.	Weight	Grade and Type	Top	Bottom	Cementing Depth
20"	Conductor Pipe		0	60	60'
11-3/4"	47#	J-55	0	2500	2500'
7"	23# & 26#	J-55 & N-80	0	7660	7660'; C.P. 6700'

Intended zone or zones of completion: test Seaman zone and complete in Porter and Del Aliso zones.

It is understood that if changes in this plan become necessary we are to notify you before running casing."

DECISION

THE PROPOSAL IS APPROVED PROVIDED THAT

1. Mud fluid consistent with good drilling practice shall be used and the column of mud fluid maintained at all times to the surface, particularly while pulling the drill pipe.
2. Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times.
3. THIS DIVISION SHALL BE NOTIFIED AS FOLLOWS:
 - (a) To inspect the installed blowout prevention equipment before drilling below 3000'.
 - (b) To witness a test of the effectiveness of the 7" shut-off.

FILED

cc K B McManara
C W Gibbs

Orig W C Johnson Agent
Standard Oil Co of Calif
P O Box 397
LA HABRA California

R. D. BUSH
State Oil and Gas Supervisor

By R. D. Bush Deputy

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS
REGULATED

(D)

037-00192

DIVISION OF OIL AND GAS

MAR 29 1954

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

LOS ANGELES, CALIFORNIA

La Habra Calif. March 22, 1954

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 the work of drilling well No. Ward #3, Sec. 27, T. 3N, R. 16W, S.B. B. & M., Aliso Canyon Field, Los Angeles County.

(W)

Legal description of lease (Attach map or plat to scale)

Location of Well: _____ feet _____ property along section line and _____ feet _____ property at right angles to said line from the _____ corner of section _____

From station #84, 167.85' northwesterly along the Rancho Ex Mission De San Fernando line; thence 100.82' northeasterly at right angles. (Final) *

Elevation of ^{derrick floor} ~~ground~~ above sea level 2233.87 feet U.S.G.S. datum. (Final)

All depth measurements taken from top of derrick floor which is 7.83 feet above concrete mat. ~~ground~~

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
20"	Conductor Pipe		0	40	40'
11-3/4"	47#	J-55	0	2500	2500'
7"	23# & 26#	J-55 & N-80	0	7660	7660; C.P. 6700'

Intended zone or zones of completion: test Sesnon zone and complete in Porter and ~~San~~ Del Aliso zones.

18A (W)	MAP BOOK	CARDS	BOND	FORMS	
				114	121

* Alternate Location - Clark Thomas / Gaede Fr. SE cor. Ward prop. 214.35' NW 1/4, 21/4. Rancho Ex Mission De San Fernando line; 100.82' NE 1/4 at rt. angles.

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

Address Box 397, La Habra, California Standard Oil Co. of Calif. (Name of Operator)

Telephone Number Oxford 71721 By W.C. Johnson Jr

W.C. Johnson, Mgr., Prod. Dept., So. Dist.