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

Rec'd 10-24-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Standard Sesnon 4 B Sec. 29, T03N, R16W, S.B.B.&M.
A.P.I. No. 03730460 Name Tom McMahon (Person submitting report) Title SIMP Project Manager (President, Secretary, or Agent)
Date 10/3/2016 (Month, day, year)
Signature Thomas J McMahon
Address PO Box 2300, SC9365, Chatsworth, CA, 91313-2300 Telephone Number 714-398-5020

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.

Daily Operation Period: 8/4/2016 - 8/4/2016

Operations this Report Period (DOGGR)
NOTIFIED; Doggr; Chris Gustafson of NOI
NOTIFIED: Control Room-SCG Operation that SF-1 is theirs/Going to SS 4B

MIRU & set in equipment; Tanks/Pmp/Plates under Rig/Rig/ Bope & workstring. Work with construction crew near site (install laterals) and utilizing a spotter near guy wires.

Time Log

Code 1	Code 2	Com
RMOV	Rig Move	Move in and Rig up; Tanks/Pump/Plates for Rig/Rig/Tubing trailers/& support equipment.

Daily Operation Period: 8/5/2016 - 8/5/2016

Operations this Report Period (DOGGR)
Safety Meeting on Rigging up & N/U Bope.

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
BOPI	Install BOP's	Spot in Pacific Petroleum hydro crane. Nipple down 11" tree, Installed Hanger w/BPV. Nipple up Weatherford class 3 BOPE. Installed kill line & choke manifold.
BOPPT	Pressure Test BOP's	Spot in Weatherford BOP tester. Change out 2-3/8" pipe rams to 2-7/8". Test BOPE as follows. Test pipe rams 300 psi low for 20 minutes, 5000 psi high for 20 minutes. Test blind rams 300 psi low for 20 minutes, 5000 psi high for 20 minutes. Test Annular 300 psi low for 20 minutes, 3500 psi high for 20 minutes. Test 2 TIW valve 300 psi low for 20 minutes, 5000 psi high for 20 minutes.
SWLL	Secure Well	Secure well & location

Daily Operation Period: 8/6/2016 - 8/6/2016

Operations this Report Period (DOGGR)
Continue to test BOPE. Slip & Cut drill line
DOGGR; Will come Monday for BOPE Inspection

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
BOPPT	Pressure Test BOP's	Spot in Weatherford BOP tester. Change out 2-3/8" pipe rams to 2-7/8". Test BOPE as follows. Test pipe rams 300 psi low for 20 minutes, 5000 psi high for 20 minutes. Test blind rams 300 psi low for 20 minutes, 5000 psi high for 20 minutes. Test Annular 300 psi low for 20 minutes, 3500 psi high for 20 minutes. Test 2 TIW valve 300 psi low for 20 minutes, 5000 psi high for 20 minutes.
RRIG	Repair Rig	RIG MAINT; Slip & Cut 39' of Drum line
SWLL	Secure Well	Secure well & location

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Daily Operation Period: 8/8/2016 - 8/8/2016

Operations this Report Period (DOGGR)

Safety Meeting / Pull hanger / Ran 247 jnts of Tbg and reversed circulated out 14' of sand. Secure well

Note; Doggr; Mark C. Ok'd BOPE inspection

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBRU	Run Tubing	Pull Hanger & Pick up (247) jts of 2-7/8" N-80 8rd tubing. Tag sand @ 7486'.
CCMD	Condition and/or Circulate mud	Nipple up circulating head to well. Establish circulation & circulate sand from 7486' down to 7500' to Weatherford 9-5/8" RBP.
SWLL	Secure Well	Pull up & secure well

Daily Operation Period: 8/9/2016 - 8/9/2016

Operations this Report Period (DOGGR)

Pump HEC high vis pill through RPB followed by a Tbg volume. Unset Lock Set RPB and relax for 1 hr. Pull out of hole slowly & fill hole every 10 stands. Lay down RBP with both elements intact. Close blind rams.

M/U 7" Csg scraper. Open blind rams and well flowing. Close. 20 psi on Csg.

Bullhead into well @ 6 bbls min/120 bbls total until pressure up to 1300 psi
bled down to 220 psi.
Spot in Onyx and proceed with 2nd pumping session; 150 bbls total/6 bbls min / 2300 psi.

Pressure bleeding down @ 12% open on Onxy choke valve and fluid staying in well.

NOTE; Night time WSM arrived on site to oversee.
Light towers in place. Onyx/Ensign crews splitting shifts.
Fluid tanks Full

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
RBPRE	Release RBP	Establish circulation with 55 bbls of 8.6 ppg polymer HEC/High Vis pill (130 vis) fluid down through RBP followed by 45 bbls of (Tbg volume) . Unset Weatherford 9-5/8" RBP @ 7500'. Allow element to relax for 1 hour. Slight difficulty unsetting RBP
TBPUL	Pull Tubing	Trip out of well with (247) jts of 2-7/8" L-80 8rd tubing & laid down Weatherford Lock-set retrieving tool & 9-5/8" RBP all elements intact.. Pulled 9-5/8" RBP slow per Weatherford tool hand. (NOTE) Pumped tubing volume per 10 stands pulled. Hole standing full and static

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Time Log

Code 1	Code 2	Com
WKLL	Kill Well	Laid down 9-5/8" Weatherford RBP @ 1300 hrs. Casing was standing full with 8.6 ppg fluid. Shut blind rams on BOP. Made up 7" 23# Weatherford scraper. Open blind rams & well started to flow. Shut well in @ 20 psi. 1400 hrs: First- pumped 120 bbls bullhead down casing until casing pressured up to 1300 psi. Notified lead WSM. Called out Onyx to flow back well with lube & bleed method. 1630 hrs; Second pump- additional 150 bbls down casing bullheading until casing pressured up to 2300 psi. Bleeding down well with Onyx using lube & bleed method. Note; Well is continueing to take fluid and bleed gas at a steady rate.
WKLL	Kill Well	Night WSM on to monitor well & bleed gas if possible via Lube & bleed method Well psi @ 1050 and bled down to 200, then liquid. stopped. Pumped up to 2000 psi and well took 12 bbls. Closed in let psi decrease to 1100 psi. Repeat process again. by 0500 hrs well took 70 bbls total

Daily Operation Period: 8/10/2016 - 8/11/2016

Operations this Report Period (DOGGR)

Nights; Continue to monitor well. Added 70 bbls of fluid and bled down to 250 psi.

Days; Escort (3) SLB Coil tubing trucks into location & MIRU. HSM of plan forward. RIH and tag bottom of Liner. Pull up spotting high Vis pill. Pull t/9160' and circulate well at; 1.5 bbls-min / 315 psi on choke / & total of 658 bbls of 8.6 polymer.
Casing pressure falling from 355 to 77 psi with 1/3 of the well turned over at 1800 hrs

Nights-WSM; Paul Bogdin on site for turn over @ 1800 hrs

Pull out of hole with Coil Tbg (staging every 1000') circulating 77 bbls.
Well Static
R/D Coil Tbg & purge line on spool with Nitrogen
M/U Scraper and TIH t/a Midnight depth of 4000'
Continue t/TIH to 9150'
Circulate Wellbore clean until 0700 hrs

Time Log

Code 1	Code 2	Com
MONW	Monitor wellbore	Continue monitor well. Added 70 bbls of fluid and bled down to 250 psi
MONW	Monitor wellbore	Well holding at 300 psi. Coil tubing trucks (3) at the gate. Escort in and MIRU 2 units on location.

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Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	HSM with all on location; SLB Coil / Ensign / Onxy / Doby / WSM's to discuss plan forward to RIH and Spot high vis pill across Liner and pull up to TOL and Circulate gas out @ 1.5 bbls a minute.
WKLL	Kill Well	RIH with 1-1/2" coil to tag depth of 10,314'. pumping 1 bbl of 8.6 ppg fluid down coil string per 1000'. Pump 42 bbls of 9 ppg HEC Pill @ 1 BPM @ 395 psi of polymer fluid down coil at tag depth of 10,314' while pulling up across liner. Pull 1-1/2" coil up hole to 9150', Turn well over with 658 bbls @ 1.2 BPM of 8.6 ppg fluid with 350 casing psi and falling. 1800 hrs @ 77 psi
WKLL	Kill Well	Pull out of hole with Coil Tbg (staging every 1000') circulating 77 bbls. Well Static
RURD	Rig Up/Down	Rig down Coil Tbg & blow down spool of Coil (13,800) with Nitrogen, into Rig pump
TBRU	Run Tubing	M/U 7" Scraper & TIH t/4000' (Midnight depth)

Daily Operation Period: 8/11/2016 - 8/11/2016

Operations this Report Period (DOGGR)
Continue t/TIH w/7" Scraper t/9150' and circulate wellbore. TOOH w/scraper with no issues. P/U 7" Lock set RBP and RIH t/9139' and Test t/500 psi and chart. Secure well

Time Log

Code 1	Code 2	Com
TBRU	Run Tubing	Continue to TIH w/ Scraper f/4000' to 9150' with no issues
CCMD	Condition and/or Circulate mud	Circulate wellbore of 658 bbls
MONW	Monitor wellbore	Well check; Open well and monitor before TOOH. GOOD
TBPUL	Pull Tubing	Trip out of well with (160) jts of 2-7/8" L-80 8rd tubing. Pumped 4 bbls of water every 10 stands pulled to keep wellbore full. Pulled 7" scraper slow out of well.
CCMD	Condition and/or Circulate mud	Circulate 350 bbls of 8.6 ppg fluid down casing up tubing.
TBPUL	Pull Tubing	Continue to trip out of well with (150) jts of 2-7/8" L-80 8rd tubing. Laid down Weatherford 7" scraper.
TBRU	Run Tubing	Pick up Weatherford lock set RBP. Trip in well with (300) jts of 2-7/8" L-80 8rd tubing.
RBPS	Set RBP	Set Weatherford 7" lock set RBP @ 9137 COE.
WTST	Well Test	Pressure test against Weatherford 7" lock set RBP from 9137 to surface @ 500 psi for 15 minutes & charted
SWLL	Secure Well	Shut in well

Daily Operation Period: 8/12/2016 - 8/12/2016

Operations this Report Period (DOGGR)
Safety Meeting; Sanded off RBP & TOOH. L/D retrieving tool. P/U 9 5/8" Scraper and ran to TOL. TOOH and laid down. Ran Kill string. Secured well and location.

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Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
PACS	Set packer	Spot 14 qf of sand onto of Weatherford lock set RBP @ 9137. Top of sand @ 9123'.
TBPUL	Pull Tubing	Trip out of well with (300) jts 2-7/8" L-80 8rd tubing. Laid down Weatherford RBP retrieving tool.
TBRU	Run Tubing	Pick up Weatherford 9-5/8" positive scraper. Trip in well with (287) jts of 2-7/8" L-80 8rd tubing. Tag top of 7" liner @ 8695' with 9-5/8" scraper.
TBPUL	Pull Tubing	Trip out of well with (287) jts of 2-7/8" L-80 8rd tubing. Laid down Weatherford 9-5/8" positive scraper.
TBRU	Run Tubing	Trip in well with (120) jts of 2-7/8" L-80 8rd tubing as kill string.
SWLL	Secure Well	Secure well/location/Tbg in derrick

Daily Operation Period: 8/15/2016 - 8/15/2016

Operations this Report Period (DOGGR)
HSM; Pull killstring and R/U SLB loggers and Log 9 5/8" Csg to 9140' @ 22 degrees inc. TOOH & run a killstring. Secure well and location

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBPUL	Pull Tubing	Trip out of well with (100) jts of 2-7/8" L-80 8rd tubing.
LOGG	Logging	Held safety meeting with Schlumberger logging crew. Rig up Schlumberger logging crew equipment. Run USIT Log from top of 7" liner @ 9695' to surface in 9-5/8" casing. Rig out Schlumberger equipment.
TBRU	Run Tubing	Trip in well with (100) jts of 2-7/8" L-80 kill string.
SWLL	Secure Well	Secure well & location

Daily Operation Period: 8/16/2016 - 8/16/2016

Operations this Report Period (DOGGR)
R/U SLB loggers and TIH to 7" Csg 8695' and got down 8750' / 63 degrees
Attempt to get down further by dropping ridged centralizers & large CBL tool. TIH again and got down to 8762'. Log up to 8695'.

Tractor for logs needed. Request for ETA from Texas

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBPUL	Pull Tubing	Trip out of well with (100) jts of 2-7/8" L-80 8rd tubing.
LOGG	Logging	Held safety meeting with Schlumberger logging crew. Rig up Schlumberger logging crew equipment. Run USIT Logs from TOL 8695' to 8750' @ 63 degrees Inc. Unable to go further down. Notified Ben (engineering)
LOGG	Logging	TOOH with wireline and take off ridged centrilizers and large CBL tool. RIH again to 8762'. Unable to go further. TOOH & R/D loggers.
TBRU	Run Tubing	Trip in well with (100) jts of 2-7/8" L-80 kill string.
SWLL	Secure Well	Secure well & location

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Daily Operation Period: 8/17/2016 - 8/17/2016

Operations this Report Period (DOGGR)

ENSIGN Sfty Monthly meeting;
HSM w/Baker wireline & Caliper log f/8695' to surface. TOOH. Re-run f/8695 to 7000'. TOOH & R/D. Run killstring and secure well and clean location

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBPUL	Pull Tubing	Trip out of well with (100) jts of 2-7/8" L-80 8rd tubing.
LOGG	Logging	Held safety meeting with Baker logging crew. Rig up Baker wireline equipment. Baker tag down @ 8730'. Run Caliper Log in 9-5/8" casing from top of 7" liner @ 8695' to surface. Rerun 2nd from top of 7" liner @ 8695 to 7300'. Rig down Baker equipment.
TBRU	Run Tubing	Trip in well with (100) jts of 2-7/8" L-80 kill string.
SWLL	Secure Well	Secure well & Clean Location

Daily Operation Period: 8/18/2016 - 8/18/2016

Operations this Report Period (DOGGR)

Held safety meeting with Baker logging crew. Rig up Baker wireline equipment.
Run high res log in 9-5/8" casing from 7830' to surface.

Attempt to run high res log in 7" casing with 1400 lbs of weight/and rollers on Centrilizers.

1) First attempt to 7830'
2) Second - 8500'
3) Third - 8580'
Unable to get any further. TOOH and R/D Baker

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBPUL	Pull Tubing	Trip out of well with (100) jts of 2-7/8" L-80 8rd tubing.
LOGG	Logging	Held safety meeting with Baker logging crew. Rig up Baker wireline equipment. Run high res log in 9-5/8" casing from 7830' to surface. Attempt to run high res log in 7" casing with 1400 lbs of weight/and rollers on Centrilizers. 1) First attempt to 7830' 2) Second - 8500' 3) Third - 8580' Unable to get any further. TOOH and R/D Baker
TBRU	Run Tubing	Trip in well with (100) jts of 2-7/8" L-80 kill string.
SWLL	Secure Well	Secure well & Clean Location

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Daily Operation Period: 8/19/2016 - 8/19/2016

Operations this Report Period (DOGGR)

HSM: w/Tiger Wireline & RIH w/CBL-CCL-Gamma tools with 4 roller centralizers and got down to 8765' on first run. Attempt several time to go further. Unable to

Second Run; Centralizer on bottom & remove CCL/Gamma & got down to 8667'
Third Run; Sinker bar only 1-7/16" at 500 fmp on spool and got down to 8784'. Attempt several times and stopped instantly.

M/U 7" Scraper &Trip in well with (296) jts of 2-7/8" L-80 kill string.

NOTE: At 8769' felt obstruction & worked throught and continued to 9100'
Install Kingswivel and circulated for an hour. 300 bbls of 650/5bbls min

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBPUL	Pull Tubing	Trip out of well with (100) jts of 2-7/8" L-80 8rd tubing.
LOGG	Logging	HSM; R/U Tiger Loggers w/lubricator; RIH w/CBL-CCL-Gamma tools with 4 roller centralizers and got down to 8765' on first run. Attempt several time to go further. Unable to Second Run; Centralizer on bottom & remove CCL/Gamma & got down to 8667' Vertilog Third Run; Sinker bar only 1-7/16" at 500 fmp on spool and got down to 8784'. Attempt several times and Stopped instantly. TOOH. R/D Lubricator
TBRU	Run Tubing	M/U 7" Scraper &Trip in well with (296) jts of 2-7/8" L-80 kill string. NOTE: At 8769' felt obstruction & worked throught and continued to 9100' Install Kingswivel
CCMD	Condition and/or Circulate mud	Reverse Circulate 300 bbls of 650 bbls of wellbore fluid. After Tbg volume of 52 bbls there was no change in viscosity or see anythng from well bore.
SWLL	Secure Well	Secure well & Clean Location

Daily Operation Period: 8/20/2016 - 8/20/2016

Operations this Report Period (DOGGR)

Continue to circulate well & TOOH w/scraper. R/U Tiger & run sinker bar to 9127' with no Issues,

Rigged up logging tools, run CBL/CCL/gamma log from 9100' to top of 7" liner @ 8000'. Rig out Tiger wire line equipment.

NOTE: Notified Doggr: Ernie to do Csg test @ 0800 Monday morning

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
CCMD	Condition and/or Circulate mud	Continue to reverse Circulate 350 bbls of 650 bbls of wellbore fluid. Small amounts of pee gravel seen at shakers
TBPUL	Pull Tubing	Trip out of well with (296) jts of 2-7/8" L-80 8rd tubing.

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Time Log

Code 1	Code 2	Com
LOGG	Logging	HSM; R/U Tiger Loggers w/lubricator; RIH w/Sinker bar. Tiger wire line equipment. RIH w/ 1-7/16" sinker bar, tag top of sand on 7" RBP @ 9127'. Rigged up logging tools, run CBL/CCL/gamma log from 9100' to top of 7" liner @ 8000'. Rig out Tiger wire line equipment.
TBRU	Run Tubing	Pick up Weatherford 7" Arrow Set lock set packer. Trip in well with (80) jts of 2-7/8" L-80 8rd tubing.
SWLL	Secure Well	Secure well & Clean Location

Daily Operation Period: 8/22/2016 - 8/22/2016

Operations this Report Period (DOGGR)

HSM: Continue to RIH w/Arrowset Pkr & attempt to Set Weatherford 9-5/8" lock set packer @ 8685'. Weatherford packer dragging upwell & would not set.
Pressure up on casing saw pressure on tubing side. Continue to attempt setting packer at depth with no luck. Decision was made to pull 9-5/8" packer & replace

Doggr; Ellen Moser (Cypress) here for Csg psi Test;
Called Doggr; for pressure test tomorrow @ 0900 hrs

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBRU	Run Tubing	Pick up Weatherford 7" Arrow Set lock set packer. Trip in well with (206) jts of 2-7/8" L-80 8rd tubing.
PACS	Set packer	Attempt to Set Weatherford 9-5/8" lock set packer @ 8685'. Weatherford packer dragging up well & would not set. Pressure up on casing saw pressure on tubing side. Continue to attempt setting packer at depth with no luck. Decision was made to pull 9-5/8" packer & replace.
TBPUL	Pull Tubing	Trip out of well with (298) jts of 2-7/8" L-80 8rd tubing. Laid down Weatherford 9-5/8 lock set packer.
SWLL	Secure Well	Secure well & Clean Location

Daily Operation Period: 8/23/2016 - 8/23/2016

Operations this Report Period (DOGGR)

M/U Arrow Set Pkr and surfaced tested. Good. RIH t/8685' and set. Pressure up to 1600 psi and charted w/Doggr for 1 hour. GOOD.
TOOH t/5000' and set Pkr and pressured up to 3625 psi and charted test with Doggr; Unset packer and secured well

DOGGR: Ellen Moser signed charts and permit

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
TBRU	Run Tubing	Pick up Weatherford 7" Arrow Set lock set packer. Trip in well with (20) jts of 2-7/8" L-80 8rd tubing.

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HISTORY OF OIL OR GAS WELL

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Standard Sesnon 4 B Sec. 29, T03N, R16W, S.B.B.&M.
A.P.I. No. 03730460 Name Tom McMahon (Person submitting report) Title SIMP Project Manager (President, Secretary, or Agent)
Date 10/3/2016 (Month, day, year)
Signature
Address PO Box 2300, SC9365, Chatsworth, CA, 91313-2300 Telephone Number 714-398-5020

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.

Time Log

Code 1	Code 2	Com
PACS	Set packer	Set Weatherford 9-5/8" lock set packer @ 620' Pressure test against packer to 500 psi for 5 minutes. Good test.
TBRU	Run Tubing	Continue to Trip in well with (206) jts of 2-7/8" L-80 8rd tubing.
PTST	Pressure Test	Set Weatherford 9-5/8" lock set packer @ 8685' Rig up Pro's testing unit. Chart pressure test test against 9-5/8" lock set packer @ 8685' to 3625 psi for 1 hour. DOGGR witness test.
TBPUL	Pull Tubing	Trip out of well with (122) jts of 2-7/8" L-80 8rd tubing.
PTST	Pressure Test	Set Weatherford 9-5/8" lock set packer @ 5000'. Chart pressure test against Weatherford 9-5/8" lock set packer @ 5000' to 1600 psi for 1 hour. DOGGR witness test. Unset Packer.
SWLL	Secure Well	Secure well & Clean Location

Daily Operation Period: 8/24/2016 - 8/24/2016

Operations this Report Period (DOGGR)

HSM & TOOH and lay down Pkr. P/U retrieving tool for RBP. RIH and remove sand on RPB

Attempt to Bullhead 60 bbls of 8.6 polymer fluid down tubing with casing valves closed down to 7" RBP @ 9137' Pumped 4 bbls of polymer away & casing pressured up to 1500 psi, monitor psi & held solid for 10 minutes.

Opened casing, circulate 60 bbls of 8.6 polymer down tubing followed by 55 bbls of 8.6 ppg fluid from tank, taking returns to pump. (NOTE) Did not lose fluid volume during pumping.

Unset RPB & let relax overnight.
Secure well

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
MONW	Monitor wellbore	Check well psi. (tubing-0 psi) (tubing-0 psi) Open well. Fluid on location. Tank# 183 (309 bbls) Tank# 127 (500 bbls) Mud pump (65 bbls)
TBPUL	Pull Tubing	Trip out of well with (286) jts of 2-7/8" L-80 8rd tubing. Laid down Weatherford 9-5/8" lock set packer.
TBRU	Run Tubing	Pick up Weatherford RBP retrieving tool. Trip in well with (300) jts of 2-7/8" L-80 8rd tubing to top of Weatherford RBP @ 9137'.

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

Rec'd 10-24-16 DOGGR Ventura.

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Well Standard Sesnon 4 B Sec. 29, T03N, R16W, S.B.B.&M.
A.P.I. No. 03730460 Name Tom McMahon (Person submitting report) Title SIMP Project Manager (President, Secretary, or Agent)
Date 10/3/2016 (Month, day, year)
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Time Log

Code 1	Code 2	Com
CCMD	Condition and/or Circulate mud	Make up Kelly jt. Circulate 14' of sand off Weatherford RBP @ 9137' with 55 bbls of 8.6 ppg fluid @ 3.5 BPM.
PACRE	Release packer	Engage Weatherford 7" RBP @ 9137' & open bypass.
CCMD	Condition and/or Circulate mud	Attempt to Bullhead 60 bbls of 8.6 polymer fluid down tubing with casing valves closed down to 7" RBP @ 9137' Pumped 4 bbls of polymer away & casing pressured up to 1500 psi, monitor psi & held solid for 10 minutes. Opened casing, circulate 60 bbls of 8.6 polymer down tubing followed by 55 bbls of 8.6 ppg fluid from tank, taking returns to pump. (NOTE) Did not lose fluid volume during pumping.
PACRE	Release packer	Release 7" Weatherford RBP @ 9137' and wait overnight for any residual gas to surface
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 8/25/2016 - 8/25/2016

Operations this Report Period (DOGGR)

HSM; 0 psi on well. Bullhead 13 bbls of HEC pill, pressured up to 1000. Hold 10 min. bleed off. TOOH w/RBP with no issues. L/D RBP and hold full w/no gas. RIH w/300 jnts of Tbg. Secure well

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
MONW	Monitor wellbore	Check well psi. (tubing-0 psi) (tubing-0 psi) Open well. Fluid on location. Tank# 183 (309 bbls) Tank# 127 (500 bbls) Mud pump (65 bbls)
PUMP	Pump Test	Attempt to bull head 65 bbls of 8.6 ppg fluid down tubing with casing valves closed. Pumped 13 bbls away down tubing, casing started to pressure up, stopped as casing reached 1000 psi, held solid. Bleed off pressure.
TBPUL	Pull Tubing	Trip out of well with (14) jts of 2-7/8" L-80 8rd tubing so that Weatherford 7" RBP is above 7" liner top @ 8695' & in 9-5/8" casing.
CCMD	Condition and/or Circulate mud	Make up Kelly jt. Circulate 550 bbls @ 2.5 bbl/min with of 8.6 ppg at a depth of 8695' (just in the 9 5/8" Csg)
TBPUL	Pull Tubing	Trip out of well with (286) jts of 2-7/8" L-80 rd tubing. Laid down Weatherford 7" RBP. (NOTE) Pump 4 bbls of 8.6 ppg fluid down casing every 10 stands pulled from well to keep annulus full.
TBRU	Run Tubing	Trip in well with (300) jts of 2-7/8" L-80 8rd tubing as kill string.
SWLL	Secure Well	Shut in well and secure location

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HISTORY OF OIL OR GAS WELL

Operator Southern California Gas Company Field Aliso Canyon County Los Angeles
Well Standard Sesnon 4 B Sec. 29, T03N, R16W, S.B.B.&M.
A.P.I. No. 03730460 Name Tom McMahon (Person submitting report) Title SIMP Project Manager (President, Secretary, or Agent)
Date 10/3/2016 (Month, day, year)
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Daily Operation Period: 8/26/2016 - 8/26/2016

Operations this Report Period (DOGGR)

HSM; 0 psi on well. Attempt to bullhead into liner, took 7 bbls. Circulate entire well around. Prep for rig move next week & for running completions by installing casing racks/remove guard rails on 3 wells on pad. Spot in completions BHA/Hanger.
Secure well

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
MONW	Monitor wellbore	Check well psi. (tubing-0 psi) (tubing-0 psi) Open well. Fluid on location. Tank# 183 (309 bbls) Tank# 127 (500 bbls) Mud pump (65 bbls)
CCMD	Condition and/or Circulate mud	Attempt to bullhead fluid down tubing with casing valves closed. Pump 7 bbls away until casing pressured up to 1000 psi. Shut down pump & monitor well. Circulate 467 bbls of 8.6 ppf fluid down casing & up tubing.
RURD	Rig Up/Down	Spot in Doby hydro crane. Spot in Ensign pipe racks to pipe wrangler. Remove guard rails from well's SS-4-O, SS-4A, SS-4 & installed steal plates over cellars.
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 8/29/2016 - 8/29/2016

Operations this Report Period (DOGGR)

HSM; 0 psi on well. circulate well. TOOH sideways w/200 jnts of Tbg. Spot in equipment for completions. Remove 2 7/8" Tbg from location. Change Pipe rams to 3.5" and Test; Good
Secure well and location.

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
MONW	Monitor wellbore	Check well psi. (tubing-0 psi) (tubing-0 psi) Open well. Fluid on location. Tank# 183 (309 bbls) Tank# 127 (500 bbls) Mud pump (65 bbls)
CCMD	Condition and/or Circulate mud	Attempt to bull head fluid down tubing with casing valves closed. Pump 21 bbls of 8.6 ppg fluid away until casing pressured up to 1000 psi. Monitor pressure for 10 minutes, bleed casing down. Circulate 460 bbls of 8.6 ppg fluid @ 3.5 BPM down casing & up tubing.
TBPUL	Pull Tubing	Lay down (200) jts of 2-7/8" L-80 8rd tubing using pipe wrangler.
BOPPT	Pressure Test BOP's	Land 11" tubing hanger. Change out pipe rams from 2-7/8" to 3-1/2". Weatherford test pipe rams 300 psi low for 20 minutes, 5000 psi high for 20 minutes.
GOP	General Operations	Spot in T&T hydro crane. Load (200) jts of 2-7/8" L-80 8rd tubing onto trailer.
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 8/30/2016 - 8/30/2016

Operations this Report Period (DOGGR)

HSM: Bullhead 11 bbls into well. CIrculate well. TOOH w/100 jnts of tbg sideways. M/U Weatherford Pkr assembly and RIH. Test the bundle t/4000 psi for 15 minutes. Pull plug and RIH w/48 jnts of 3.5" TCPC Tbg. Secure well

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Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
MONW	Monitor wellbore	Check well psi. (tubing-0 psi) (tubing-0 psi) Open well. Fluid on location. Tank# 183 (309 bbls) Tank# 127 (500 bbls) Mud pump (65 bbls)
CCMD	Condition and/or Circulate mud	Attempt to bull head fluid down tubing with casing valves closed. Pump 11 bbls of 8.6 ppg fluid away until casing pressured up to 1000 psi. Monitor pressure for 10 minutes, bleed casing down. Circulate 250 bbls of 8.6 ppg fluid @ 3.5 BPM down casing & up tubing.
TBPUL	Pull Tubing	Lay down (100) jts of 2-7/8" L-80 8rd tubing using pipe wrangler.
PACRU	Run packer	Pick up completion BHA as follows. (1) 3-1/2" L-80 TCPC wireline re- entry guide, (1) 2' 3-1/2" L-80 TCPC XN nipple, (1) 10' 3-1/2" TCPC pup jt. (1) 8' 3-1/2" L-80 TCPC X 9-5/8" Weatherford mechanical production packer. (1) 10' 3-1/2" TCPC pup jt. (1) 3-1/2" L-80 TCPC jt. (1) 2' 3-1/2" L-80 TCPC X nipple. (1) 3-1/2" L-80 TCPC jt.
WIRL	Wireline	Rig up Western Wireline. Set PXN plug @ X-nipple.
PTST	Pressure Test	Rig up Pro Tool to pressure test BHA. Pressure test & chart BHA to 4000 psi.
TBRU	Run Tubing	Rig up Weatherford hydro testers tolls. Pick up (48) jts of 3-1/2" L-80 TCPC tubing while hydro testing tubing to 4000 psi. End of BHA @ 1576'. Make up torque avg 5500 ft/lbs.
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 8/31/2016 - 8/31/2016

Operations this Report Period (DOGGR)
HSM; Bullhead 11 bbls into well. Circulate well. TOOH w/100 jnts of tbg sideways. M/U Weatherford Pkr assembly and RIH. Test the bundle t/4000 psi for 15 minutes. Pull plug and RIH w/48 jnts of 3.5" TCPC Tbg. Secure well

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
CCMD	Condition and/or Circulate mud	Check well psi. (tubing-0 psi) (casing-0 psi) Open well. Pump 4 bbls of 8.6 ppg fluid down casing to fill annulus.
WIRL	Wireline	Rigged up Western Wireline equipment. Western set PXN plug in 3-1/2" XN nipple.
PTST	Pressure Test	Rigged up Pro's to bundle test 3-1/2" tubing & Weatherford BHA. Chart test to 4000 psi. Test was good. See attachment
TBRU	Run Tubing	Pick up & hydro test (90) jts of 3-1/2" L-80 TCPC completion string.
RURD	Rig Up/Down	Spot in Doby hydro crane. Off load 2nd trailer with 140 jts of 3-1/2" L-80 TCPC tubing.
TBRU	Run Tubing	Continue to Pick up & hydro test (35) jts of 3-1/2" L-80 TCPC completion string.
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 9/1/2016 - 9/1/2016

Operations this Report Period (DOGGR)
HSM; 0 psi on well and 2 bbls to fill. Ran 110 jnts of 3.5" TCPC tubing with no issues. Pumped 50 bbls of packer fluid around packer and tubing. Set Packer with 18K compression at a COE of 8685'. Pre-pressured backside to 1000 held solid. Secure location

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HISTORY OF OIL OR GAS WELL

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Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
CCMD	Condition and/or Circulate mud	Check well psi. (tubing-0 psi) (casing-0 psi) Open well. Pump 4 bbls of 8.6 ppg fluid down casing to fill annulus.
TBRU	Run Tubing	Pick up (110) jts of 3-1/2" L-80 TCPC completion string while hydro testing to 4000 psi. Pick up (1) 10' 3-1/2" L-80 TCPC pup jt, (1) 8' 3-1/2" L-80 TCPC pup jt, (1) 6' 3-1/2" L-80 TCPC pup jt, (1) 4' 3-1/2" L-80 TCPC pup jt, (1) 10' 3-1/2" L-80 TCPC pup jt, (1) 4' 3-1/2" L-80 TCPC pup jt, (1) 11" Tubing hanger. Hydro test 3-1/2" pups to 4000 psi.
RURD	Rig Up/Down	Rig out Weatherford hydro testing equipment & Weatherford casing tongs.
PUMP	Pump Test	Spot in Doby trucking. Circulate 50 bbls of packer fluid down tubing followed by 75 bbls of fluid down tubing @ 2 BPM down to Weatherford mechanical production packer.
PACS	Set packer	Weatherford set 9-5/8" mechanical production packer @ 8686' with 18 K compression. Close well in & secure location.
SWLL	Secure Well	Shut in well and secure location

Daily Operation Period: 9/2/2016 - 9/2/2016

Operations this Report Period (DOGGR)

HSM; Wireline ops to set plug

Pressure tested Casing to 1000 psi for 1 hr/and charted - GOOD.
Tested Tbg side to 3700 psi for 1 hr - GOOD

DOGGR: Witnessed by Cliff Knight / Signed permit

Removed Pipe wrangler/workstring/excess tbg/trailers.

NOTE: Wireline; Plug set and SS is CLOSED

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
CCMD	Condition and/or Circulate mud	Check well psi. (tubing-0 psi) (casing-0 psi) Open well. Pump 4 bbls of 8.6 ppg fluid down casing to fill annulus.
PTST	Pressure Test	Pressure up on casing with Ensign pump to 1000 psi. Rig up Pro tool to Pressure test & chart casing to 1000 psi for 60 minutes. DOGGR Cliff Knight witness test.
WIRL	Wireline	Held safety meeting with Western Wireline crew. Rig up Western Wireline equipment. RIH w/ slick line & set plug in WXN nipple @ 8701'. Rig out Western Wireline equipment. NOTE; Plug set and SS Closed
PTST	Pressure Test	Pressure up on 3-1/2" tubing with Ensign pump to 3700 psi. Rig up Pro tool to pressure test & chart tubing to 3700 psi for 60 minutes. DOGGR Cliff Knight witness test.
RURD	Rig Up/Down	Doby hydro crane load tubing, rack & hydro walk off location.

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Daily Operation Period: 9/6/2016 - 9/6/2016

Operations this Report Period (DOGGR)

HSM; Installed BPV & ND Bope. Install Tree and test void. 300 low/5000 high-Good. RDMO and move 65 yards to SS 4A. Install plates/containments/make room for contractors in front of Rig to drive through.
Wireline work on SS4A and remove plug. 100 psi on well and is Full.

Time Log

Code 1	Code 2	Com
SMTG	Safety Meeting	Safety Meeting & discuss forward operations plan
RURD	Rig Up/Down	Load out Ensign tubing equipment. Rig out work floor.
BOPR	Remove BOP's	Break down kill lines, Pacific Petroleum hydro crane nipple down Weatherford class III BOPE.
PTST	Pressure Test	Spot in Cameron. Nipple up 11" tree to well. Cameron pressure test seal (Void) to 300 psi low, 5000 psi high/20 min ea. Note; Torqued well head bolts to 1136 ft/lbls
RURD	Rig Up/Down	Rig down rig & spot off location.
RMOV	Rig Move	Pacific Petroleum hydro crane load BOP equipment & rig equipment for rig move. Move equipment from SS-4B to well SS-4A.

NATURAL RESOURCES AGENCY OF CALIFORNIA
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Rec'd 08-05-16 DOGGR Ventura.

WELL SUMMARY REPORT

API No. **037-30460**

Operator	Well				
Southern California Gas Company	**Standard Sesnon 4B**				
Field (and Area, if applicable) **Aliso Canyon, Sesnon-Frew Pool**	County **Los Angeles**	Sec. **27**	T. **3N**	R. **16W**	B.&M. **S.B.**
Location of well (Give surface location from property or section corner, street center line)		Elevation of ground above sea level: **2888'**			
Lat./Long. in decimal degrees, to six decimal places, NAD 83 format: Lat: **34.314788 N** Long: **118.571823 W**					

Was the well directionally drilled? ☒ Yes ☐ No If yes, show coordinates (from surface location) and true vertical depth at total depth.
229.69' South, 1984.77' West, 8708.11' TVD

Commenced drilling (date)	Total depth (1st hole)	(2nd)	(3rd)	Depth measurements taken from top of:
8/16/2015	**10338'**			☐ Derrick Floor ☐ Rotary Table ☒ Kelly Bushing
Completed drilling (date) **10/25/2015**				Which is **22.5** feet above ground.
Commenced production/injection (date) **Currently Not In Service**	Present effective depth			GEOLOGICAL MARKERS / DEPTH
Production mode: ☒ Flowing ☐ Pumping ☐ Gas lift	Junk? Describe: **N/A**			**LDA 7764'** **M-P 8565'** **S-1 9129'** **S-4 9428'** **S-6 9619'** **S-8 9906'** **S-10 10084'**
Name of production/injection zone(s) **S-4, S-6, S-8, S-10**				Formation and age at total depth: **Sesnon, Miocene** / Base of fresh water: **N/A**

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

CASING AND CEMENTING RECORD (Present Hole)

Size of Casing (Inches API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New (N) or Used (U)	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)	Top(s) of Cement in Annulus
13-3/8"	Surface	1436'	54.5#/ft	K-55	N	17-1/2"	1533 cu ft		Surface
9-5/8"	Surface	8887'	47#/ft	L-80	N	14"	6311 cu ft		Surface
7"	8695'	9269'	26#/ft	L-80	N	8-1/2"	163 cu ft		8695'r
4-1/2"	9144'	10314'	13.3#/ft	L-80	N	6-1/8"	N?A	N/A	Liner

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforations, and method.)
4-1/2", 13.3#, L-80 blank liner and Expandable Screen Liner from 9144"-10314', 120 Micron screen from 9426'-10311'

Logs/surveys run? ☒ Yes ☐ No If yes, list type(s) and depth(s).
Resistivity/Gamma Ray - 1578'-9267',9270'-10338' ; Induction/SP/Gamma Ray/Neutron/Density - 1437'-8360' ; USIT/Gamma Ray - 30'-1435', 28'-8887; CBL - 28'-8887'; Mud log - 103'-10338'; Directional Survey -0'-10338'

In compliance with Sec. 3215, Division 3, of the *Public Resources Code*, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name of person filing report	Telephone Number	Signature	Date
Todd Van de Putte	**818-701-3339**	Todd Van de Putte	**8-5-2016**
Address **12801 Tampa Ave**		City/State **Northridge, CA**	Zip Code **91326-1045**
Individual to contact for technical questions: **Todd Van de Putte**	Telephone Number **818-701-3339**	E-Mail Address: **tvandeputte@semprautilities.com**	

OG100 (3/09)

SUBMIT IN DUPLICATE

Well: SS 4B

			External Casing Backup Pressure			Pressure Test Net Burst Pressure @ Depth								Tubing Leak Net Burst Pressure @ Depth	Test Pressuree > 85% of Burst	Test Pressure < Tubing Leak - Net Burst (Gas-filled annulus)
Depth (MD)	Depth (TVD)	85% of Burst Strength	Fluid / Formation Pressure Gradient	External Casing Backup Pressure	Internal Water Hydrostatic	1	Final							Gas-Filled Annulus		
	Surface Test Pressure					1600	3625							3625		
	Test Packer Depth					8685	5000									
	Test Down Casing or Tubing					Casing	Casing									
	Bridge Plug Depth															
0	0	5840	0.00	0	0	1600	3625	0	0	0	0	0	0	3625		
1000	999	5840	0.00	0	442	2042	4067	-	-	-	-	-	-	3716		
2000	1998	5840	0.00	0	883	2483	4508	-	-	-	-	-	-	3806		
3000	2994	5840	0.00	0	1323	2923	4948	-	-	-	-	-	-	3896		
4000	3990	5840	0.00	0	1764	3364	5389	-	-	-	-	-	-	3987		
5000	4986	5840	0.00	0	2204	3804	5829	-		-	-	-	-	4077		
6000	5983	5840	0.00	0	2644	4244	-	-	-		-	-	-	4167		
7000	6980	5840	0.00	0	3085	4685	-	-	-	-		-	-	4258		
8000	7909	5840	0.00	0	3496	5096	-	-	-	-	-		-	4342		
8685	8354	5840	0.00	0	3692	5292	-	-	-	-	-	-	-	4382		

0.442	psi/ft int. grad.
0.091	psi/ft int. grad.

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Rec'd 08-05-16 DOGGR Ventura.

WELL SUMMARY REPORT

API No. **037-30460**

Operator	Well				
Southern California Gas Company	**Standard Sesnon 4B**				
Field (and Area, if applicable) **Aliso Canyon, Sesnon-Frew Pool**	County **Los Angeles**	Sec. **27**	T. **3N**	R. **16W**	B.&M. **S.B.**
Location of well (Give surface location from property or section corner, street center line)		Elevation of ground above sea level: **2888'**			
Lat./Long. in decimal degrees, to six decimal places, NAD 83 format: Lat: **34.314788 N** Long: **118.571823 W**					

Was the well directionally drilled? ☒ Yes ☐ No If yes, show coordinates (from surface location) and true vertical depth at total depth.
229.69' South, 1984.77' West, 8708.11' TVD

Commenced drilling (date)	Total depth (1st hole)	(2nd)	(3rd)	Depth measurements taken from top of:
8/16/2015	**10338'**			☐ Derrick Floor ☐ Rotary Table ☒ Kelly Bushing
Completed drilling (date) **10/25/2015**				Which is **22.5** feet above ground.
Commenced production/injection (date) **Currently Not In Service**	Present effective depth			GEOLOGICAL MARKERS / DEPTH
Production mode: ☒ Flowing ☐ Pumping ☐ Gas lift	Junk? Describe: **N/A**			**LDA 7764'** **M-P 8565'** **S-1 9129'** **S-4 9428'** **S-6 9619'** **S-8 9906'** **S-10 10084'**
Name of production/injection zone(s) **S-4, S-6, S-8, S-10**				Formation and age at total depth: **Sesnon, Miocene** / Base of fresh water: **N/A**

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

CASING AND CEMENTING RECORD (Present Hole)

Size of Casing (Inches API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New (N) or Used (U)	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)	Top(s) of Cement in Annulus
13-3/8"	Surface	1436'	54.5#/ft	K-55	N	17-1/2"	1533 cu ft		Surface
9-5/8"	Surface	8887'	47#/ft	L-80	N	14"	6311 cu ft		Surface
7"	8695'	9269'	26#/ft	L-80	N	8-1/2"	163 cu ft		8695'r
4-1/2"	9144'	10314'	13.3#/ft	L-80	N	6-1/8"	N?A	N/A	Liner

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforations, and method.)
4-1/2", 13.3#, L-80 blank liner and Expandable Screen Liner from 9144"-10314', 120 Micron screen from 9426'-10311'

Logs/surveys run? ☒ Yes ☐ No If yes, list type(s) and depth(s).
Resistivity/Gamma Ray - 1578'-9267',9270'-10338' ; Induction/SP/Gamma Ray/Neutron/Density - 1437'-8360' ; USIT/Gamma Ray - 30'-1435', 28'-8887; CBL - 28'-8887'; Mud log - 103'-10338'; Directional Survey -0'-10338'

In compliance with Sec. 3215, Division 3, of the *Public Resources Code*, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name of person filing report	Telephone Number	Signature	Date
Todd Van de Putte	**818-701-3339**	Todd Van de Putte	**8-5-2016**
Address **12801 Tampa Ave**		City/State **Northridge, CA**	Zip Code **91326-1045**
Individual to contact for technical questions: **Todd Van de Putte**	Telephone Number **818-701-3339**	E-Mail Address: **tvandeputte@semprautilities.com**	

OG100 (3/09)

SUBMIT IN DUPLICATE

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

Rec'd 07-28-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/28/2016

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, bailing tests, and initial production data.

Start Date	Summary
8/16/2015	Completed the rig up of the Ensign Rig #587 with the rig on payroll at 16:00 hours 8/16/2015. Welded on the 20" starter flange and flanged up the 6" diverter system on the 20" conductor. Filled the mud pits with 9.0 ppg Polytek storage mud and ran the solids control equipment.
8/17/2015	Rigged up the 6" diverter system on the 20" conductor, re-fabricated the solids control system and made up the 17-1/2"bit with the directional drilling assembly. Ran in the well and tagged at 103'. Spudded the 17-1/2" hole at 20:00 hrs. Directionally drilled the 17-1/2" hole from 103' to 166'. MW: 9.1 ppg, Vis: 42 sec, PV: 13 cps, YP: 13, Sol 3%.
8/18/2015	Directionally drilled the 17-1/2" hole from 166' to 606'. Lost circulation at 606' and treated the well with LCM. Drilled to 696' with 40 bph losses. MW: 9.0 ppg, Vis: 42 sec, PV: 14 cps, YP: 14, Sol 2%.
8/19/2015	Spotted an LCM pill and pulled out of the well for a lost circulation cement plug. Picked up 8 stands of 5" drill pipe and ran in the well with open ended drill pipe to 692'. Circulated and lost 80 bbl in 20 min. Moved in and rigged up the Halliburton cementing equipment. Mixed and pumped cement plug #1, 90 bbl (300 lf, 505 ft3, 175 sx) of Class "C" 11.0 ppg cement with LCM additives. Displaced the cement with 6 bbl of drilling mud. Pulled out of the well and waited on the cement plug. Made up the directional tools, ran in the well and tagged the cement at 446'. Cleaned out to 623' and the hole took a 40 bbl loss at 600' and then continued with a 30 bph loss rate. Circulated the well clean and pulled out of the well for cement plug #2. MW: 9.1 ppg, Vis: 41 sec, PV: 13 cps, YP: 14, Sol 2%.
8/20/2015	Ran in the well with 5" open ended drill pipe to 620'. Rigged up the Halliburton cementing equipment. Mixed and pumped cement plug #2, 60 bbl (200 lf, 338 ft3, 250 sx) of Class "C" 14.8 ppg cement blend. Displaced the cement with 6 bbl of drilling mud. Pulled out of the well and waited on the cement plug. Made up the directional tools, ran in the well, tagged the cement at 450' and cleaned out to 696' with no mud losses. Directionally drilled the 17-1/2" hole from 696' to 738', lost returns and drilled blind to 758'. Pulled out of the well for cement plug #3. MW: 8.9 ppg, Vis: 40 sec, PV: 13 cps, YP: 14, Sol 3%.
8/21/2015	Ran in the well with OEDP to 750', set cement plug #3, 86 bbl (300 lf, 482 ft3, 375 sx) of Class "C" 14.8 ppg cement. Displaced the cement with 6 bbl of drilling mud, Pulled out of the well and waited on the cement. Made up the 8" directional tools and the 17-1/2" bit on the 5" drill pipe. Ran in the well and tagged the cement at 644', and cleaned out to 758' with no mud losses. Directionally drilled the 17-1/2" hole from 758' to 902' with full returns. MW: 8.5 ppg, Vis: 41 sec, PV: 14 cps, YP: 14, Sol 1%.
8/22/2015	Directionally drilled the 17-1/2" hole from 902' to 1067' with full returns. Drilled from 1067' to 1102' with a 120 bph mud loss. Pulled out of the well with the directional drilling assembly. Ran in the well with OEDP to 1100'. Set cement plug #4 at 1102', 46 bbl (150 lf, 256 ft3, 180 sx) of Class "C" 14.5 ppg cement. Displaced the cement with 15 bbl of 8.8 ppg drilling mud, Pulled out of the well with the OEDP. Made up the directional tools and waited on the cement. MW: 8.8 ppg, Vis: 40 sec, PV: 15 cps, YP: 15, Sol 3%.
8/23/2015	Ran in the well with the 8" directional drilling assembly and the 17-1/2" bit. Tagged the cement at 954' and cleaned out the cement from 954' to 1102' with 40 bph mud loss. Directionally drilled the 17-1/2" hole from 1102' to 1438' (casing point) with 20-40 bph mud losses. Made a clean out run to 1438' and laid down the directional tools. MW: 8.9 ppg, Vis: 38 sec, PV: 13 cps, YP: 13, Sol 3%.
8/24/2015	Laid down the directional tools. Picked up and ran 38 jts of 13-3/8", 54.5#/ft K-55 BTC casing to 1436' with float at 1395'. Moved in and rigged up the Halliburton cementing equpment. Mixed and pumped 210 bbl (690 sx, 1180 ft3) of 13.5 ppg Class 'C' lead and 63 bbl (260 sx, 353 ft3) of 14.5 ppg Class 'C' tail with gas migration additives. The cement was displaced with 212 bbl of 8.6 ppg drilling mud. The plug was bumped at 2000 psig and held. CIP at 14:16 hrs with no cement returns to the surface. Approximately 50 bbl of mud was returned to surface during cementing and displacement. Pumped 57 bbl (242 sx, 320 ft3) of 14.5 ppg Class 'C' top job cement. The calculated annular depth was 440' and the 17-1/2" x 13-3/8" annulus remained full. Waited on the cement. MW: 8.6 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.

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

Rec'd 07-28-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
Surface Location: 34.314788N, 118.571823W

County: Los Angeles

Todd Van de Putte

Title: Drilling Manager

(President, Secretary, or Agent)

Date: 7/28/2016

Signature: Todd R Van de Put

(Person Submitting Report)

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

Telephone Number: 818-701-3339

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Start Date	Summary
8/25/2015	Slacked off and cut the 13-3/8' surface casing. Rigged down the 20" 2M Annular Preventer and the 6" diverter line. Welded on the 13-5/8" 5M SOW casing head and pressure tested the casing head to 3000 psig for 5 min. X-rayed the casing head welds. OK. Rigged up the 13-5/8" 5M Class III BOPE stack. MW: 8.6 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.
8/26/2015	Pressure tested the 13-5/8" 5M Class III BOPE for 20 min each test. 5000 psig (high) and 300 psig (low) for the pipe rams and all the valves. Pressure tested to 3600 psig (high) and 300 psig (low) for the annular preventer. Pressure tested the 13-3/8" surface casing to 1000 psig for 10 min (Test witnessed by DOGGR K. Gustafson). Shimmed the derrick legs and repaired the iron roughneck. MW: 8.6 ppg, Vis: 36 sec, PV: 13 cps, YP: 9, Sol 2%.
8/27/2015	Repaired the iron roughneck. Made up a 12-1/4" bit and cleanout BHA on the 5" drill pipe. Ran in the well and tagged the cement at 1322', tagged the float collar at 1396', tagged the shoe at 1436' and cleaned out to 1438'. Rotary drilled 12-1/4" hole from 1438' to 1578' with full returns. Pulled out of the well with the 12-1/4" bit and cleanout assembly. Made up the Autotrak directional tools and the 14" Rhino reamer and the 12-1/4" Kymera bit. MW: 8.7 ppg, Vis: 40 sec, PV: 13 cps, YP: 10, Sol 2%.
8/28/2015	Ran in the well with the Autotrak directional tools, the 14" Rhino reamer and the 12-1/4" Kymera bit on the 5" drill pipe. Directionally drilled the 12-1/4" hole and opened to 14" from 1578' to 2131' with full returns. MW: 8.7 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.
8/29/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 2131' to 2810' with full returns. MW: 8.7 ppg, Vis: 38 sec, PV: 11 cps, YP: 13, Sol 2%.
8/30/2015	Directionally drilled the 12-1/4" hole opened to 14" from 2810' to 3462' with full returns. MW: 8.9 ppg, Vis: 41 sec, PV: 14 cps, YP: 17, Sol 3%.
8/31/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 3462' to 4348' with full returns. MW: 8.9 ppg, Vis: 42 sec, PV: 15 cps, YP: 17, Sol 3%.
9/1/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 4348' to 4864' with 0-8 bph mud loss. MW: 9.0 ppg, Vis: 42 sec, PV: 18 cps, YP: 15, Sol 4%.
9/2/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 4864' to 5400' with 5 bph mud loss. MW: 9.0 ppg, Vis: 41 sec, PV: 13 cps, YP: 15, Sol 3%.
9/3/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 5400' to 5711' with 5 bph mud loss. Circulated the well clean and tripped for a new 12-1/4" bit. MW: 9.0 ppg, Vis: 40 sec, PV: 15 cps, YP: 18, Sol 4%.
9/4/2015	Ran in the well with a new 12-1/4" bit and reamed tight spots at 3565' and 4590'. Directionally drilled the 12-1/4" hole and opened to 14" from 5711' to 6059' with no mud losses. MW: 9.1 ppg, Vis: 42 sec, PV: 16 cps, YP: 17, Sol 4%.
9/5/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6059' to 6540' with no mud losses. MW: 9.0 ppg, Vis: 41 sec, PV: 17 cps, YP: 16, Sol 4%.
9/6/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6540' to 6868'. MW: 9.1 ppg, Vis: 43 sec, PV: 18 cps, YP: 15, Sol 4%.
9/7/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6868' to 7085'. Tripped for rig repairs. MW: 9.0 ppg, Vis: 42 sec, PV: 17 cps, YP: 15, Sol 4%.
9/8/2015	Pulled out of the well, magnafluxed the drill collars, and laid down 2 bad collars. Replaced the directional tools, the 14" Rhino reamer and 12-1/4" bit. Repaired nat gas generator #3 cylinder head. Ran in the well to 3150'. MW 9.0 ppg, V 43 sec, PV 15 cps, YP 19, Sol 4%.
9/9/2015	Ran in the well and directionally drilled the 12-1/4" hole and opened to 14" from 7085' to 7410'. MW: 9.1 ppg, Vis: 44 sec, PV: 14 cps, YP: 21, Sol: 4%.
9/10/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 7410' to 7845'. MW: 9.1 ppg, Vis: 44 sec, PV: 15 cps, YP: 22, Sol: 4%.
9/11/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 7845' to 8111'. MW: 9.0 ppg, Vis: 43 sec, PV: 13 cps, YP: 22, Sol: 4%.

RESOURCES AGENCY OF CALIFORNIA
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Rec'd 07-28-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/28/2016

Signature: Todd R Van de Putte
(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300
Telephone Number: 818-701-3339

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Start Date	Summary
9/12/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8111' to 8408'. MW: 9.0 ppg, Vis: 45 sec, PV: 15 cps, YP: 23, Sol: 4%.
9/13/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8408' to 8763'. MW: 9.0 ppg, Vis: 46 sec, PV: 15 cps, YP: 25, Sol: 4%.
9/14/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8763' to 8892'. Tripped for a new 12-1/4" bit and replaced the Dynomatic. MW: 9.1 ppg, Vis: 50 sec, PV: 16 cps, YP: 25, Sol: 4%.
9/15/2015	Replaced the Dynomatic, made up and rerun bit #4 and ran in the well. Reamed from 3178' to 4001', ran in the well to 8246' and reamed to 8400'. MW: 9.1 ppg, Vis: 50 sec, PV: 16 cps, YP: 25, Sol: 4%.
9/16/2015	Reamed the 14" hole from 8400' to 8892'. Directionally drilled the 12-1/4" hole and opened to 14" from 8892' to 9031'. MW: 9.1 ppg, Vis: 47 sec, PV: 15 cps, YP: 21, Sol: 4%.
9/17/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 9031' to 9222'. MW: 9.2 ppg, Vis: 51 sec, PV: 16 cps, YP: 21, Sol: 5%.
9/18/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 9222' to 9267' (casing point). Circulated the well clean, back reamed to 8600', Pulled out of the well to 6700' and circulated the well clean. Pulled out of the well and laid down the directional tools. MW: 9.2 ppg, Vis: 46 sec, PV: 15 cps, YP: 20, Sol: 5%.
9/19/2015	Laid down the Autotrak directional tools. Made up a 14" Rhino reamer with bull nose on 5" drill pipe and ran in the well. Underreamed the 12-1/4" hole to 14" from 9124' to 9254' (reamer depth). Backreamed to 8810', pulled to 6800' and circulated the well clean. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/20/2015	Pulled out of the well. Rigged up and ran the Schlumberger USIT log in the 13-3/8" surface casing to 1335' after a tool failure. Made up the open hole logging tools and the induction tool dropped down the hole from the surface. Made up the fishing tools on the 5" drill pipe and ran in the well. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/21/2015	Pulled out of the well with the induction tool, complete recovery. Picked up the clean out BHA on 5" drill pipe and made a clean out run and tagged at 8874'. Cleaned out to 8909' and lost 500 psig pump pressure. Pulled out of the well and found a twisted off drill collar and left approximately 103' of the cleanout BHA in hole. Waited on the fishing tools. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/22/2015	Made up the fishing tools on the 5" drill pipe and ran in the well. Latched on the fish/BHA and pulled out of the well with the BHA/fish. Recovered the entire fish/BHA. Made up a 12-1/4" clean out assembly on the 5" drill pipe and ran in the well. MW: 9.2 ppg, Vis: 51 sec, PV: 17 cps, YP: 22, Sol: 5%.
9/23/2015	Made up the 12-1/4" clean out assembly on the 5" drill pipe. Ran in the well to 8880' and reamed to 9267'. Circulated the well clean and pulled out of the well for the Schlumberger open hole logs. MW: 9.2 ppg, Vis: 52 sec, PV: 18 cps, YP: 25, Sol: 5%.
9/24/2015	Rigged up the Schlumberger wireline equipment and ran the PEX logs to 8375'. Ran in hole with push logs to 5900'. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 25, Sol: 5%.
9/25/2015	Ran in well with the open hole push logs to 8000'. Ran the push logs to 8866' and pulled out of the well. Ran in the well to shoe with a 12-1/4" bit, mixed mud and trouble shot rig generator #1. MW: 9.2 ppg, Vis: 47 sec, PV: 15 cps, YP: 24, Sol: 5%.
9/26/2015	Ran in the well with the 12-1/4" bit, reamed from 8861' to 8899', stuck pipe and jarred the stuck pipe free. Circulated clear and cleaned out to 8903'. Pulled out of the well for a gauge run. MW: 9.1 ppg, Vis: 46 sec, PV: 15 cps, YP: 25, Sol: 5%.
9/27/2015	Ran in the well with the 5" OEDP for a gauge run. Tagged bottom/ledge at 8903', circulated the well clean and pulled out of the well for the 9-5/8" production casing run. MW: 9.2 ppg, Vis: 49 sec, PV: 14 cps, YP: 26, Sol: 5%.
9/28/2015	Moved in and rigged up the casing running equipment. Picked up and ran 194 joints (8903') of 9-5/8" 47#, L-80 Hydril 563 casing to 8887' shoe depth, with the float collar at 8790'. Circulated the well. Rigged down and moved out the casing running equipment. Moved in and rigged up the Halliburton cementing equipment. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.

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Start Date	Summary
9/29/2015	Continued to circulate the well and rigged up the Halliburton cementing equipment. Cemented the 9-5/8" production casing with 837 bbl (2350 sx, 4700 ft3) of 13.5 ppg Class "G" lead, and 287 bbl (890 sx, 1611 ft3) of 14.8 ppg Class "G" tail with gas migration additives and displaced with 672 bbl of 9.2 ppg drilling mud. Plug was bumped at 2850 psig and plug held. Returns were lost 545 bbl into the cement job and no cement was returned to the surface. CIP at 11:20, and waited on the cement. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.
9/30/2015	Waited on the cement. Lifted the BOP stack and cut off the 9-5/8" casing and installed the 11" tubing spool with seal flange. Pressure tested the seals to 3600 psig for 5 minutes. Pumped 89 bbl of 14.5 ppg Class "C" neat cement top job with no returns to the surface. Rigged up the Class III 5M BOPE. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.
10/1/2015	Pumped 30 bbl of 14.5 ppg Class "C" neat cement top job, cement to the surface and the cement held. Total top job cement was 119 bbl. Rigged up the Class III 5M BOPE. Pressure tested the pipe rams and lines to 5000 psi (high) and 300 psig (low) for 10 minutes each. Pressure tested the annular preventer to 3600 psig (high) and 300 psig (low) for 10 minutes. Pressure tested the 9-5/8" production casing to 1000 psig for 10 minutes. The tests were witnessed by DOGGR Clifford Knight. Ran in the well with an 8-1/2" clean out assembly on the 5" drill pipe. Tagged at 8747' and cleaned out the cement to 8850'. MW: 9.2 ppg, Vis: 53 sec, PV: 18 cps, YP: 22, Sol: 5%.
10/2/2015	Cleaned out the cement to 8887', cleaned out to formation at 8892' and pulled out of the well. Made a 9-5/8" scraper run to 8880', tight spot from 8747' to 8756'. Rigged up and ran the Schlumberger high resolution USIT log. Logging tool stopped at 8750'. MW: 9.0 ppg, Vis: 46 sec, PV: 14 cps, YP: 21, Sol: 4%.
10/3/2015	Ran the Schlumberger high resolution USIT log. Made up smaller 4.7" logging tool and ran in the well to 8887'. Ran high resolution USIT log. Made up a 8-3/8" string mill on the 5" drill pipe. Ran in the well and reamed from 8750' to 8790'. MW: 9.1 ppg, Vis: 45 sec, PV: 14 cps, YP: 21, Sol: 4%.
10/4/2015	Reamed from 8790' to 8877' with the string mill and pulled out of the well. Ran in the well with a string mill on a stiff assembly to 8887. Milled at 8751', 8780' and 8850'. Pulled out of the well and made up the directional tools. Ran in the well to 8750', and the 8-1/2" bit would not pass damaged 9-5/8" casing section at 8750'. Pulled out of the well for a tandem mill run. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.
10/5/2015	Ran in the well with tandem mills, 8-3/8" x 8-1/2", spot milled from 8747' to 8850', circulated the well clean and pulled out of the well. Made up an 8-1/2" bit and RIH with directional tools. MW: 9.1 ppg, Vis: 44 sec, PV: 16 cps, YP: 21, Sol: 4%.
10/6/2015	Ran in the well with the directional tools, cleaned out with the 8-1/2" bit from 8892' to 9267'. Drilled the 8-1/2" hole from 9267' to 9270'. Back reamed to the 9-5/8" shoe and circulated the well clean. Short tripped to 9270' twice, circulated the well clean and pulled out of the well. MW: 9.1 ppg, Vis: 45 sec, PV: 13 cps, YP: 23, Sol: 4%.
10/7/2015	Pulled out of the well and laid down the directional tools. Picked up and ran a 7", 26#, L-80 scab liner w/ TCPC connections and 7" liner hanger/packer assembly. The 7" liner stopped at 8898'. Pulled out of the well and laid down the 7" liner and hanger assembly. MW: 9.1 ppg, Vis: 45 sec, PV: 13 cps, YP: 23, Sol: 4%.
10/8/2015	Ran in the well with the 8-1/2" directional assembly and cleaned out the obstructions. Wiped the open hole section and pulled out of the well for the 7" liner run. MW: 9.1 ppg, Vis: 47 sec, PV: 15 cps, YP: 23, Sol: 4%.
10/9/2015	Pulled out of the well. Picked up and ran the 7" scab liner. Ran 15 joints of 7" 26# L-80 TCPC liner to 9269', float collar at 9231', landing collar at 9208' and the top of the liner at 8695' (574' total length). Hydraulic set the 7" liner hanger, unlatched the tool and circulated. Move in and rigged up the Halliburton cementing equipment. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.
10/10/2015	Pumped 25 bbl mud flush ahead followed by 119 bbl (370 sx, 668 ft3) of 14.8 ppg Class 'G' tail cement with gas migration additive and displaced with 169 bbl of 9.1 ppg drilling mud. Bumped the plug at 800 psig, increased the pressure to 2000 psig and the floats held. CIP at 01:00, Pressure tested the 7" hanger/packer to 1000 psig, and pulled free from the 7" liner. Circulated the well clean with 90 bbl of cement returns to the surface. Pulled out of the well and laid down the liner hanger tool. Cleaned the mud pits. Ran in the well with an 8-1/2" bit, tagged the 7" liner top at 8695', laid down 39 joints of 5" drill pipe and pulled out of the well. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.

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

Rec'd 07-28-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/28/2016

Signature: Todd N Van de Putte
(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, bailing tests, and initial production data.

Start Date	Summary
10/11/2015	Pulled out of the well. Made up a 6-1/8" bit, picked up and ran 65 joints of 3-1/2" drill pipe on the 5" drill string. Ran in the well and tagged the cement at 9209'. Changed the hole over to 3% KCl brine, and pressure tested the 7" liner & packer to 1000 psig for 5 minutes. Cleaned out the cement to 9270', and drilled the 6-1/8" hole from 9270' to 9271'. Circulated the well clean and pulled out of the well. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%
10/12/2015	Pulled out of the well. Made up a 6-1/8" bit and 7" casing scraper, Ran in the well to 9268', circulated the well clean and pulled out of the well. Rigged up and ran the Schlumberger USIT log from 8695' to 8850' where the log stopped. MW: 8.5 ppg, Vis: 30 sec, PV: 2 cps, YP: 4, Sol: 0%
10/13/2015	Ran the Schlumberger USIT log without the CBL tool, the log stopped at 8850'. Pulled out of the hole. Made up the directional tools, ran in the well and surveyed from 8929'. Directionally drilled the 6-1/8" hole from 9272' to 9317'. MW: 8.5 ppg, Vis: 32 sec, PV: 2 cps, YP: 5, Sol: 0%.
10/14/2015	Directionally drilled the 6-1/8" hole from 9317' to 9555'. Pulled to the 7" shoe and ran the Scientific gyro survey at the bit depth of 9307'. MW: 8.5 ppg, Vis: 39 sec, PV: 6 cps, YP: 14, Sol: 1%.
10/15/2015	Directionally drilled the 6-1/8" hole from 9555' to 9688', circulated the well clean and pulled out of the well for new bit. Ran in the well and directionally drilled the 6-1/8" hole from 9688' to 9784'. MW: 8.5 ppg, Vis: 40 sec, PV: 5 cps, YP: 16, Sol: 1%.
10/16/2015	Directionally drilled the 6-1/8" hole from 9784' to 10,228'. MW: 8.6 ppg, Vis: 40 sec, PV: 6 cps, YP: 17, Sol: 3%.
10/17/2015	Directionally drilled the 6-1/8" hole from 10228' to TD 10338'. Back reamed to the shoe, circulated the well clean and pulled out of the well. Laid down the directional tools. Made up a 6-1/8" bit and clean out assembly and ran in the well to 2500'. MW: 8.6 ppg, Vis: 41 sec, PV: 7 cps, YP: 19, Sol: 2%.
10/18/2015	Ran in the well to 9483', spot reamed to 10338', back reamed to 9742' and stuck pipe. Jarred on the stuck pipe, spotted 50 bbl LVT oil, called out Tiger wireline and Weatherford fishing services. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 16, Sol: 2%.
10/19/2015	Manually backed off the drill string, top of fish at 8738' with 1004' of fish left in hole. Made up the fishing tools, ran in the well and re-torqued all connections on the trip in. Screwed into the fish, jarred free and pulled out of the well with complete recovery. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 15, Sol: 2%.
10/20/2015	Ran in the well with a 6-1/8" bit and cleanout assembly to 10338', Pulled out of the well to 9200' and circulated the well clean. Ran in the well to 10338' and spotted a 60 bbl polymer pill on bottom. Pulled out of the well to 8974' and cleaned the mud pits. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 15, Sol: 2%.
10/21/2015	Mixed 3% KCl brine, changed over the well and circulated the well clean to the required ESS installation specifications. Pulled out of the well. Picked up the 4-1/8" drill collars and racked back. Tested the 4-1/2" ESS expansion tool, ran 23 joints of 4-1/2" 13.3# 120 micron ESS and 7 joints of 5-1/2" 15.5 lb blank VAM FJL (10314' shoe depth), 9426' bottom of the blank, 9161' top of blank, 9144' top of PBR. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/22/2015	Set the hanger and packer, tested and pressure tested the 7" packer to 1000 psig for 10 minutes. Deployed the expansion tool and expanded the screen section from 9426' to 10311'. Pulled out of the well and laid down the ESS running/expansion tools. Slipped and cut the drilling line. The top of the blank at 9161', and the top of the PBR at 9150'. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/23/2015	Made up a 9-5/8" retrievable bridge plug, ran in the well and set at 7500'. Pressure tested to 1000 psig for 5 minutes. Sand capped the bridge plug and laid down drill pipe. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/24/2015	Laid down the drill pipe. Rigged down the Class III 5M BOPE, Filled the well with 3% KCl brine and installed the production tree. The well secured at 14:00 hrs. Rigged down the top drive and cleaned mud pits. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/25/2015	Rigged down top drive and cleaned the mud pits. The Ensign Rig #587 released at 02:30 hrs 10/25/15.

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Rec'd 07-22-16 DOGGR Ventura.

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Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/22/2016

Signature: _____
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Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300
Telephone Number: 818-701-3339

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Start Date	Ops this Report (DOGGR)
8/16/2015	Completed the rig up of the Ensign Rig #587 with the rig on payroll at 16:00 hours 8/16/2015. Welded on the 20" starter flange and flanged up the 6" diverter system on the 20" conductor. Filled the mud pits with 9.0 ppg Polytek storage mud and ran the solids control equipment.
8/17/2015	Rigged up the 6" diverter system on the 20" conductor, re-fabricated the solids control system and made up the 17-1/2"bit with the directional drilling assembly. Ran in the well and tagged at 103'. Spudded the 17-1/2" hole at 20:00 hrs. Directionally drilled the 17-1/2" hole from 103' to 166'. MW: 9.1 ppg, Vis: 42 sec, PV: 13 cps, YP: 13, Sol 3%.
8/18/2015	Directionally drilled the 17-1/2" hole from 166' to 606'. Lost circulation at 606' and treated the well with LCM. Drilled to 696' with 40 bph losses. MW: 9.0 ppg, Vis: 42 sec, PV: 14 cps, YP: 14, Sol 2%.
8/19/2015	Spotted an LCM pill and pulled out of the well for a lost circulation cement plug. Picked up 8 stands of 5" drill pipe and ran in the well with open ended drill pipe to 692'. Circulated and lost 80 bbl in 20 min. Moved in and rigged up the Halliburton cementing equipment. Mixed and pumped cement plug #1, 90 bbl (300 lf, 505 ft3, 175 sx) of Class "C" 11.0 ppg cement with LCM additives. Displaced the cement with 6 bbl of drilling mud. Pulled out of the well and waited on the cement plug. Made up the directional tools, ran in the well and tagged the cement at 446'. Cleaned out to 623' and the hole took a 40 bbl loss at 600' and then continued with a 30 bph loss rate. Circulated the well clean and pulled out of the well for cement plug #2. MW: 9.1 ppg, Vis: 41 sec, PV: 13 cps, YP: 14, Sol 2%.
8/20/2015	Ran in the well with 5" open ended drill pipe to 620'. Rigged up the Halliburton cementing equipment. Mixed and pumped cement plug #2, 60 bbl (200 lf, 338 ft3, 250 sx) of Class "C" 14.8 ppg cement blend. Displaced the cement with 6 bbl of drilling mud. Pulled out of the well and waited on the cement plug. Made up the directional tools, ran in the well, tagged the cement at 450' and cleaned out to 696' with no mud losses. Directionally drilled the 17-1/2" hole from 696' to 738', lost returns and drilled blind to 758'. Pulled out of the well for cement plug #3. MW: 8.9 ppg, Vis: 40 sec, PV: 13 cps, YP: 14, Sol 3%.
8/21/2015	Ran in the well with OEDP to 750', set cement plug #3, 86 bbl (300 lf, 482 ft3, 375 sx) of Class "C" 14.8 ppg cement. Displaced the cement with 6 bbl of drilling mud, Pulled out of the well and waited on the cement. Made up the 8" directional tools and the 17-1/2" bit on the 5" drill pipe. Ran in the well and tagged the cement at 644', and cleaned out to 758' with no mud losses. Directionally drilled the 17-1/2" hole from 758' to 902' with full returns. MW: 8.5 ppg, Vis: 41 sec, PV: 14 cps, YP: 14, Sol 1%.
8/22/2015	Directionally drilled the 17-1/2" hole from 902' to 1067' with full returns. Drilled from 1067' to 1102' with a 120 bph mud loss. Pulled out of the well with the directional drilling assembly. Ran in the well with OEDP to 1100'. Set cement plug #4 at 1102', 46 bbl (150 lf, 256 ft3, 180 sx) of Class "C" 14.5 ppg cement. Displaced the cement with 15 bbl of 8.8 ppg drilling mud, Pulled out of the well with the OEDP. Made up the directional tools and waited on the cement. MW: 8.8 ppg, Vis: 40 sec, PV: 15 cps, YP: 15, Sol 3%.
8/23/2015	Ran in the well with the 8" directional drilling assembly and the 17-1/2" bit. Tagged the cement at 954' and cleaned out the cement from 954' to 1102' with 40 bph mud loss. Directionally drilled the 17-1/2" hole from 1102' to 1438' (casing point) with 20-40 bph mud losses. Made a clean out run to 1438' and laid down the directional tools. MW: 8.9 ppg, Vis: 38 sec, PV: 13 cps, YP: 13, Sol 3%.
8/24/2015	Laid down the directional tools. Picked up and ran 38 jts of 13-3/8", 54.5#/ft K-55 BTC casing to 1436' with float at 1395'. Moved in and rigged up the Halliburton cementing equpment. Mixed and pumped 210 bbl (690 sx, 1180 ft3) of 13.5 ppg Class 'C' lead and 63 bbl (260 sx, 353 ft3) of 14.5 ppg Class 'C' tail with gas migration additives. The cement was displaced with 212 bbl of 8.6 ppg drilling mud. The plug was bumped at 2000 psig and held. CIP at 14:16 hrs with no cement returns to the surface. Approximately 50 bbl of mud was returned to surface during cementing and displacement. Pumped 57 bbl (242 sx, 320 ft3) of 14.5 ppg Class 'C' top job cement. The calculated annular depth was 440' and the 17-1/2" x 13-3/8" annulus remained full. Waited on the cement. MW: 8.6 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.

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Rec'd 07-22-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/22/2016

Signature: _____
(Person Submitting Report)

Address: PO Box 2300, SC9365, Chatsworth, CA, 91313-2300
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Start Date	Ops this Report (DOGGR)
8/25/2015	Slacked off and cut the 13-3/8' surface casing. Rigged down the 20" 2M Annular Preventer and the 6" diverter line. Welded on the 13-5/8" 5M SOW casing head and pressure tested the casing head to 3000 psig for 5 min. X-rayed the casing head welds. OK. Rigged up the 13-5/8" 5M Class III BOPE stack. MW: 8.6 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.
8/26/2015	Pressure tested the 13-5/8" 5M Class III BOPE for 20 min each test. 5000 psig (high) and 300 psig (low) for the pipe rams and all the valves. Pressure tested to 3600 psig (high) and 300 psig (low) for the annular preventer. Pressure tested the 13-3/8" surface casing to 1000 psig for 10 min (Test witnessed by DOGGR K. Gustafson). Shimmed the derrick legs and repaired the iron roughneck. MW: 8.6 ppg, Vis: 36 sec, PV: 13 cps, YP: 9, Sol 2%.
8/27/2015	Repaired the iron roughneck. Made up a 12-1/4" bit and cleanout BHA on the 5" drill pipe. Ran in the well and tagged the cement at 1322', tagged the float collar at 1396', tagged the shoe at 1436' and cleaned out to 1438'. Rotary drilled 12-1/4" hole from 1438' to 1578' with full returns. Pulled out of the well with the 12-1/4" bit and cleanout assembly. Made up the Autotrak directional tools and the 14" Rhino reamer and the 12-1/4" Kymera bit. MW: 8.7 ppg, Vis: 40 sec, PV: 13 cps, YP: 10, Sol 2%.
8/28/2015	Ran in the well with the Autotrak directional tools, the 14" Rhino reamer and the 12-1/4" Kymera bit on the 5" drill pipe. Directionally drilled the 12-1/4" hole and opened to 14" from 1578' to 2131' with full returns. MW: 8.7 ppg, Vis: 38 sec, PV: 12 cps, YP: 12, Sol 2%.
8/29/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 2131' to 2810' with full returns. MW: 8.7 ppg, Vis: 38 sec, PV: 11 cps, YP: 13, Sol 2%.
8/30/2015	Directionally drilled the 12-1/4" hole opened to 14" from 2810' to 3462' with full returns. MW: 8.9 ppg, Vis: 41 sec, PV: 14 cps, YP: 17, Sol 3%.
8/31/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 3462' to 4348' with full returns. MW: 8.9 ppg, Vis: 42 sec, PV: 15 cps, YP: 17, Sol 3%.
9/1/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 4348' to 4864' with 0-8 bph mud loss. MW: 9.0 ppg, Vis: 42 sec, PV: 18 cps, YP: 15, Sol 4%.
9/2/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 4864' to 5400' with 5 bph mud loss. MW: 9.0 ppg, Vis: 41 sec, PV: 13 cps, YP: 15, Sol 3%.
9/3/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 5400' to 5711' with 5 bph mud loss. Circulated the well clean and tripped for a new 12-1/4" bit. MW: 9.0 ppg, Vis: 40 sec, PV: 15 cps, YP: 18, Sol 4%.
9/4/2015	Ran in the well with a new 12-1/4" bit and reamed tight spots at 3565' and 4590'. Directionally drilled the 12-1/4" hole and opened to 14" from 5711' to 6059' with no mud losses. MW: 9.1 ppg, Vis: 42 sec, PV: 16 cps, YP: 17, Sol 4%.
9/5/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6059' to 6540' with no mud losses. MW: 9.0 ppg, Vis: 41 sec, PV: 17 cps, YP: 16, Sol 4%.
9/6/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6540' to 6868'. MW: 9.1 ppg, Vis: 43 sec, PV: 18 cps, YP: 15, Sol 4%.
9/7/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 6868' to 7085'. Tripped for rig repairs. MW: 9.0 ppg, Vis: 42 sec, PV: 17 cps, YP: 15, Sol 4%.
9/8/2015	Pulled out of the well, magnafluxed the drill collars, and laid down 2 bad collars. Replaced the directional tools, the 14" Rhino reamer and 12-1/4" bit. Repaired nat gas generator #3 cylinder head. Ran in the well to 3150'. MW 9.0 ppg, V 43 sec, PV 15 cps, YP 19, Sol 4%.
9/9/2015	Ran in the well and directionally drilled the 12-1/4" hole and opened to 14" from 7085' to 7410'. MW: 9.1 ppg, Vis: 44 sec, PV: 14 cps, YP: 21, Sol: 4%.
9/10/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 7410' to 7845'. MW: 9.1 ppg, Vis: 44 sec, PV: 15 cps, YP: 22, Sol: 4%.
9/11/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 7845' to 8111'. MW: 9.0 ppg, Vis: 43 sec, PV: 13 cps, YP: 22, Sol: 4%.

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Start Date	Ops this Report (DOGGR)
9/12/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8111' to 8408'. MW: 9.0 ppg, Vis: 45 sec, PV: 15 cps, YP: 23, Sol: 4%.
9/13/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8408' to 8763'. MW: 9.0 ppg, Vis: 46 sec, PV: 15 cps, YP: 25, Sol: 4%.
9/14/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 8763' to 8892'. Tripped for a new 12-1/4" bit and replaced the Dynomatic. MW: 9.1 ppg, Vis: 50 sec, PV: 16 cps, YP: 25, Sol: 4%.
9/15/2015	Replaced the Dynomatic, made up and rerun bit #4 and ran in the well. Reamed from 3178' to 4001', ran in the well to 8246' and reamed to 8400'. MW: 9.1 ppg, Vis: 50 sec, PV: 16 cps, YP: 25, Sol: 4%.
9/16/2015	Reamed the 14" hole from 8400' to 8892'. Directionally drilled the 12-1/4" hole and opened to 14" from 8892' to 9031'. MW: 9.1 ppg, Vis: 47 sec, PV: 15 cps, YP: 21, Sol: 4%.
9/17/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 9031' to 9222'. MW: 9.2 ppg, Vis: 51 sec, PV: 16 cps, YP: 21, Sol: 5%.
9/18/2015	Directionally drilled the 12-1/4" hole and opened to 14" from 9222' to 9267' (casing point). Circulated the well clean, back reamed to 8600', Pulled out of the well to 6700' and circulated the well clean. Pulled out of the well and laid down the directional tools. MW: 9.2 ppg, Vis: 46 sec, PV: 15 cps, YP: 20, Sol: 5%.
9/19/2015	Laid down the Autotrak directional tools. Made up a 14" Rhino reamer with bull nose on 5" drill pipe and ran in the well. Underreamed the 12-1/4" hole to 14" from 9124' to 9254' (reamer depth). Backreamed to 8810', pulled to 6800' and circulated the well clean. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/20/2015 USIT	Pulled out of the well. Rigged up and ran the Schlumberger USIT log in the 13-3/8" surface casing to 1335' after a tool failure. Made up the open hole logging tools and the induction tool dropped down the hole from the surface. Made up the fishing tools on the 5" drill pipe and ran in the well. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/21/2015	Pulled out of the well with the induction tool, complete recovery. Picked up the clean out BHA on 5" drill pipe and made a clean out run and tagged at 8874'. Cleaned out to 8909' and lost 500 psig pump pressure. Pulled out of the well and found a twisted off drill collar and left approximately 103' of the cleanout BHA in hole. Waited on the fishing tools. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 22, Sol: 5%.
9/22/2015	Made up the fishing tools on the 5" drill pipe and ran in the well. Latched on the fish/BHA and pulled out of the well with the BHA/fish. Recovered the entire fish/BHA. Made up a 12-1/4" clean out assembly on the 5" drill pipe and ran in the well. MW: 9.2 ppg, Vis: 51 sec, PV: 17 cps, YP: 22, Sol: 5%.
9/23/2015	Made up the 12-1/4" clean out assembly on the 5" drill pipe. Ran in the well to 8880' and reamed to 9267'. Circulated the well clean and pulled out of the well for the Schlumberger open hole logs. MW: 9.2 ppg, Vis: 52 sec, PV: 18 cps, YP: 25, Sol: 5%.
9/24/2015	Rigged up the Schlumberger wireline equipment and ran the PEX logs to 8375'. Ran in hole with push logs to 5900'. MW: 9.2 ppg, Vis: 50 sec, PV: 15 cps, YP: 25, Sol: 5%.
9/25/2015	Ran in well with the open hole push logs to 8000'. Ran the push logs to 8866' and pulled out of the well. Ran in the well to shoe with a 12-1/4" bit, mixed mud and trouble shot rig generator #1. MW: 9.2 ppg, Vis: 47 sec, PV: 15 cps, YP: 24, Sol: 5%.
9/26/2015	Ran in the well with the 12-1/4" bit, reamed from 8861' to 8899', stuck pipe and jarred the stuck pipe free. Circulated clear and cleaned out to 8903'. Pulled out of the well for a gauge run. MW: 9.1 ppg, Vis: 46 sec, PV: 15 cps, YP: 25, Sol: 5%.
9/27/2015	Ran in the well with the 5" OEDP for a gauge run. Tagged bottom/ledge at 8903', circulated the well clean and pulled out of the well for the 9-5/8" production casing run. MW: 9.2 ppg, Vis: 49 sec, PV: 14 cps, YP: 26, Sol: 5%.
9/28/2015	Moved in and rigged up the casing running equipment. Picked up and ran 194 joints (8903') of 9-5/8" 47#, L-80 Hydril 563 casing to 8887' shoe depth, with the float collar at 8790'. Circulated the well. Rigged down and moved out the casing running equipment. Moved in and rigged up the Halliburton cementing equipment. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.

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Start Date	Ops this Report (DOGGR)
9/29/2015	Continued to circulate the well and rigged up the Halliburton cementing equipment. Cemented the 9-5/8" production casing with 837 bbl (2350 sx, 4700 ft3) of 13.5 ppg Class "G" lead, and 287 bbl (890 sx, 1611 ft3) of 14.8 ppg Class "G" tail with gas migration additives and displaced with 672 bbl of 9.2 ppg drilling mud. Plug was bumped at 2850 psig and plug held. Returns were lost 545 bbl into the cement job and no cement was returned to the surface. CIP at 11:20, and waited on the cement. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.
9/30/2015 Top Job	Waited on the cement. Lifted the BOP stack and cut off the 9-5/8" casing and installed the 11" tubing spool with seal flange. Pressure tested the seals to 3600 psig for 5 minutes. Pumped 89 bbl of 14.5 ppg Class "C" neat cement top job with no returns to the surface. Rigged up the Class III 5M BOPE. MW: 9.2 ppg, Vis: 48 sec, PV: 15 cps, YP: 24, Sol: 5%.
10/1/2015 119 bbl Top Job	Pumped 30 bbl of 14.5 ppg Class "C" neat cement top job, cement to the surface and the cement held. Total top job cement was 119 bbl. Rigged up the Class III 5M BOPE. Pressure tested the pipe rams and lines to 5000 psi (high) and 300 psig (low) for 10 minutes each. Pressure tested the annular preventer to 3600 psig (high) and 300 psig (low) for 10 minutes. Pressure tested the 9-5/8" production casing to 1000 psig for 10 minutes. The tests were witnessed by DOGGR Clifford Knight. Ran in the well with an 8-1/2" clean out assembly on the 5" drill pipe. Tagged at 8747' and cleaned out the cement to 8850'. MW: 9.2 ppg, Vis: 53 sec, PV: 18 cps, YP: 22, Sol: 5%.
10/2/2015 USIT	Cleaned out the cement to 8887', cleaned out to formation at 8892' and pulled out of the well. Made a 9-5/8" scraper run to 8880', tight spot from 8747' to 8756'. Rigged up and ran the Schlumberger high resolution USIT log. Logging tool stopped at 8750'. MW: 9.0 ppg, Vis: 46 sec, PV: 14 cps, YP: 21, Sol: 4%.
10/3/2015	Ran the Schlumberger high resolution USIT log. Made up smaller 4.7" logging tool and ran in the well to 8887'. Ran high resolution USIT log. Made up a 8-3/8" string mill on the 5" drill pipe. Ran in the well and reamed from 8750' to 8790'. MW: 9.1 ppg, Vis: 45 sec, PV: 14 cps, YP: 21, Sol: 4%.
10/4/2015	Reamed from 8790' to 8877' with the string mill and pulled out of the well. Ran in the well with a string mill on a stiff assembly to 8887. Milled at 8751', 8780' and 8850'. Pulled out of the well and made up the directional tools. Ran in the well to 8750', and the 8-1/2" bit would not pass damaged 9-5/8" casing section at 8750'. Pulled out of the well for a tandem mill run. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.
10/5/2015	Ran in the well with tandem mills, 8-3/8" x 8-1/2", spot milled from 8747' to 8850', circulated the well clean and pulled out of the well. Made up an 8-1/2" bit and RIH with directional tools. MW: 9.1 ppg, Vis: 44 sec, PV: 16 cps, YP: 21, Sol: 4%.
10/6/2015	Ran in the well with the directional tools, cleaned out with the 8-1/2" bit from 8892' to 9267'. Drilled the 8-1/2" hole from 9267' to 9270'. Back reamed to the 9-5/8" shoe and circulated the well clean. Short tripped to 9270' twice, circulated the well clean and pulled out of the well. MW: 9.1 ppg, Vis: 45 sec, PV: 13 cps, YP: 23, Sol: 4%.
10/7/2015	Pulled out of the well and laid down the directional tools. Picked up and ran a 7", 26#, L-80 scab liner w/ TCPC connections and 7" liner hanger/packer assembly. The 7" liner stopped at 8898'. Pulled out of the well and laid down the 7" liner and hanger assembly. MW: 9.1 ppg, Vis: 45 sec, PV: 13 cps, YP: 23, Sol: 4%.
10/8/2015	Ran in the well with the 8-1/2" directional assembly and cleaned out the obstructions. Wiped the open hole section and pulled out of the well for the 7" liner run. MW: 9.1 ppg, Vis: 47 sec, PV: 15 cps, YP: 23, Sol: 4%.
10/9/2015	Pulled out of the well. Picked up and ran the 7" scab liner. Ran 15 joints of 7" 26# L-80 TCPC liner to 9269', float collar at 9231', landing collar at 9208' and the top of the liner at 8695' (574' total length). Hydraulic set the 7" liner hanger, unlatched the tool and circulated. Move in and rigged up the Halliburton cementing equipment. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.
10/10/2015	Pumped 25 bbl mud flush ahead followed by 119 bbl (370 sx, 668 ft3) of 14.8 ppg Class 'G' tail cement with gas migration additive and displaced with 169 bbl of 9.1 ppg drilling mud. Bumped the plug at 800 psig, increased the pressure to 2000 psig and the floats held. CIP at 01:00, Pressure tested the 7" hanger/packer to 1000 psig, and pulled free from the 7" liner. Circulated the well clean with 90 bbl of cement returns to the surface. Pulled out of the well and laid down the liner hanger tool. Cleaned the mud pits. Ran in the well with an 8-1/2" bit, tagged the 7" liner top at 8695', laid down 39 joints of 5" drill pipe and pulled out of the well. MW: 9.1 ppg, Vis: 47 sec, PV: 16 cps, YP: 20, Sol: 4%.

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

Rec'd 07-22-16 DOGGR Ventura.

HISTORY OF OIL OR GAS WELL

Operator: Southern California Gas Company
Well: Standard Sesnon 4 B
A.P.I. No. 03730460

Field: Aliso Canyon
County: Los Angeles
Surface Location: 34.314788N, 118.571823W

Todd Van de Putte
Title: Drilling Manager
(President, Secretary, or Agent)

Date: 7/22/2016

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, bailing tests, and initial production data.

Start Date	Ops this Report (DOGGR)
10/11/2015	Pulled out of the well. Made up a 6-1/8" bit, picked up and ran 65 joints of 3-1/2" drill pipe on the 5" drill string. Ran in the well and tagged the cement at 9209'. Changed the hole over to 3% KCl brine, and pressure tested the 7" liner & packer to 1000 psig for 5 minutes. Cleaned out the cement to 9270', and drilled the 6-1/8" hole from 9270' to 9271'. Circulated the well clean and pulled out of the well. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%
10/12/2015	Pulled out of the well. Made up a 6-1/8" bit and 7" casing scraper, Ran in the well to 9268', circulated the well clean and pulled out of the well. Rigged up and ran the Schlumberger USIT log from 8695' to 8850' where the log stopped. MW: 8.5 ppg, Vis: 30 sec, PV: 2 cps, YP: 4, Sol: 0%
10/13/2015	Ran the Schlumberger USIT log without the CBL tool, the log stopped at 8850'. Pulled out of the hole. Made up the directional tools, ran in the well and surveyed from 8929'. Directionally drilled the 6-1/8" hole from 9272' to 9317'. MW: 8.5 ppg, Vis: 32 sec, PV: 2 cps, YP: 5, Sol: 0%.
10/14/2015	Directionally drilled the 6-1/8" hole from 9317' to 9555'. Pulled to the 7" shoe and ran the Scientific gyro survey at the bit depth of 9307'. MW: 8.5 ppg, Vis: 39 sec, PV: 6 cps, YP: 14, Sol: 1%.
10/15/2015	Directionally drilled the 6-1/8" hole from 9555' to 9688', circulated the well clean and pulled out of the well for new bit. Ran in the well and directionally drilled the 6-1/8" hole from 9688' to 9784'. MW: 8.5 ppg, Vis: 40 sec, PV: 5 cps, YP: 16, Sol: 1%.
10/16/2015	Directionally drilled the 6-1/8" hole from 9784' to 10,228'. MW: 8.6 ppg, Vis: 40 sec, PV: 6 cps, YP: 17, Sol: 3%.
10/17/2015	Directionally drilled the 6-1/8" hole from 10228' to TD 10338'. Back reamed to the shoe, circulated the well clean and pulled out of the well. Laid down the directional tools. Made up a 6-1/8" bit and clean out assembly and ran in the well to 2500'. MW: 8.6 ppg, Vis: 41 sec, PV: 7 cps, YP: 19, Sol: 2%.
10/18/2015	Ran in the well to 9483', spot reamed to 10338', back reamed to 9742' and stuck pipe. Jarred on the stuck pipe, spotted 50 bbl LVT oil, called out Tiger wireline and Weatherford fishing services. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 16, Sol: 2%.
10/19/2015	Manually backed off the drill string, top of fish at 8738' with 1004' of fish left in hole. Made up the fishing tools, ran in the well and re-torqued all connections on the trip in. Screwed into the fish, jarred free and pulled out of the well with complete recovery. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 15, Sol: 2%.
10/20/2015	Ran in the well with a 6-1/8" bit and cleanout assembly to 10338', Pulled out of the well to 9200' and circulated the well clean. Ran in the well to 10338' and spotted a 60 bbl polymer pill on bottom. Pulled out of the well to 8974' and cleaned the mud pits. MW: 8.5 ppg, Vis: 38 sec, PV: 6 cps, YP: 15, Sol: 2%.
10/21/2015	Mixed 3% KCl brine, changed over the well and circulated the well clean to the required ESS installation specifications. Pulled out of the well. Picked up the 4-1/8" drill collars and racked back. Tested the 4-1/2" ESS expansion tool, ran 23 joints of 4-1/2" 13.3# 120 micron ESS and 7 joints of 5-1/2" 15.5 lb blank VAM FJL (10314' shoe depth), 9426' bottom of the blank, 9161' top of blank, 9144' top of PBR. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/22/2015	Set the hanger and packer, tested and pressure tested the 7" packer to 1000 psig for 10 minutes. Deployed the expansion tool and expanded the screen section from 9426' to 10311'. Pulled out of the well and laid down the ESS running/expansion tools. Slipped and cut the drilling line. The top of the blank at 9161', and the top of the PBR at 9150'. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/23/2015	Made up a 9-5/8" retrievable bridge plug, ran in the well and set at 7500'. Pressure tested to 1000 psig for 5 minutes. Sand capped the bridge plug and laid down drill pipe. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/24/2015	Laid down the drill pipe. Rigged down the Class III 5M BOPE, Filled the well with 3% KCl brine and installed the production tree. The well secured at 14:00 hrs. Rigged down the top drive and cleaned mud pits. MW: 8.5 ppg, Vis: 26 sec, PV: 1 cps, YP: 1, Sol: 0%.
10/25/2015	Rigged down top drive and cleaned the mud pits. The Ensign Rig #587 released at 02:30 hrs 10/25/15.
1/14/2016	none
4/21/2016	none

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

No. T **216-0456**

REPORT ON OPERATIONS

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

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

Ventura, California
October 10, 2016

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/23/2016**, by **Ellen Moser**, a representative of the supervisor.

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

DECISION:

APPROVED

EM/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

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

MD824.

T 214-0456
16, 1

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

Casing and Tubing Pressure Test

Operator: So. Cal. Gas Co. Well Designation: "Standard Sesnon"4B8

Sec. 29, T. 03N, R. 16W, S. B. B.M. API No. 037-30460 Field: Aliso Canyon

County. Los Angeles Witnessed on: 08/23/2016. Ellen Moser, representative

of the supervisor, was present from 1417 to 1517.

Also Present were Don Baldwin, Consultant

Casing Record of the Well:
13-3/8" cem 1436'; 9-5/8" cem 8887'; 7" cem 8695'-9269'; 5-1/2" X 4-1/2" ld 9156'-10314', perfs 9426'-10313'. TD 10338'.

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

Pressure Test of the Casing

Packer/ Bridge Plug at Packer at 5000'/Bridge plug at 9127'
Casing Pressured with polymer
Casing Pressure Start PSI: 3664 psig
Casing Pressure End PSI: 3640 psig
Pressure Held 60 Min. Total drop in Pressure 24 psi 0.66 %.

Well Type Gas Storage
Volume
Start Time: 1417
End Time: 1517

Test Result: X Good ____ Not Good

Pressure Test of the Tubing

Packer/ Bridge Plug at
Tubing Pressured with
Tubing Pressure Start PSI:
Tubing Pressure End PSI:
Pressure Held ____ Min. Total drop in Pressure ____ psi ____ %.

Well Type
Volume
Start Time:
End Time:

Test Result: ____ Good ____ Not Good

Remarks:

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

No. T **216-0457**

REPORT ON OPERATIONS

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

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

Ventura, California
October 10, 2016

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/23/2016**, by **Ellen Plaza Moser**, a representative of the supervisor.

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

DECISION:

APPROVED

EPM/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By _____
Patricia A. Abel, *District Deputy*

MD824.

T 216-0457

16, 1

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

Casing and Tubing Pressure Test

Operator: So. Cal. Gas Co. Well Designation: "Standard Sesnon"4B8

Sec. 29, T. 03N, R. 16W, S. B. B.M. API No. 037-30460 Field: Aliso Canyon

County. Los Angeles Witnessed on: 08/23/2016. Ellen Moser, representative

of the supervisor, was present from 1105 to 1205.

Also Present were Don Baldwin, Consultant

Casing Record of the Well:
13-3/8" cem 1436'; 9-5/8" cem 8887'; 7" cem 8695'-9269'; 5-1/2" X 4-1/2" ld 9156'-10314', perfs 9426'-10313'. TD 10338'.

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

Pressure Test of the Casing

Packer/ Bridge Plug at Packer at 8685'/Bridge plug at 9127'
Casing Pressured with polymer
Casing Pressure Start PSI: 1650 psig
Casing Pressure End PSI: 1636 psig
Pressure Held 60 Min. Total drop in Pressure 14 psi 0.85 %.

Well Type Gas Storage
Volume
Start Time: 1105
End Time: 1205

Test Result: X Good _____ Not Good

Pressure Test of the Tubing

Packer/ Bridge Plug at
Tubing Pressured with
Tubing Pressure Start PSI:
Tubing Pressure End PSI:
Pressure Held _____ Min. Total drop in Pressure _____ psi _____ %.

Well Type
Volume
Start Time:
End Time:

Test Result: _____ Good _____ Not Good

Remarks:

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

No. T **216-0386**

REPORT ON OPERATIONS

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

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

Ventura, California
September 12, 2016

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **9/2/2016**, by **Clifford R. Knight**, a representative of the supervisor.

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

DECISION:

APPROVED

CRK/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By
Patricia A. Abel, *District Deputy*

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

No. T 216-0386
16,1

INTERNAL MECHANICAL INTEGRITY TEST (MIT)

Completion **(~~Standard Annulus~~ Pressure Test-~~SAPT~~)**

Operator: SoCal Gas					Well: Standard Sesnon 413
Sec. 29	T. 3N	R. 16W	B.&M. SB	API No.: 037-30460	Field: Aliso Canyon
County: Los Angeles					Witnessed/Reviewed on: C. Knight / 9-2-16

C. Knight, representative of the supervisor, was present from 0630 to 1500.

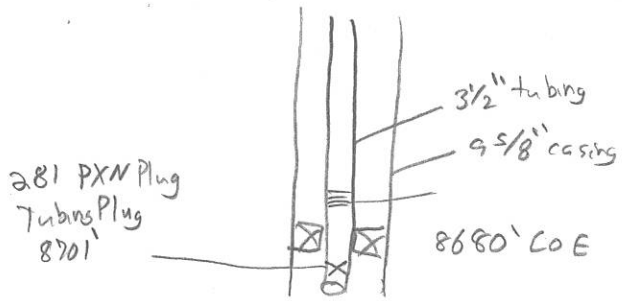
Also present were: Donnie Baldwin Randy (Driller) Rig #334 Ensign Enrique Marroquin (PROs)

Casing record of the well:

3 1/2" 9.3# L-80 Tubing

Tubing Plug at 8701'

Packer @ 8680' COE



The Internal MIT was performed for the purpose of pressure testing the 3½, 9 5/8" (Tubing) casing above 8680 COE (Packer) / 8701 tubing plug (2) (prior to injecting fluid)

☒ The Internal MIT is approved since it indicates that the 3½", 9 5/8" (Tubing) casing has mechanical integrity above 8680 COE packer / 8701 tubing plug at this time..

☐ The Internal MIT is not approved due to the following reasons: (specify)

INDICATE WHERE PACKER WAS SET AND HOW LONG PRESSURE WAS HELD ALONG WITH ANY BLEEDOFF DATA.

Packer 1,000psi Test

① 1051 psi 0750am

1044 psi 0850am

Tubing Test 3,700psi

② 3747psi 10:50

3720ps 11:08*

3742psi 11:18

3736psi 12:18

The 9 5/8" casing, packer at 8680' and tubing plug held their respective pressures for 1 hour

*leak noted on crossover to TRW valve, test restarted

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

No. T **216-0366**

REPORT ON OPERATIONS

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

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

Ventura, California
August 25, 2016

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B.&M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/8/2016**, by **Mark Davis**, a representative of the supervisor.

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

DECISION:

APPROVED

MD/TKC

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

By
Patricia A. Abel, *District Deputy*

API No. 037-21353 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 216-0366

BLOWOUT PREVENTION EQUIPMENT MEMO 12.1

Operator SO. CAL. GAS. CO. Well "STANDARD SESNON" 4B Sec. 28 T. 3N R. 16W

Field ALISO CANYON County LOS ANGELES Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	8-8-16	MARK DAVIS	(0800 to 8:15)		
2nd			(to)		

Contractor EMSIGN Rig # 334 Contractor's Rep. & Title DONNIE BALDWIN RANDY MOORE

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 9 5/8" casing are approved.

Proposed Well Opns: WORKOVER . MACP: psi

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

REQUIRED BOPE CLASS: III 5M

CASING RECORD OF BOPE ANCHOR STRING

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

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	—	~~CAMERON~~ HYD		11"	5M	
RD	2 7/8	LXT		11"	5M	
RD	CSG	LXT		11"	5M	

TEST DATA

Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
9.5						
2.7						
28						

TOTAL: 15.4

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 2500 psi

Total Rated Pump Output gpm Fluid Level

Distance from Well Bore 70 ft. 1/2

	Accum. Manufacturer	Capacity	Precharge
1	KOOMEY	80 gal.	1500 psi
2		gal.	psi

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

EMERG. BACKUP SYSTEM			Press.	Wkg.Fluid
X N_2 Cylinders	1	L= "	2700	9.0 gal.
Other:	2	L= "	2750	9.3 gal.
	3	L= "	2700	9.0 gal.
	4	L= "	2650	8.8 gal.
	5	L= "		gal.
	6	L= "		gal.
		TOTAL:		36.1 gal.

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press	Connections: Weld	Connections: Flange	Connections: Thread	Test Press.
	Fill-up Line							
X	Kill Line		8"	5M		X		
X	Control Valve(s)	3	2"	5M		X		
X	Check Valve(s)		2"	5M		X		
	Aux. Pump Cnnct.							
X	Choke Line		2"	5M		X		
X	Control Valve(s)	2	2"	5M		X		
X	Pressure Gauge	6	2"	5M		X		
X	Adjstble Choke(s)	2	2"	5M		X		
	Bleed Line							
	Upper Kelly Cock							
X	Lower Kelly Cock	1	2 7/8	5M		X		
	Standpipe Valve							
	Stndpipe Pres. Gau.							
X	Pipe Safety Valve	1	2 7/8	5M				
X	Internal Preventer	1	2 7/8	5M				

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

Hole Fluid Type	Weight	Storage Pits (Type & Size)
SALT POLYMER	8.6	700

REMARKS AND DEFICIENCIES:

OGD9 (9/06)

NATURAL RESOURCES AGENCY OF CALIFORNIA

DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES

1000 S. Hill Rd, Suite 116, Ventura, CA 93003-4458 Phone:(805) 654-4761

NOTICE OF RECORDS DUE

Ventura, California
3/9/2016

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

In accordance with Division 3 of the California Public Resources Code, the following records are due (covering the drilling notice dated 7/9/2015) for your well "Standard Sesnon" 4B (037-30460).

Aliso Canyon Field, Los Angeles County, Sec. 29, T. 03N, R. 16W, SB B.&M.

Records, in duplicate are due within 60 days after completion of any well work or tests. Failure to provide such records may result in enforcement action, including issuance of violations, civil penalties and orders of the supervisor, pursuant to PRC 3236.5.

☐ Well Summary (Form OG 100)	☒ All Logs	☐ Velocity Survey
☒ History (Form OG 103, OGG 103)	☐ Dipmeter (computed)	☐ Temperature Survey
☐ Core of sidewall sample (Form OG 101, OGG 101)	☐ Oil and/or gas analysis	☐ Spinner survey
☐ Directional survey	☐ Water analysis	☐ Standard Annular Pressure Test
☐ Other	☐ Pressure measurements (flowing or static)	☐ RA Tracer survey (fluid migration test)

REPORTS FOR THE MONTH OF *: Production, oil and gas disposition, and injection reports are due on or before the 30th day of each month for the preceding calendar month. Division forms must be signed in the spaces provided.*

OIL AND GAS OPERATION	GEOTHERMAL OPERATION
☐ Production and disposition reports (Form OG 110 or computer report)	☐ Production reports (Form OGG 110)
☐ Injection reports (Form OG 110B or computer report)	☐ Injection reports (Form OGG 110B)

Name: Mark Davis	Title: Energy & Mineral Resources Engineer	Signature:

OG170 (03/01/2012)

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: **Southern California Gas Company** WELL DESIGNATION **"Standard Sesnon" 4B**

API No. **03730460** SE **29** T: **3N** R.: **16W** , **SB** B. and M.

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

Type of Notice: **Rework** **Date** **7/21/2016** **Report Number:** **P216-0151**

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

	Date	OK	NEED	Remarks
Well Summary (OG100)				
History (OG103)	8/5/16	✓		
E-Log				
Mud Log x2		✓		
Dipmeter				
Directional				
Core and/or SWS				
USIT x2		✓		
Annular Pressure Log		✓		
CBL x3		✓		
MAC		✓		
Gamma x4		✓		
Vertilog		✓		

NEW STATUS

DATE: _____

NOTICE OF RECORDS DUE

DATE: 3-9-16

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

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

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

ENGINEER'S CHECK LIST

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

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

CLERICAL CHECK LIST

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

REMARKS

RECORDS SCANNED: _____
(Date)

RECORDS APPROVED: 10/24/16 CH
(Date and Engineer)

Modified OGD2

AOR Datbase _____

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

No. P 216-0151

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

PERMIT TO CONDUCT WELL OPERATIONS

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

Ventura, California
August 05, 2016

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

Your proposal to **Rework** well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Section **29**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **7/21/2016**, received **7/22/2016** has been examined in conjunction with records filed in this office. (Lat: **34.314788** Long: **-118.571823** Datum:**83**)

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. Class **III 5M** on the **9 5/8"** casing.
2. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
4. A Temperature and Noise log are run on the well from the packer to surface.
5. **A Magnetic Flux Leakage log and a Multi-Arm Caliper Inspection** shall be performed to demonstrate that the **9 5/8"**casing has integrity.
6. Prior to commencing injection, a pressure test is conducted to demonstrate the mechanical integrity of the **9 5/8"** casing.
7. Injection shall be through tubing and packer only. Injection or withdrawal through the casing is not permitted.
8. In all other respects, the provisions of Division Order #1109 and its amendments shall remain in effect.
9. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.

   THIS DIVISION SHALL BE NOTIFIED TO:
   a. Inspect the installed blowout prevention equipment prior to commencing **downhole** operations.
   b. Witness a pressure test of the tubing and **9 5/8"** casing prior to commencing injection.

Continued on Next Page

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

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

CRK/do

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

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

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

NOTE:

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

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

ATTACHMENT 1
TO DOGGR ORDER 1109

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

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

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

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

REQUIRED TESTS FOR EACH WELL IN THE FACILITY

Step 1: The Operator shall perform an initial casing assessment on the well consisting of temperature and noise logs.

a. Temperature Log:
   A temperature survey shall be run from the surface to the packer to measure the temperature within the wellbore. A temperature survey that demonstrates no unexplained anomalous temperature changes in the well is one indication of casing integrity.

b. Noise Log:
   An acoustic sensor survey capable of detecting the sound of fluid flow will be conducted the length of the well above the packer to the surface. The survey will include stops at least every 250 feet and at the midpoint of any anomaly detected by the temperature survey. The absence of anomalous sound above the packer is an indication of well integrity

Step 2: The results of the Temperature Logs and Noise Logs will be independently reviewed by Division engineers. Any unexplained abnormal findings in this set of tests shall be addressed by the Operator in one of the following ways:

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

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

Step 3: After these tests are completed on the well, and all required action has been completed, the operator shall either:

a. Conduct the additional tests and evaluations on the well, outlined in Steps 4a through 7a below, in order to gain approval for injecting gas through that well; or
b. Remove the well from operation and isolate the well from the underground gas storage reservoir in accordance with Steps 4b through 7b below.

REQUIRED TESTS IF A WELL IS INTENDED TO RESUME OPERATIONS

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

Step 4a: The Operator shall conduct a **Casing Inspection log.**
The Operator shall conduct a Casing Inspection log of the well that measures the thickness of the production casing, from the surface to the bottom of the gas storage reservoir cap rock. If the inspection reveals a reduction in wall thickness, the current minimum strength of the casing will be calculated. If the current minimum strength of the casing has diminished to the point that it cannot withstand authorized operating pressures for the well plus a built-in additional safety factor of pressure, the well has failed this test. *A passing test for a casing inspection log would show no thinning of the casing that diminishes the casing's ability to contain at least 115% of the well's maximum allowable operating pressure as authorized in the current Project Approval Letter.*

Step 5a: The Operator shall conduct a **Cement Bond Log** for the well.
The Operator shall conduct a Cement Bond Log (CBL) that measures the bonding between cement and the production casing of the well, and also the bonding between the annular cement and the formation. Cement should be solidly bonded to both the well's production casing and the geologic formation to ensure a seal that prevents fluids from migrating up or down the outside of the well. *A passing test for a cement bond log shows definitive bond, as demonstrated by sonic waveform,*

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

Step 6a: The Operator shall conduct a **Multi-Arm Caliper Inspection** of the well. The operator shall conduct an inspection that measures any internal degradation or significant changes to the well's geometry from the surface to the top of the gas storage reservoir, using a minimum 32-arm caliper tool. If the inspection reveals a thinning or deformity of the casing, the current strength of the casing will be calculated. If the current strength of the casing has diminished, such that it cannot withstand authorized operating pressures plus a built-in safety factor of additional pressure, the well fails this inspection. *A passing test for a Multi-Arm Caliper Inspection would show no deformation or thinning of the casing that diminishes the casing from being able to properly contain at least 115% of each well's maximum operating pressure.*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

REQUIREMENTS FOR WELLS RESUMING OPERATIONS IN ALISO CANYON

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

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

Rec'd 07-22-16 DOGGER Ventura.

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

P216-3151

NOTICE OF INTENTION TO REWORK / REDRILL WELL

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

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ (Check one) well Standard Sesnon 4B, API No. 037-30460,

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

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

See attached wellbore schematic

The total depth is: 10338' feet. The effective depth is: 7500' feet.

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

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

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

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

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

See attached program

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

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

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

Name of Operator			
Southern California Gas Company			
Address P. O. Box 2300		City/State Chatsworth	Zip Code 91313-2300
Name of Person Filing Notice A.J. Alshammasi	Telephone Number: 818-700-3887	Signature	Date 07/21/16
Individual to contact for technical questions: A.J. Alshammasi	Telephone Number: 818-700-3887	E-Mail Address: aalshammasi@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.

Rec'd 07-22-16 DOGGER Ventura.

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice. Please note that a CEQA determination by a local jurisdiction, if required, must be complete, or the Division may not issue a permit.

CRITICAL WELL DEFINITION

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

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

WELL OPERATIONS REQUIRING BONDING

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

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

SoCal Gas Company

SoCalGas
A Sempra Energy utility

Well Operations Procedure

Standard Sesnon 4B

Aliso Canyon

Storage Integrity Management Program

7/21/2016 Version 1

Primary Engineer:	AJ Alshammasi	818 700-3887 (ofc)/818 269-6083 (mobile)
Alternate Engineer:	Brian Vlasko	818 700-3897 (ofc)/714 655-9506 (mobile)
Engineering Supervisor:	Jose Iguaz	818 700-3889 (ofc)/661 384-5337 (mobile)
Well Site Supervisor:	John Herrin	805 701-5077 (mobile)
Well Work Superintendent:	Mike Volkmar	562 685-3810 (mobile)

Objective:

The intent of this program is to inspect the well integrity and remediate identified conditions as part of the Storage Integrity Management Program (SIMP). This project will include pulling RBP, running casing inspection logs, pressure testing casing, installing a new completion string, converting well to tubing flow, and installing pressure monitors. Baseline assessment data will be gathered on vertical casing pipe and other well components.

Well Data:

API #:	037-30460		
Datum:	2888'		
KB to GL:	22.5'		
MD:	10,338'		
TVD:	8,708'		
PBMD:	7,500'	**Nature of Plug Back:**	RBP

Geologic Markers:

LDA: 7764' MD / 7712' TVD	S2: 9281' MD / 8572' TVD
MP: 8565' MD / 8293' TVD	S4: 9444' MD / 8607' TVD
S1: 9129' MD / 8527' TVD	S6: 9617' MD / 8626' TVD

Casing Data:

Surface Casing:	13-3/8", 54.5#, K-55 Cem w/ 1533 cuft @ 1,436'
Production Casing:	9-5/8", 47#, L-80, 0' – 8,887', ETOC @ 3561'
Scab Liner:	7", 26#, L-80, 8,695' – 9,269', TOC 8695
Production Liner:	5-1/2", 15.5#, K-55, 9,156'-9,426' 4-1/2", 13.3#, L-80, 9,426'-10,314'

SoCal Gas Company

Well Operations Procedure

Perforations: Open Hole with Wire Wrap Screen 9,426'-10,313'
Completed in S2, S4, and S6.

Current Status: Idle for inspection

Permit Status: Pending

SoCal Gas Company

SoCalGas
A Sempra Energy utility

Well Operations Procedure

PROJECT NOTES

1. BOPE requirements in Gas Company Standard 224.05 shall be fully implemented at all times.

2. The storage reservoir pressures shall be monitored during the workover with a minimum of 300 psig overbalance for well control fluids.

3. Prepare the location by removing all relevant landscaping/lighting fixtures as well as surface piping and electrical components as needed. Locate rig anchors, reinstall if necessary.

4. DOGGR permit must be posted on site. Notify the DOGGR as required for BOPE testing prior to commencing downhole operations as stated on permit. DOGGR Ventura District office (805)-654-4761. If a permit has not been issued contact DOGGR 24 hours prior to rigging up on the well for verbal approval to rig up.

WELLWORK PROGRAM

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

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

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

3. Fill the well with 8.5 ppg KCl brine. Monitor wellhead pressure to ensure well is dead.

4. ND Tree.

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

   - All tests are to be charted and witnessed by a DOGGR representative.
   - Perform a 300 psig low pressure test on the annular preventer, blind rams and pipe rams for 20 minutes. Test all lines and connections to 300 psig.
   - Pressure test the Class III 5M annular preventer to 3500 psig for 20 minutes. Test blind rams and the pipe rams to 5000 psig for 20 minutes. Test all lines and connections to 5000 psig.
   - Remove BPV.

6. PU 2-7/8 6.5# P110 TKC work-string and RIH with retrieving tool on work string circulating while engaging RBP retrieval neck. Open bypass and allow RBP to equalize for 30 mins. Release RBP and allow elastomers to relax for 1 hr. Circulate as required to control well. POOH slowly to minimize swabbing and lay down work string.

7. RIH with 9-5/8", 47# positive ID casing scraper to top of liner @ 8,695'. Circulate well clean. POOH.

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

   a.) Magnetic flux leakage from top of production liner @8,695' to surface

   b.) MAC from top of production liner @8,695' to surface

   Note: CBL/VDL and USIT logs ran on Oct/02/2015

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

9. RIH with test packer(s) on work string and conduct a Pressure Integrity Test ("Block"). Follow test schedule below. POOH with test packer(s).

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

Test	Packer Depth	BP Depth	Test Pressure
1	8685	N/A	1,600 PSI (Casing)
Final	5,000	N/A	3,625 PSI (Casing)

10. RIH with new tubing as follows:

    RIH with packer assembly (items 1 - 9). RIH with XN plug, set and bundle test packer BHA to 4000psi for 5 mins. Pull XN plug. Continue running 3-1/2" tubing hydro-testing each connection to 4000psi.

    1. *~ 1ft - 3-1/2" 9.3# L80 TCPC Wireline re-entry guide, set at ~* ***8,675'***
    2. *~ 2ft - 3-1/2" 9.3# L80 TCPC XN Nipple (2.75" Bore w/ 2.635" NoGo)*
    3. *~ 10ft - Pup joint 3-1/2" 9.3# L80 TCPC*
    4. *~ 8ft - 3-1/2" 9.3# L80 TCPC x 9-5/8" 47# Mechanical Production Packer*
    5. *~ 10ft - Pup joint 3-1/2" 9.3# L80 TCPC*
    6. *~ 30ft – 1 Joint 3-1/2" 9.3# L80 TCPC tubing*
    7. *~ 2ft - Pup 3-1/2" 9.3# L80 TCPC*
    8. *~ 2ft - 3-1/2" 9.3# L80 TCPC (2.813" Open Down) sliding sleeve*
    9. *~ 4ft - Pup 3-1/2" 9.3# L80 TCPC*
    10. *~ 8592ft - 3-1/2" 9.3# L80 TCPC tubing to surface*
    11. *Pup joints 3-1/2" 9.3# L80 TCPC for space-out*
    12. *~ 10ft - Pup 3-1/2" 9.3# L80 TCPC*
    13. *~ 4ft - 3-1/2" 9.3# L80 TCPC fatigue nipple (pin x pin)*
    14. *Tubing hanger with 3-1/2" EUE top box / 3" BPV / 3-1/2" 9.3# TCPC bottom box*

Notes : Prior to sending completion equipment to well site

- Make up items 1) through 5) under the supervision of Quality Tubulars. Pressure test assembly to 4000 psi for 1hr, chart test. Test caps to be installed and removed by Quality Tubulars.
- Make up items 7) through 9) under the supervision of Quality Tubulars. Pressure test assembly to 4000 psi for 1hr, chart test. Test caps to be installed and removed by Quality Tubulars.
- Shift sliding sleeve and drift with XN plug prior to shipping tools to location.
- Seal lube any 8rd connections, to be witnessed by Quality Tubulars.
- Packer vendor to provide Force Analysis / Tube Move Calculations prior to sending equipment to well site.

11. Land tubing as per vendor specifications.

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

12. Rig-up slickline unit and lubricator. Set a plug in the 2.75" XN profile.

13. Notifiy DOGGR to witness tubing tests to 3700 psi, hold for 60 min. Perform annular test to 1000 psi, hold for 60 min. Record tests digitally.

14. RIH with WL and recover XN plug. Shift the sliding sleeve open. RDMO WL.

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

16. RDMO.

UNLOAD WELL

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

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

WELL LATERAL HYDROTESTING

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

21. Reinstall the hydro-tested laterals.

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

23. Release well to operations.

EXTERNAL CORROSION PROTECTION

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

Rec'd 07-22-16 DOGGER Ventura.

Well
Standard Sesnon 4B

API #: 04-037-30460-00
Sec 29, T3N, R16W

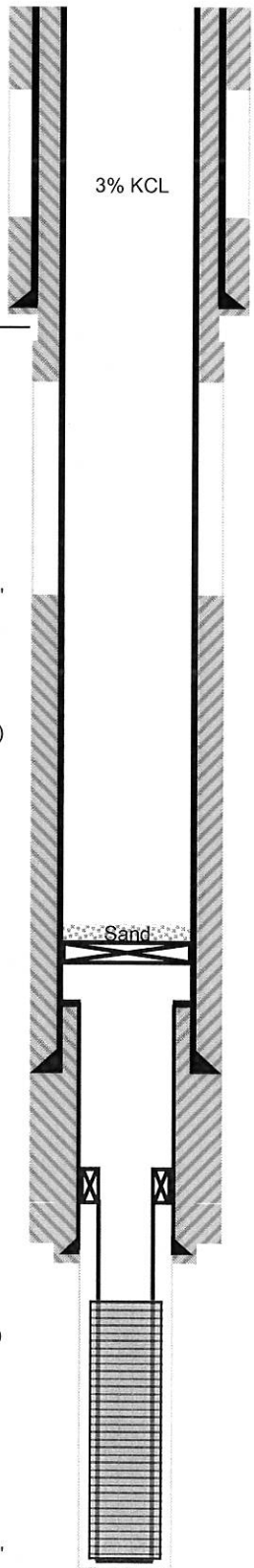
Operator: So. California Gas Co.

Lease: Standard Sesnon
Field: Aliso Canyon
Status: New Gas Storage
BFW:
USDW:

Ground Elevation: 2888.0' asl
Datum to Ground: 22.5' KB

Spud Date: 8/17/2015
Completion Date: 10/25/2015

Junk: None



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

13-3/8" EBOC (Top Job) 440'
(per drilling report, 8/24/2015)

17-1/2" Hole (to 1438')

13-3/8" ETOC 1174'

Surface Casing
13-3/8", 54.5#, K-55
0' - 1436'

1436'

CMT'D w/ 1533 CF / 950 SKS*
+ 320 CF / 242 SKS Top Job

12-1/4" Hole (1438' - 1578')

1772' 9-5/8" EBOC (Top Job)

9-5/8" ETOC 3561'

14" Hole (1578' - 9267')

Production Casing
9-5/8", 47#, L-80
0' - 8887'

CMT'D w/ 6311 CF / 3240 SKS**
+ 119 BBL Top Job w/ CMT
Returns to Surface

7500' Retrievable Bridge Plug w/ Sand Cap (10/23/2015)

8695' TOL & TOC
8750' 9-5/8" CSG Damage (Milled, 10/4/2015)

8887'

Scab Liner
7", 26#, L-80
8695' - 9269'

CMT'D w/ 668 CF / 370 SKS,
90 BBL CMT Returns to Surface

9150' - 9156' PBR
9156' Liner Hanger

9269'

(9267' - 9270') 8-1/2" Hole

6-1/8" Hole (9270' - 10338')

Liner
5-1/2", 15.5#, K-55
9156' - 9426'
4-1/2" 13.3#, L-80
9426' - 10314'

Liner Perfs:
9426' - 10313' 120 Micron ESS

TD 10338' 10314'
TVD (8708')
Directionally Drilled: Yes (TD is 230' S, 1985' W of Surf)

Notes

*"50 BBLS MUD was returned to surface during CMT & displacement."

**"Returns were lost at 545 BBLS into CMT job and no CMT was returned to surface"

During running of 9-5/8", CSG encountered a ledge or obstruction and could not be run deeper. CMT'D @ 8887' and then CMT'D 7" Scab liner to original planned depth.

Top of Zone Markers	md (tvd)
LDA	7764' (7712')
MP	8565' (8293')
S1	9129' (8527')
S2	9281' (8572')
S4	9444' (8607')
S6	9617' (8626')

Prepared by: CAM (7/20/2016)

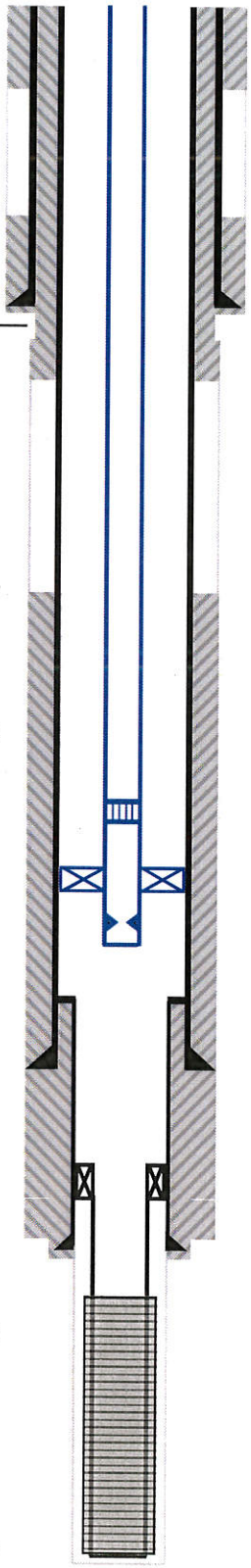
InterAct

Rec'd 07-22-16 DOGGER Ventura.

Well
Standard Sesnon 4B

API #: 04-037-30460-00
Sec 29, T3N, R16W

Proposed



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9-5/8" TOC Surface

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(per drilling report, 8/24/2015)

17-1/2" Hole (to 1438')

13-3/8" ETOC 1174'

Surface Casing
13-3/8", 54.5#, K-55
0' - 1436'

1436'

CMT'D w/ 1533 CF / 950 SKS*
+ 320 CF / 242 SKS Top Job

12-1/4" Hole (1438' - 1578')

9-5/8" ETOC 3561'

14" Hole (1578' - 9267')

Production Casing
9-5/8", 47#, L-80
0' - 8887'

CMT'D w/ 6311 CF / 3240 SKS**
+ 119 BBL Top Job w/ CMT
Returns to Surface

8887'

Scab Liner
7", 26#, L-80
8695' - 9269'

CMT'D w/ 668 CF / 370 SKS,
90 BBL CMT Returns to Surface

9269'

6-1/8" Hole (9270' - 10338')

Liner
5-1/2", 15.5#, K-55
9156' - 9426'
4-1/2" 13.3#, L-80
9426' - 10314'

10314'

TD 10338'
TVD (8708')
Directionally Drilled: Yes (TD is 230' S, 1985' W of Surf)

Tubing
3-1/2", 9.3#, L-80
0' - 8675'

1772' 9-5/8" EBOC (Top Job)

8612' Sliding Sleeve (2.813" Opens Down)

8654' 3-1/2" x 9-5/8" Mechanical Prod. PCKR

8672' "XN" No-Go Nipple (2.75" Bore w/ 2.635" NoGo)
8675' Wireline Re-entry Guide

8695' TOL & TOC
8750' 9-5/8" CSG Damage (Milled, 10/4/2015)

9150' - 9156' PBR
9156' Liner Hanger

(9267' - 9270') 8-1/2" Hole

Liner Perfs:
9426' - 10313' 120 Micron ESS

Operator: So. California Gas Co.

Lease: Standard Sesnon
Field: Aliso Canyon
Status: New Gas Storage
BFW:
USDW:

Ground Elevation: 2888.0' asl
Datum to Ground: 22.5' KB

Spud Date: 8/17/2015
Completion Date: 10/25/2015

Junk: None

Notes

*"50 BBLS MUD was returned to surface during CMT & displacement."

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S2	9281' (8572')
S4	9444' (8607')
S6	9617' (8626')

Prepared by: CAM (7/20/2016)
Updated by: LD (7/21/2016)

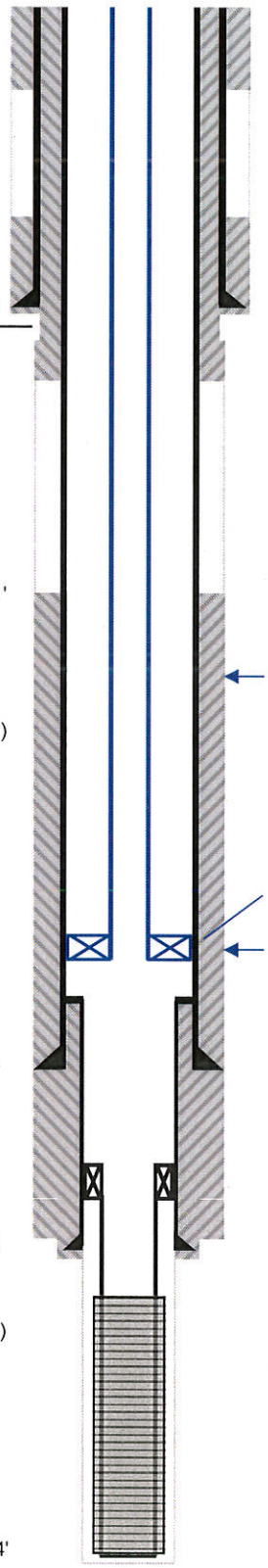
InterAct

Rec'd 07-22-16 DOGGER Ventura.

Well
Standard Sesnon 4B

API #: 04-037-30460-00
Sec 29, T3N, R16W

Production Casing Pressure Test - Program



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Surface Casing
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0' - 1436'
1436'
CMT'D w/ 1533 CF / 950 SKS*
+ 320 CF / 242 SKS Top Job
12-1/4" Hole (1438' - 1578')

1772' 9-5/8" EBOC (Top Job)

9-5/8" ETOC 3561'

TEST 5000' to Surface - 3625 psi

14" Hole (1578' - 9267')

Production Casing
9-5/8", 47#, L-80
0' - 8887'
CMT'D w/ 6311 CF / 3240 SKS**
+ 119 BBL Top Job w/ CMT
Returns to Surface

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

TEST 8685' to Surface - 1600 psi

8695' TOL & TOC
8750' 9-5/8" CSG Damage (Milled, 10/4/2015)

8887'

Scab Liner
7", 26#, L-80
8695' - 9269'
CMT'D w/ 668 CF / 370 SKS,
90 BBL CMT Returns to Surface

9150' - 9156' PBR
9156' Liner Hanger

9269'

(9267' - 9270') 8-1/2" Hole

6-1/8" Hole (9270' - 10338')

Liner
5-1/2", 15.5#, K-55
9156' - 9426'
4-1/2" 13.3#, L-80
9426' - 10314'

Liner Perfs:
9426' - 10313' 120 Micron ESS

10314'

TD 10338'
TVD (8708')
Directionally Drilled: Yes (TD is 230' S, 1985' W of Surf)

Operator: So. California Gas Co.

Lease: Standard Sesnon
Field: Aliso Canyon
Status: New Gas Storage
BFW:
USDW:

Ground Elevation: 2888.0' asl
Datum to Ground: 22.5' KB

Spud Date: 8/17/2015
Completion Date: 10/25/2015

Junk: None

Notes

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Prepared by: CAM (7/20/2016)
Updated by: LD (7/21/2016)

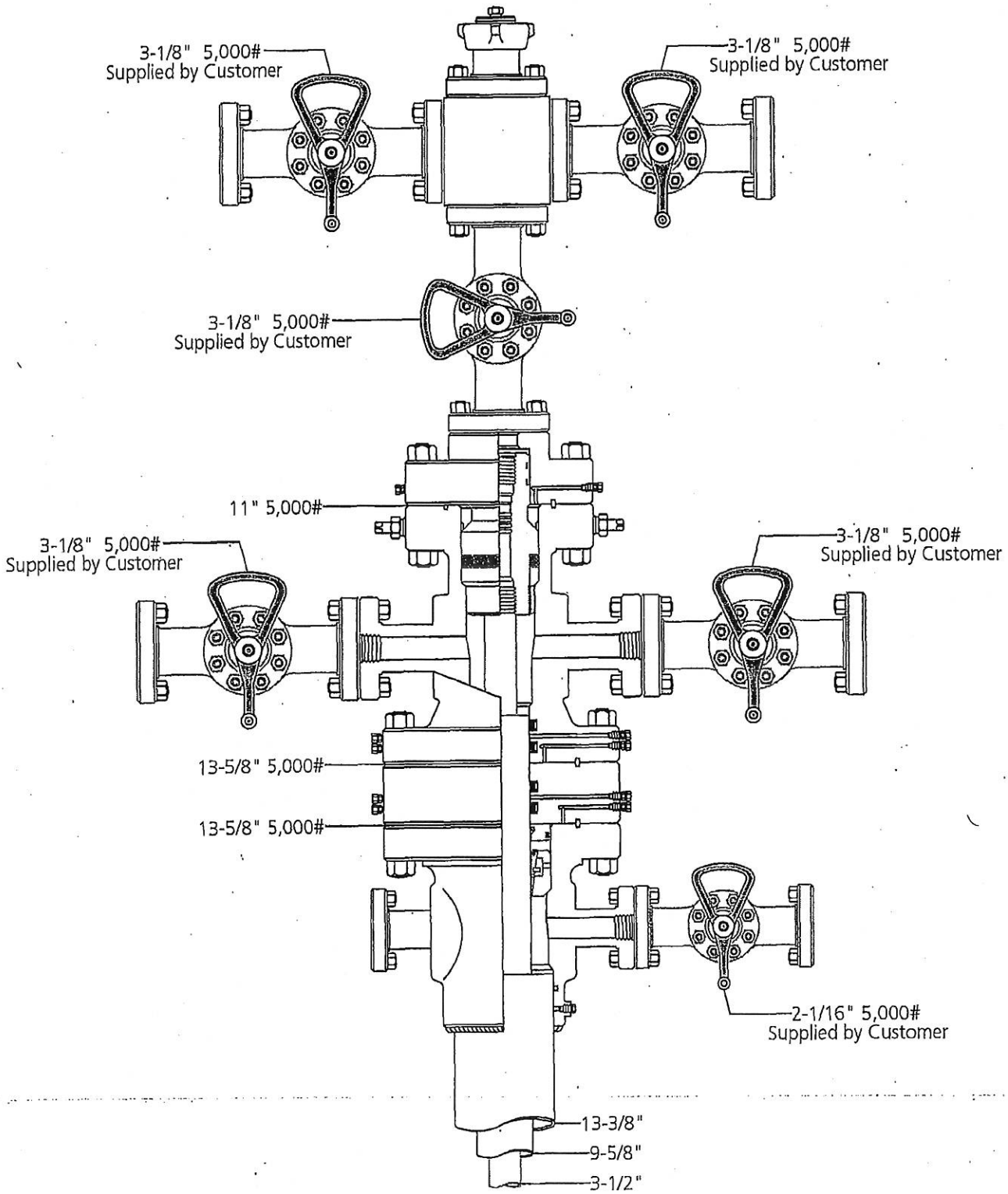
InterAct

Rec'd 07-22-16 DOGGER Ventura.

Well: SS -4B

		External Casing Backup Pressure			Pressure Test Net Burst Pressure @ Depth								Tubing Leak Net Burst Pressure @ Depth	Test Pressuree > 85% of Burst	Test Pressure < Tubing Leak - Net Burst (Gas-filled annulus)
Depth (TVD)	85% of Burst Strength	Fluid / Formation Pressure Gradient	External Casing Backup Pressure	Internal Water Hydrostatic	1	Final							Gas-Filled Annulus		
				Surface Test Pressure	1600	3625							3625		
				Test Packer Depth	8685	5000									
				Test Down Casing or Tubing	Casing	Casing									
				Bridge Plug Depth											
0	5840	0.00	0	0	1600	3625	0	0	0	0	0	0	3625		
1000	5840	0.00	0	442	2042	4067	-	-	-	-	-	-	3716		
2000	5840	0.00	0	884	2484	4509	-	-	-	-	-	-	3806		
3000	5840	0.00	0	1326	2926	4951	-	-	-	-	-	-	3897		
4000	5840	0.00	0	1768	3368	5393	-	-	-	-	-	-	3988		
5000	5840	0.00	0	2210	3810	5835	-		-	-	-	-	4078		
6000	5840	0.00	0	2652	4252	-	-	-		-	-	-	4169		
7000	5840	0.00	0	3094	4694	-	-	-	-		-	-	4259		
8000	5840	0.00	0	3536	5136	-	-	-	-	-		-	4350		
8685	5840	0.00	0	3839	5439	-	-	-	-	-	-	-	4412		

0.442	0.091
psi/ft	psi/ft
int. grad.	int. grad.



Southern California Gas
Gas Storage / Production Wells
La Goleta & Aliso Canyon

CAMERON

Name:	Jeanette	Date:	6-16-14	Working Pressure:	#	20602012-C

SoCalGas
A Sempra Energy utility

Survey

Rec'd 07-22-16 DOGGER Ventura.

Well Name: Standard Sesnon 4 B

Hint: It is important to enter the start date of the survey and populate the Actual Deviation Survey and Job fields to ensure the proper survey appears on the daily report.

Wellbore Name	Parent Wellbore	Job	Start Depth (ftKB)	Actual Deviation Survey
Original Hole	Original Hole	July 2015 - Drill new well, 8/10/2015 00:00	22.5	<des>, Proposed? No

Kick Off Depth (ftKB)	Kick Off Method	Vertical Section Direction (°)	VS NS Origin (ft)	VS EW Origin (ft)	Fill Depth (ftKB)
0.0		262.95	0.0	0.0	

Bottom Hole Legal Location	North-South Distance (ft)	East-West Distance (ft)	Lat/Long Datum	Latitude (°)	Longitude (°)
			NAD 83		

Deviation Surveys

Date	Description	Definiti...	Job	Azimuth North Type	Declination (°)
8/17/2015		Yes	July 2015 - Drill new well, 8/10/2015 00:00	Grid	12.77

MD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	TVDTie In (ftKB)	NSTie In (ft)	EWTie In (ft)
0.00	0.00	262.95	0.00	0.00	0.00

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
0.00	0.00	352.30	0.00	0.00	0.00	0.00	0.00
22.50	0.00	352.30	22.50	0.00	0.00	0.00	0.00
161.00	1.91	352.30	160.97	0.03	2.29	-0.31	1.38
255.00	1.58	358.25	254.93	-0.08	5.14	-0.56	0.40
376.00	0.80	0.23	375.90	-0.34	7.65	-0.61	0.65
499.00	0.15	155.48	498.90	-0.49	8.36	-0.54	0.76
620.00	0.99	151.41	619.89	-0.93	7.30	0.03	0.69
742.00	1.29	165.98	741.87	-1.48	5.04	0.87	0.34
803.00	0.97	179.63	802.86	-1.50	3.86	1.04	0.68
864.00	0.99	183.85	863.85	-1.34	2.82	1.00	0.12
925.00	1.03	188.91	924.84	-1.09	1.75	0.88	0.16
985.00	1.20	198.88	984.83	-0.67	0.62	0.60	0.43
1,078.00	0.17	209.60	1,077.82	-0.16	-0.42	0.21	1.11
1,141.00	0.22	335.38	1,140.82	-0.07	-0.39	0.12	0.55
1,236.00	0.38	358.64	1,235.82	-0.04	0.09	0.03	0.21
1,537.00	1.59	129.34	1,536.78	-3.02	-1.56	3.24	0.62
1,648.00	3.21	115.80	1,647.68	-6.70	-3.89	7.23	1.54
1,743.00	4.48	107.76	1,742.47	-12.30	-6.18	13.16	1.45
1,838.00	4.50	104.73	1,837.18	-19.13	-8.26	20.30	0.25
1,933.00	4.48	95.70	1,931.89	-26.21	-9.58	27.59	0.74
2,028.00	5.06	91.66	2,026.56	-33.97	-10.06	35.47	0.71
2,123.00	5.00	94.14	2,121.19	-42.17	-10.49	43.79	0.24
2,218.00	5.01	97.23	2,215.83	-50.25	-11.31	52.03	0.28
2,313.00	5.00	95.99	2,310.47	-58.31	-12.26	60.27	0.11
2,408.00	5.01	94.62	2,405.10	-66.40	-13.03	68.52	0.13
2,503.00	5.02	95.76	2,499.74	-74.52	-13.78	76.79	0.11
2,598.00	5.02	97.51	2,594.38	-82.59	-14.74	85.04	0.16
2,693.00	5.08	97.96	2,689.01	-90.68	-15.86	93.33	0.08
2,788.00	4.95	94.78	2,783.64	-98.75	-16.79	101.58	0.32
2,883.00	5.00	94.23	2,878.29	-106.82	-17.43	109.79	0.07
2,979.00	5.02	95.50	2,973.92	-115.03	-18.15	118.15	0.12
3,074.00	5.06	96.40	3,068.55	-123.16	-19.01	126.45	0.09
3,169.00	5.05	94.69	3,163.18	-131.33	-19.82	134.78	0.16
3,264.00	5.02	95.23	3,257.82	-139.48	-20.54	143.08	0.06
3,359.00	5.03	94.94	3,352.45	-147.62	-21.28	151.37	0.03
3,454.00	5.02	92.73	3,447.09	-155.79	-21.83	159.67	0.20
3,549.00	5.08	95.23	3,541.72	-163.99	-22.42	168.01	0.24
3,644.00	5.06	97.88	3,636.35	-172.15	-23.37	176.35	0.25
3,739.00	5.03	99.24	3,730.98	-180.19	-24.62	184.61	0.13
3,834.00	5.05	94.12	3,825.61	-188.29	-25.59	192.89	0.47
3,929.00	5.07	92.26	3,920.24	-196.54	-26.05	201.26	0.17
4,024.00	5.06	100.85	4,014.87	-204.67	-27.01	209.57	0.80
4,118.00	5.02	102.06	4,108.51	-212.50	-28.65	217.66	0.12

SoCalGas
A Sempra Energy utility

Survey

Rec'd 07-22-16 DOGGER Ventura.

Well Name: Standard Sesnon 4 B

Hint: It is important to enter the start date of the survey and populate the Actual Deviation Survey and Job fields to ensure the proper survey appears on the daily report.

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
4,213.00	5.02	95.96	4,203.14	-220.48	-29.95	225.86	0.56
4,308.00	5.04	94.42	4,297.78	-228.61	-30.70	234.15	0.14
4,403.00	5.02	93.13	4,392.41	-236.80	-31.25	242.46	0.12
4,498.00	5.04	95.34	4,487.05	-244.96	-31.86	250.77	0.21
4,593.00	5.04	98.66	4,581.68	-253.05	-32.88	259.05	0.31
4,688.00	5.03	102.54	4,676.31	-261.00	-34.41	267.24	0.36
4,783.00	5.03	100.02	4,770.95	-268.90	-36.04	275.41	0.23
4,878.00	5.09	97.89	4,865.58	-276.95	-37.34	283.68	0.21
4,973.00	5.03	95.22	4,960.21	-285.09	-38.30	292.00	0.26
5,068.00	5.01	97.19	5,054.84	-293.18	-39.20	300.27	0.18
5,163.00	5.03	98.34	5,149.48	-301.22	-40.32	308.50	0.11
5,258.00	5.02	97.63	5,244.11	-309.26	-41.48	316.74	0.07
5,353.00	5.03	97.66	5,338.75	-317.31	-42.59	324.99	0.01
5,448.00	5.07	98.95	5,433.38	-325.37	-43.79	333.26	0.13
5,544.00	5.03	98.68	5,529.01	-333.50	-45.09	341.61	0.05
5,639.00	5.02	100.85	5,623.64	-341.46	-46.50	349.81	0.20
5,766.00	5.08	99.22	5,750.15	-352.15	-48.45	360.82	0.12
5,861.00	5.10	96.27	5,844.78	-360.29	-49.58	369.17	0.28
5,956.00	5.06	98.93	5,939.40	-368.43	-50.69	377.51	0.25
6,051.00	5.09	99.30	6,034.03	-376.50	-52.02	385.80	0.05
6,146.00	5.06	97.87	6,128.66	-384.59	-53.28	394.11	0.14
6,241.00	5.05	95.29	6,223.29	-392.73	-54.24	402.43	0.24
6,336.00	5.06	95.00	6,317.92	-400.91	-54.99	410.76	0.03
6,431.00	5.11	97.07	6,412.54	-409.11	-55.87	419.13	0.20
6,526.00	5.08	99.61	6,507.17	-417.24	-57.10	427.48	0.24
6,621.00	5.05	96.14	6,601.80	-425.34	-58.25	435.78	0.32
6,716.00	4.17	101.04	6,696.49	-432.69	-59.36	443.33	1.01
6,811.00	2.77	122.33	6,791.32	-437.75	-61.25	448.66	1.98
6,906.00	1.98	182.18	6,886.25	-439.26	-64.11	450.54	2.60
7,001.00	3.23	230.49	6,981.16	-436.74	-67.46	448.41	2.54
7,096.00	5.10	259.38	7,075.91	-430.27	-69.94	442.20	2.90
7,190.00	8.31	266.90	7,169.26	-419.32	-71.08	431.30	3.53
7,285.00	11.94	267.21	7,262.77	-402.66	-71.93	414.63	3.82
7,380.00	15.46	266.21	7,355.05	-380.22	-73.24	392.17	3.71
7,475.00	18.54	264.62	7,445.89	-352.47	-75.49	364.49	3.28
7,570.00	21.30	263.44	7,535.19	-320.11	-78.88	332.31	2.94
7,666.00	24.30	264.95	7,623.68	-282.93	-82.61	295.30	3.18
7,761.00	27.69	266.16	7,709.06	-241.34	-85.81	253.79	3.61
7,856.00	31.72	265.67	7,791.56	-194.34	-89.18	206.85	4.25
7,951.00	35.33	265.53	7,870.74	-141.94	-93.21	154.54	3.80
8,046.00	38.82	264.95	7,946.53	-84.72	-97.97	97.48	3.69
8,141.00	42.03	265.43	8,018.84	-23.17	-103.13	36.10	3.39
8,236.00	45.34	265.69	8,087.53	42.37	-108.20	-29.31	3.49
8,331.00	48.83	265.83	8,152.20	111.85	-113.34	-98.68	3.68
8,426.00	52.18	265.09	8,212.62	185.08	-119.15	-171.75	3.58
8,521.00	55.45	265.11	8,268.70	261.69	-125.70	-248.13	3.44
8,616.00	58.49	265.99	8,320.47	341.24	-131.87	-327.53	3.29
8,711.00	61.63	266.04	8,367.88	423.43	-137.59	-409.64	3.31
8,806.00	64.78	266.23	8,410.70	508.09	-143.30	-494.24	3.32
8,885.00	67.20	265.42	8,442.84	580.16	-148.56	-566.21	3.20
8,910.00	69.80	265.68	8,452.01	603.39	-150.37	-589.40	10.44
8,935.00	68.74	265.94	8,460.86	626.75	-152.08	-612.71	4.35
8,960.00	68.75	266.01	8,469.92	650.01	-153.71	-635.96	0.26
8,985.00	69.41	265.79	8,478.85	673.33	-155.38	-659.25	2.77

SoCalGas
A Sempra Energy utility

Survey

Rec'd 07-22-16 DOGGER Ventura.

Well Name: Standard Sesnon 4 B

Hint: It is important to enter the start date of the survey and populate the Actual Deviation Survey and Job fields to ensure the proper survey appears on the daily report.

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
9,010.00	69.92	265.68	8,487.53	696.75	-157.12	-682.62	2.08
9,035.00	70.37	265.56	8,496.02	720.24	-158.92	-706.07	1.86
9,060.00	70.59	265.81	8,504.38	743.77	-160.69	-729.57	1.29
9,085.00	70.94	265.98	8,512.61	767.35	-162.38	-753.11	1.54
9,110.00	71.46	266.11	8,520.67	790.98	-164.01	-776.72	2.14
9,135.00	71.90	266.16	8,528.53	814.67	-165.61	-800.40	1.77
9,160.00	72.18	266.11	8,536.24	838.42	-167.22	-824.13	1.14
9,174.00	72.52	266.00	8,540.48	851.74	-168.14	-837.44	2.54
9,281.00	73.61	266.03	8,571.65	953.95	-175.25	-939.55	1.02
9,362.00	77.26	265.31	8,592.02	1,032.25	-181.17	-1,017.71	4.59
9,457.00	82.12	264.40	8,609.01	1,125.63	-189.56	-1,110.77	5.20
9,552.00	84.60	266.76	8,620.00	1,219.88	-196.82	-1,204.83	3.59
9,647.00	84.66	264.67	8,628.89	1,314.35	-203.89	-1,299.15	2.19
9,742.00	84.79	268.25	8,637.63	1,408.75	-209.73	-1,393.55	3.75
9,837.00	83.67	269.03	8,647.18	1,502.80	-211.97	-1,488.04	1.43
9,932.00	83.64	270.15	8,657.68	1,596.59	-212.65	-1,582.45	1.17
10,027.00	83.64	269.35	8,668.20	1,690.34	-213.06	-1,676.87	0.84
10,122.00	82.55	267.58	8,679.62	1,784.21	-215.58	-1,771.14	2.18
10,217.00	82.37	265.34	8,692.09	1,878.20	-221.40	-1,865.13	2.35
10,295.00	82.40	266.37	8,702.43	1,955.41	-226.99	-1,942.24	1.31
10,338.00	82.40	266.37	8,708.11	1,997.96	-229.69	-1,984.78	0.00

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST-RECORDS RECEIVED AND WELL STATUS

Operator: **Southern California Gas Co.** WELL DESIGNATION **"Standard Sesnon" 4B**

API No. **03730460** SE **29** T: **3N** R.: **16W** , **SB** B. and M.

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

Type of Notice: **Drill** **Date** **7/9/2015** **Report Number:** **P215-0152**

RECORDS RECEIVED (ATTACH PAGES IF REQUIRED)

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

NEW STATUS

DATE: _____

NOTICE OF RECORDS DUE

DATE: _____

DATE: _____

DATE: _____

DATE: _____

WELL STATUS INQUIRY

DATE: _____

DATE: _____

Well Stat

Change Required: _____

Change Done: _____

ABANDONMENTS/REABANDONMENTS/DRILLS/REDRILLS

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

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

ENGINEER'S CHECK LIST

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

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

CLERICAL CHECK LIST

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

REMARKS

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

Modified OGD2

AOR Datbase _____

Casing & Cement

Casing Detail:

Casing Description	Run Date	Set Depth (ftKB)	Wellbore	Centralizers	Scratchers
Production casing	9/28/2015 03:00	8,887.0	Original Hole	113	

Casing Components

Joints	Item Description	Icon	OD Nominal (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Length (ft)	Top Depth (ftKB)	Bottom Depth (ftKB)
192	Casing Joints	Casing (black)	9 5/8	8.681	47.00	L-80	Tenaris 563	8,767.25	22.5	8,789.8
1	Float Collar	Float collar	9 5/8	8.681	47.00	L-80	Tenaris 563	1.90	8,789.8	8,791.7
2	Casing Joints	Casing (black)	9 5/8	8.681	47.00	L-80	Tenaris 563	92.95	8,791.7	8,884.6
1	Float Shoe	Casing shoe	9 5/8	8.681	47.00	L-80	Tenaris 563	2.40	8,884.6	8,887.0

Cementing Job Details:

Description	Type	String	Wellbore
Production casing cement	Casing	Production casing, 8,887.0ftKB	Original Hole

Cementing Start Date	Cementing End Date	Cementing Company
9/29/2015 05:50	9/29/2015 11:20	Halliburton Energy Services

Comment

Cement Stage#1 Description:

Stage Number	Top Depth (ftKB)	Bottom Depth (ftKB)	Cement Volume Return (bbl)
1	22.5	8,887.0	0.0

Float Failed?	Plug Failed?	Full Return?	Pipe Reciprocated?	Pressure Held (psi)
No	No	No	No	

Top Plug?	Bottom Plug?	Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)
Yes	Yes	8	2

Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)	Pressure Release Date
8	2,850.0	200.0	

Preflush Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Preflush	Mudflush			48.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	22.5			

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
8.50			

Comment

Additive Details

Add	Conc	Conc Unit

Lead (4700 ft3) Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Lead (4700 ft3)	Lead cement	2,350	G	837.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	6,087.0	2.00		

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
13.50			

Comment

Additive Details

Add	Conc	Conc Unit
CFR-3	0.2	%
HALAD R-322	0.4	%
HR-5	0.5	%
Mitsubishi Premium	61.1	lbm
Poly-E-Flake	0.25	lbm
Pozmix A Flyash	24.9	lbm
SA-1015	0.07	%

Casing & Cement

Tail (1611 ft3) Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Tail (1611 ft3)	Tail cement	890	G	287.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
6,087.0	8,887.0	1.81		

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
14.80			

Comment

Additive Details

Add	Conc	Conc Unit
HALAD R-322	0.5	%
HR-5	0.35	%
Microlite	5.0	%
Mitsubishi Premium	94.0	lbm
SS-200	35.0	%
Super CBL	0.25	%

Displacement Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Displacement	Drilling mud			672.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
8,887.0	8,887.0			

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
9.20			

Comment

Additive Details

Add	Conc	Conc Unit

Knight, Clifford@DOC

From: Van de Putte, Todd <TVandePutte@semprautilities.com>
Sent: Friday, October 16, 2015 9:20 AM
To: Knight, Clifford@DOC
Subject: RE: So Cal Gas - Aliso Canyon - Standard Sesnon 4B (037-30460)

Hi Cliff,

The following is a brief preliminary summary of the drilling activities that were required during the drilling of the Standard Sesnon 4B production casing hole section of the well. All the details will be submitted in the Well Summary Report/Well History.

Drilled 14" hole to 9269' MD (9-5/8" production casing point). During the running of the 9-5/8", 47#, L-80 production casing, the 9-5/8" casing encountered a ledge or obstruction at a depth of approximately 8889' MD and the 9-5/8" could not be run any deeper.
The production casing was then cemented from 8887' MD to the surface using a Class "G" 13.5 ppg lead/14.8 ppg tail cement. The existing production casing hole was cleaned out from 8887' MD to 9270' MD using an 8-1/2" bit and BHA and a USIT log was run. A 7", 26#, L-80 scab liner was run from 8695' MD-9269' MD and cemented using a Class "G" 14.8 ppg cement and the excess cement was circulated/cleaned out from the well. The 7" liner/liner lap were also successfully pressure tested to 1000 psig surface pressure and tested good.

The directional plan and geologic targets have remained the same as the original plan and the planned TD in MD will remain approximately the same as the original plan. The completion hole size will be changed to 6-1/8" because of the 7" scab liner and the planned expandable screen completion liner will be down sized to 4-1/2" because of the 7" scab liner.

If there are any further questions let me know....

Todd

From: Knight, Clifford@DOC [mailto:Clifford.Knight@conservation.ca.gov]
Sent: Wednesday, October 14, 2015 2:18 PM
To: Van de Putte, Todd
Subject: RE: So Cal Gas - Aliso Canyon - Standard Sesnon 4B

Hello Todd,
I wanted to follow up with you regarding the proposal of the changes to the drilling program. Bruce is fine with what you left for him on the voicemail and the actions taken. However, he would like you to send an email to him detailing the changes (scab liner, shoe depth, etc.) that were made from the original program so we may add it to the well file.
Much thanks,

Clifford R. Knight, PG

Dept. of Conservation
Division of Oil, Gas & Geothermal Resources
1000 S. Hill Rd., Ste. 116
Ventura, CA 93003
(805) 654-4761 Phone
(805) 654-4765 Fax

Clifford.Knight@conservation.ca.gov

Every Californian should conserve water. Find out how at:

Save Our Water

SaveOurWater.com · Drought.CA.gov

From: Van de Putte, Todd [mailto:TVandePutte@semprautilities.com]
Sent: Wednesday, October 14, 2015 2:17 PM
To: Knight, Clifford@DOC <Clifford.Knight@conservation.ca.gov>
Subject: So Cal Gas - Aliso Canyon - Standard Sesnon 4B

Here's my email address...

Todd R. Van de Putte
Drilling Manager
Storage Operations/Engineering
Southern California Gas Company
(661) 305-5387 (Cell)

DEPARTMENT OF CONSERVATION

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

No. T215-0395

REPORT ON OPERATIONS

Thomas W. Schroeder
Southern California Gas Company (S4700)
9400 Oakdale Avenue
Chatsworth, CA 91313

Ventura, California
October 23, 2015

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **10/1/2015**. **Clifford R. Knight**, a representative of the supervisor.

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

DECISION:

APPROVED

Steven Bohlen
State Oil and Gas Supervisor

By _____
Bruce Hesson
District Deputy

CRK/tkc
OG109

API No. 037-30460 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 215-0395

BLOWOUT PREVENTION EQUIPMENT MEMO 11,1

Operator So Cal Gas Well Standard Resources 413 Sec. 25 T. 3N R. 16W
Field Aliso Cyn County Los Angeles Spud Date

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	10/1/15	C Knight	(1000 to 1230)	Kevin Katolas	Co. Man
2nd			(to)		

Contractor ENSIGN Rig # 587 Contractor's Rep. & Title K. Katolas Co. Man
Casing record of well: Flout Collar 8790', Flout Shoe 8887' bottom, 8884' top

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

Proposed Well Opns: Drill . MACP: psi
Hole size: 9 5/8 " fr. 22.5 ' to 8887 ', " to ' & " to '

REQUIRED BOPE CLASS: Class 3B 5M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus
9 5/8	47#	L-80	8887		Lead cement 4700 ft³ (Class G), Est bottom 6085' (~837 bbl est), Tail Cement 1611 ft³ (Class H), Theo est. Top 6085', bottom 8887' (9.2 lb/gal density)		

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	CSO	Hydril		13 3/8	5M	
Rd	CSO	Schaffer		↓	5M	
Rd	5	" "		↓	5M	

TEST DATA

Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
17.98						3.6K
11.0						5K
11.0						5K

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3,000 psi
Total Rated Pump Output gpm Fluid Level
Distance from Well Bore 75 ft. 1/2

	Accum. Manufacturer	Capacity	Precharge
1	Koomey Type	120 gal.	1,000 psi
2	Wagner	gal.	psi

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

EMERG. BACKUP SYSTEM			Press.	Wkg. Fluid
6 N_2 Cylinders	1	L= 51 "	2,500	8.0 gal.
Other:	2	L= 51 "	2,500	8.0 gal.
	3	L= 51 "	2606	8.5 gal.
	4	L= 51 "	2600	8.5 gal.
	5	L= 51 "	2600	8.5 gal.
	6	L= 51 "	2550	8.3 gal.
		TOTAL:		49.8 gal.

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

TOTAL:

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press	Connections: Weld	Connections: Flange	Connections: Thread	Test Press.
	Fill-up Line							
1	Kill Line			5M		X		5K
2	Control Valve(s)					X		5K
1	Check Valve(s)					X		5K
1	Aux. Pump Cnnct.			5M			X	5K
1	Choke Line		3	5M				5K
8	Control Valve(s)			5M		X		5K
1	Pressure Gauge					X		
2	Adjstble Choke(s)		3	5M		X		5K
	Bleed Line							
1	Upper Kelly Cock							5K
	Lower Kelly Cock							
	Standpipe Valve							
	Stndpipe Pres. Gau.							
1	Pipe Safety Valve		5	5M				5K
	Internal Preventer							

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Poly Tech Drill Mud	9.2	900 bbl in pits, 300 in tanks
		650 in hole

REMARKS AND DEFICIENCIES:
* 2" Aux kill line per SoCal Gas
* Casing test 1000 psi, 15 minutes

OGD9 (9/06)

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

No. T215-0329

REPORT ON OPERATIONS

Thomas W. Schroeder
Southern California Gas Company (S4700)
9400 Oakdale Avenue
Chatsworth, CA 91313

Ventura, California
September 03, 2015

Your operations at well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Sec. **29**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, in **Los Angeles** County, were witnessed on **8/26/2015**. **Kris Gustafson**, a representative of the supervisor.

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

DECISION:

APPROVED

Steven Bohlen
State Oil and Gas Supervisor

By _____ for
Bruce Hesson
District Deputy

KG/tkc
OG109

API No. 037-30460 DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES T 215-0329

BLOWOU PREVENTION EQUIPME. MEMO 11, 1

Operator So Cal Gas Well Standard Sesnon 4B Sec. 29 T. 03N R. 16W SB
Field Aliso Cyn County Los Angeles Spud Date 8/17/15

VISITS:	Date	Engineer	Time	Operator's Rep.	Title
1st	8/26/15	K. Gustafson	(1830 to 2015)	Kevin Katolas	company man
2nd			(to)		

Contractor Engkn Rig # 587E Contractor's Rep. & Title Billy McKarsun - Pusher
Casing record of well: 13 3/4" cem 1373'; TD 1436', Drilling

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

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

REQUIRED BOPE CLASS: III B 5M

CASING RECORD OF BOPE ANCHOR STRING					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus
13 3/8	See Report				See Report		

BOP STACK

API Symb.	Ram Size (in.)	Manufacturer	Model or Type	Vert. Bore Size (in.)	Press. Rtg.	Date Last Overhaul
A	CSD	Hydril	GK	13 5/8	5M	
R1	5"	Shaffer	LWS			
R2	CSD		LWS			
3	HCR	↓	Cameron Choke			

TEST DATA

Gal. to Close	Recov. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
17.98					8/28	3M
11.0					↓	5M
11.0						
0.24						

ACTUATING SYSTEM

Accumulator Unit(s) Working Pressure 3000 psi
Total Rated Pump Output gpm Fluid Level OK
Distance from Well Bore 80 ft.

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

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

EMERG. BACKUP SYSTEM

				Press.	Wkg.Fluid
C	N_2 Cylinders	1	L= 51 "	2700	9.1 gal.
	Other:	2	L= "	2800	9.63 gal.
		3	L= "	2750	9.36 gal.
		4	L= "	2600	8.54 gal.
		5	L= "	2750	9.36 gal.
		6	L= ↓ "	2700	9.1 gal.
			TOTAL OK	55.09	gal.

TOTAL OK 40.22

AUXILIARY EQUIPMENT

		No.	Size (in.)	Rated Press	Connections: Weld	Connections: Flange	Connections: Thread	Test Press.
	Fill-up Line							
	Kill Line		2"			↓		5M
	Control Valve(s)	2						
✓	Check Valve(s)	1						
	Aux. Pump Cnnct.							
	Choke Line		3"					
HCR	Control Valve(s)	2						
	Pressure Gauge							
	Adjstble Choke(s)	2/3						
	Bleed Line		2"					
	Upper Kelly Cock							
	Lower Kelly Cock		5 1/8"					
	Standpipe Valve		4					
	Stndpipe Pres. Gau.		1					
	Pipe Safety Valve		5"					
	Internal Preventer		5"					

HOLE FLUID MONITORING EQUIPMENT

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

Hole Fluid Type	Weight	Storage Pits (Type & Size)
Polytek	8.5 ppg	1100 bbls in Pits

REMARKS AND DEFICIENCIES:
Note: Kelly hose leaked after first test, was replaced same day.

OGD9 (9/06)

Casing & Cement

Casing Detail:

Casing Description	Run Date	Set Depth (ftKB)	Wellbore	Centralizers	Scratchers
Surface casing in 17 1/2" hole	8/24/2015 10:00	1,436.0	Original Hole	17	

Casing Components

Joints	Item Description	Icon	OD Nominal (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Length (ft)	Top Depth (ftKB)	Bottom Depth (ftKB)
37	Casing Joints	Casing (black)	13 3/8	12.615	54.50	K-55	Buttress Thread	1,372.95	22.6	1,395.5
1	Float Collar	Float collar	13 3/8	12.615	54.50	K-55	Buttress Thread	1.50	1,395.5	1,397.0
1	Casing Joints	Casing (black)	13 3/8	12.615	54.50	K-55	Buttress Thread	38.00	1,397.0	1,435.0
1	Float Shoe	Casing shoe	13 3/8	12.615	54.50	K-55	Buttress Thread	1.00	1,435.0	1,436.0

Cementing Job Details:

Description	Type	String	Wellbore
Surface casing cement	Casing	Surface casing, 1,436.0ftKB	Original Hole

Cementing Start Date	Cementing End Date	Cementing Company
8/24/2015 12:14	8/24/2015 14:16	Halliburton Energy Services

Comment

Cement Stage#1 Description:

Stage Number	Top Depth (ftKB)	Bottom Depth (ftKB)	Cement Volume Return (bbl)
1	22.5	1,438.0	

Float Failed?	Plug Failed?	Full Return?	Pipe Reciprocated?	Pressure Held (psi)
No	No	No	No	

Top Plug?	Bottom Plug?	Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)
Yes	Yes	5	5

Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)	Pressure Release Date
5	904.0	2,000.0	8/24/2015

Preflush Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Preflush	fresh water			30.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	22.5			

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
8.30			

Comment

Additive Details

Add	Conc	Conc Unit

Lead Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Lead	lead cement (1180 ft3)	690	C	210.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	1,038.0	1.71		

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
13.50			

Comment

Additive Details

Add	Conc	Conc Unit
Calcium Chloride	2.0	%
Econolite	1.0	%
Pol-E-Flake	0.25	lbm
Premium plus class C	94.0	lbm

Casing & Cement

Tail Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Tail	tail cement (353 ft3)	260	C	63.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
1,038.0	1,438.0	1.35		

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
14.50			

Comment

Additive Details

Add	Conc	Conc Unit
CFR-3	0.04	%
Premium plus class C	94.0	lbm
Salt	3.0	%
Super CBL	0.2	%

Displacement Fluid Details for Stage#1 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Displacement	polytec mud			212.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	1,395.0			

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
8.80			

Comment

Additive Details

Add	Conc	Conc Unit

Cement Stage#2 Description:

Stage Number	Top Depth (ftKB)	Bottom Depth (ftKB)	Cement Volume Return (bbl)
2	22.5	440.0	

Float Failed?	Plug Failed?	Full Return?	Pipe Reciprocated?	Pressure Held (psi)
No	No	No	No	

Top Plug?	Bottom Plug?	Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)
No	No	2	1

Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)	Pressure Release Date
2	50.0		

Top job cement Fluid Details for Stage#2 :

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Top job cement	top job cement (320 ft3)	242	C	57.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)	Free Water (%)
22.5	440.0	1.32		

Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
14.50			

Comment

Additive Details

Add	Conc	Conc Unit
Premium plus class C	94.0	lbm

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

No. P 215-0152

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

PERMIT TO CONDUCT WELL OPERATIONS

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

Ventura, California
July 17, 2015

Thomas W. Schroeder, Agent
Southern California Gas Company (S4700)
9400 Oakdale Avenue
Chatsworth, CA 91313

Your proposal to **Drill** well **"Standard Sesnon" 4B**, A.P.I. No. **037-30460**, Section **29**, T. **03N**, R. **16W**, **SB** B. & M., **Aliso Canyon** field, **Any** area, **Sesnon-Frew** pool, **Los Angeles** County, dated **7/9/2015**, received **7/9/2015** has been examined in conjunction with records filed in this office. (Lat: **34.314788** Long: **-118.571823** Datum:**83**)

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. A **6" diverter system** on the **20"** casing with a **50'** minimum blowdown line.
   b. Class **IIIB 5M** on the **13 3/8"** casing.
   c. Class **IIIB 5M** on the **9 5/8"** casing.
   d. Class **III 5M** on the **9 5/8" casing for completion operations**.
2. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
4. The **13 3/8" and 9 5/8"** casings are cemented with sufficient cement to fill behind the casings from the casing shoes to the surface.
5. This office shall be contacted by phone prior to making any program changes and no changes are made without Division approval.
6. **THIS DIVISION SHALL BE NOTIFIED TO:**
   a. Witness a test of the installed blowout prevention equipment prior to drilling out the shoe of the **13 3/8"** casing.
   b. Witness a test of the installed blowout prevention equipment prior to drilling out the shoe of the **9 5/8"** casing.
   c. Inspect the installed blowout prevention equipment prior to commencing **completion** operations.
   d. Witness a pressure test of the **9 5/8"** casing prior to commencing injection.
   e. Witness a mechanical integrity test within three months after injection has commenced.

Steven Bohlen
State Oil and Gas Supervisor

Blanket Bond Dated: 7/6/1999
cc:

By _____
Bruce Hesson, *District Deputy*

Engineer David Ortiz
Office (805) 654-4761

DO/do

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

OG111 (revised 6/2011)

NOTE:

1. The base of the freshwater zone should be encountered above **800'.**
2. **A Well Summary Report (Form OG 100)** and **Well History (Form OG 103)** shall to be submitted to the Division within 60 days after the well is drilled, reworked, plugged and abandoned, or if the work is suspended. Any additional well work will require an additional notice to be submitted to this office prior to well resuming operations.

cc:

Rec'd 07-09-15 DOGGR D2 Ventura

FOR DIVISION USE ONLY			
	Forms		
Bond	~~OG114~~	OGD121	
	CK ✓ WIMS	1157	

WS ✓

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

OIL, GAS & GEOTHERMAL

CS
010/00/30

NOTICE OF INTENTION TO DRILL NEW WELL

P215-0152

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

SESNON - NEW

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to drill well "Standard Sesnon" 4B, well type Storage Well, API No. 037-30460 (Assigned by Division)

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

Legal description of mineral-right lease, consisting of N/A acres (attach map or plat to scale), is as follows:

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

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

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

Lat /Long in decimal degrees, to six decimal places, NAD 83 format Latitude. 34.314788 ✓ Longitude -118.571823 ✓

If well is to be directionally drilled, show proposed coordinates (from surface location) and true vertical depth at total depth.

240.3 feet South (Direction) and 1943 feet West (Direction) Estimated true vertical depth 8687 Elevation of ground above sea level 2888 feet All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table, or Kelly Bushing) that is 22.5 feet above ground

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

Is a California Environmental Quality Act (CEQA) document required by a local agency? Yes☐ No☒ If yes, see next page

PROPOSED CASING PROGRAM

SIZE OF CASING (Inches API)	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	FORMATION PRESSURE (Estimated Maximum)	CALCULATED FILL BEHIND CASING (Linear Feet)
13-3/8"	54.5#	K-55	Surface	1400'	Surface	Hydrostatic	1400'
9-5/8"	47#	L-80	Surface	9250'	Surface	Hydrostatic	9250'
7"	23#	L-80	9150'	10290'	None	Variable-Storage	0'

(Attach a complete drilling program including wellbore schematics in addition to the above casing program)

Estimated depth of base of fresh water N/A Anticipated geological markers M-P: 8530', S-1: 9131', S-4: 9457' MD (Name, depth)

Intended zone(s) of completion Sesnon - Storage Zone- Variable Estimated total depth 10291' MD

(Name, depth and expected pressure)

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.

KB 2910.5' ✓

Name of Operator			
Southern California Gas Company S4700			
Address: 12801 Tampa Ave.		City/State: Northridge, CA	Zip Code: 91326-1045
Name of Person Filing Notice: Todd Van de Putte	Telephone Number: 661-305-5387	Signature: John R Van de Putte	Date: 7-9-15
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 shall be filed, and approval given, before drilling begins If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled

INFORMATION FOR COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA)

If an environmental document has been prepared by the lead agency, submit a copy of the ***Notice of Determination*** or ***Notice of Exemption*** with this notice

CRITICAL WELL DEFINITION

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

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

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

Southern California Gas Company - Aliso Canyon – Standard Sesnon 4B
Drilling/Completion Program

DATE: July 7, 2015

OBJECTIVE: Drill and complete the new replacement storage well in the Aliso Canyon Storage Field

SURFACE LOCATION:

29 Section, Township 3N, Range 16W, S.B. B&M / GPS Coordinates (NAD 83): 34.314788 North; 118.571823 West

API NUMBER: TBD

DRILLING RIG:

Ensign #587 (See attached proposed Rig Equipment List) Note: Drilling rig main power to use two 1500 hp low emission-natural gas fired generators with one diesel generator backup.

ELEVATIONS:

Ground Elevation: 2888'
Estimated Rig KB: 22.5'
All depths refer to proposed kelly bushing 22.5' above ground elevation.

BOTTOM HOLE COORDINATES (See attached Directional Plan):

Intermediate Target: 9275' MD, 8540' TVD, 81.6 deg Inc, 175.4' South, 938.9' West, 953.4' VSS.
Bottom Hole Target: 10291' MD, 8678' TVD, 81.6 deg Inc, 240.4' South, 1943' West, 1957.8' VSS.

TOP OF ZONES (Estimated, Measured Depth):

MP: 8530'; S-1: 9141'; S-2: 9255'; S-4: 9457'; S-6: 9544'; S-8: 9777'; S-10: 9992'; S-12: 10090'; S-14: 10281'.

FORMATION FRACTURE GRADIENT (Estimated): 0.80 psi/ft

FIELD PRESSURE: Sesnon Storage Zone: Variable BHP – hydrostatic maximum bottom hole pressure (8.6-9.2 ppg mud planned, adjust mud weight according to actual storage zone pressure to maintain overbalance)

PROPOSED CASING PROGRAM (See attached wellbore schematic):

0' – 1400'	13-3/8"	54.5#	K-55, Buttress, Surface casing, cemented to surface.
0' – 9250'	9-5/8"	47.0#	L-80, Hydril 563, Production Casing cemented to surface
9150'- 10290'	7"	23#	L-80, Expandable Screen Liner w/120 Micron Screen.

PROPOSED HOLE SIZES (+/-):

0' to 1400' -- 17-12" hole
1401' to 9250' -- 14" hole.
9251' to 10290' -- 8-1/2" hole.

DIRECTIONAL PROGRAM:

(See attached plan)
Drill vertical hole to 1400' MD / 1400' TVD.
Directionally Drill 14" hole from 1401' to 9250'(+/-) MD (8530' TVD).
Directionally Drill 8-1/2" hole from 9251' MD to 10290'(+/-) MD (8685' TVD).
Estimated Total Measured Depth: 10290'(+/-) MD.

MUD PROGRAM:

1. For drilling to the casing shoes at 1400'MD (+/-) and 9250'MD (+/-), use the GEO Drilling Fluids Polytek+ w/3%-6% Potash mud with the following properties:

   a. Weight: 8.8 – 9.6 ppg
   b. Viscosity: 45 – 55 sec. A.P.I.
   c. Yield Point: 15-25 lb/100 sqft.
   d. Fluid loss: 8 - 10 cc/ 30 min. A.P.I.
   e. % solids: 3-7 %
   f. pH: 9.0 – 9.5

2. For drilling and scraping liner interval, use a 3% KCL/polymer Drill-In mud with the following properties:

   a. Weight: 8.5 – 8.7 ppg
   b. Viscosity: 40 – 50 sec. A.P.I.
   c. Plastic visc: 6 - 10 cps
   d. Yield point: 15 – 25 lb/100 cf
   e. Fluid loss: < 5 cc / 30 min. A.P.I.
   f. % solids: < 4 %

   Estimated static temperatures: 90 deg F @ 1400'; 125 deg F @ 5000'; 185 deg F @ 9300' MD

   NOTES:

   - There is potential lost circulation intervals in the surface casing hole from 600'-1100' MD (+/-); and in the 14" production casing hole section between 3000'-5000' MD. These potential problems should be located in the vertical section of the wellbore. Be prepared to aggressively treat the wellbore with LCM, lightweight foam cement or other additives, as required.
   - The 14" production casing hole section may encounter lost circulation to the degree that could require an aerated mud system to drill to the 9-5/8" casing point or require the 9-5/8" production casing to be set as an intermediate string at a depth of approximately 5000'(+/-). If the 9-5/8" production casing is required to be installed at a shallower depth than 9250'(+/-), then a 7", 26#, L-80 liner may be installed from approximately 4900'-9250' (+/-) and cemented .

- Add the equivalent of 3% KCl to inhibit clay swelling while drilling in the producing zones.
- Use sized calcium carbonate as required to control mud losses below the 9-5/8" production casing shoe.
- Solids Control: a Mud cleaner with 150-200 mesh (API) screens and a Centrifuge will be onsite during the drilling operations. Run the Mud Cleaner and the Centrifuge to maintain a high gravity solids content in the mud of less than 4%.
- Mud weights to be adjusted (if possible) based Sesnon zone bottomhole pressure.
- Hydraulics to be based on a 120-160 ft/min annular velocity.
- During the completion hole section, extra hole mud/brine conditioning will be required prior to running the ESS liner/completion assembly. Shaker screens sizes will likely have to be adjusted during the completion hole conditioning process.

BOPE REQUIREMENTS: (Surface Casing Hole: 20", 2M Annular Preventer, Diverter w/6" diameter lines (minimum) / Production Casing Hole, Open Hole to TD and completion operations: 13-5/8" Class IIIB 5M BOPE:

1. Annular Preventer: Bag type-hydraulic, 13-5/8", 5M.
2. Ram Preventer: Double gate-hydraulic (pipe and blind), 13-5/8", 5M.
3. Accumulator – 140 gallon (minimum) with dual station controls and secondary kill line.
4. 3" choke lines required.
5. BOP requirements in 224.05 should be fully implemented. Class IIIB 5M (minimum) requirements should be followed.
6. Field reservoir inventory and pressures should be monitored during the drilling and the workover operations with a 300 psig minimum overbalance on well control fluids.

DRILLING PROGRAM:

1. Install an 8' diameter steel cellar ring and install and cement a 20" OD conductor pipe from approximately 80' to the surface. Prepare and level the well location. Install a barrier around the cellar/conductor to prevent access to the cellar. Secure/cover the conductor hole with steel plating or similar prior to the arrival of the drilling rig. Install the mousehole/rathole with sleeves per the Ensign Rig #587 footprint.

2. Move in and rig up Ensign #587 drilling rig. Rig up the natural gas fuel supply lines and the meter skid.

3. Install a 20" riser spool with a 20" 2M flange, and a diverter system; including a 20" cross w/minimum 6" outlets, 6" diverter lines (minimum) a 20", 2M annular preventer and a pitcher nipple. Orient the diverter vent lines away from the rig, operating facilities and down wind from the rig/operating facilities.
    a. Notify the DOGGR to witness the function test of the 20" annular preventer.

4. Run in the hole with a 17-1/2" button bit (Type 437 bit or equivalent), an 8" mud motor/MWD, a bumper sub on the 5", 19.5#, X-95 drill pipe and clean out the cement with the 17-1/2" bit to the bottom of the conductor. Circulate and condition the mud.

5. Rig up the mud loggers and the mud logging equipment. Record and collect samples are per the geologist recommendation. There may be difficulty in obtaining cuttings samples depending on the potential for lost circulation during the drilling of the shallow to mid section of the well.

6. Drill the 17-1/2" surface casing hole to 1400' (+/-).
    a. Collect surface casing hole directional surveys via a gyro survey or via the MWD after the surface casing is cemented in place.
    b. Note this hole section may encounter lost circulation in the depth range of 600'-1100' which will require aggressive treatment. The depth of the 13-3/8" surface casing shoe was extended to approximately 1400' to cover the anticipated shallow lost circulation. Treat the lost circulation with LCM and/or cement as necessary to gain at least partial circulation.
    c. Circulate the hole clean.
    d. Verify the mud/flow line circulating temperature prior to the cementing operations and provide the circulation temperature to the cementing contractor.

7. Rig up the casing running crew and run 1400' (+/-) 13-3/8", 54.5#, K-55 surface casing with Buttress thread. Run the surface casing with a 13-3/8" guide shoe and a float collar located 40' above the casing shoe.
    a. Baker Lock the bottom three casing joints, during the casing running operations.
    b. Run the 13-3/8" x 17-1/2" hole bow spring type centralizers per the recommended program based on the drilled hole conditions.
    c. Proper make up for the 13-3/8" Buttress Casing is to the triangle stamp on the pin end.
    d. Use/apply the Weatherford thread compound to each connection during the casing make up process.

Note: Collect a sample of the mix water to be used for cementing the 13-3/8" surface casing. Supply the cementing company with the water sample for analysis and formulation with the lead and tail slurries.

8. Rig up a cementing head, cementing equipment, mix and pump per finalized cementing schedule:
    a. Cement Density: Type III, 13.5 ppg lead/14.8 ppg tail
    b. Cement Volume: 1000 lineal feet lead / 400 lineal feet tail.
    c. 50% Excess cement add to the lead slurry (adjust depending on hole conditions)
    d. The cement density may be adjusted slightly depending on the presence of lost circulation in the hole section. The lead cement slurry may include LCM treatment to address potential lost circulation.
    e. Adjust the cement slurry pump time based on the current hole conditions. Verify the flowline temperature to ensure the temperature is 120 deg F or less. If flowline temperatures are higher than 120 deg F, a cement blend change to Class G cement may be required.
    f. Condition the hole and pump the recommended fresh water, mud preflush followed by cement slurry, mud displacement and water.
    g. Reciprocate the 13-3/8" casing during the hole conditioning and the cementing operations.
    h. Bump the plug with 1000 psig maximum surface pressure.

9. Wait on the cement a minimum of 16-18 hours and remove the diverter system. Cut off the 20" conductor pipe to the cellar floor level. Cut and prepare the 13-3/8" surface casing stub. Weld on the 13-5/8", 5M SOW casing head to the surface casing stub as per the Gas Company weld procedure. Level the casing head flange and land the flange face at the ground level elevation. Orient the casing head flange bolt holes per the surface facility engineer. X-ray the casing head weld and pressure test the casing head to 3000 psig.

10. Install a 13-5/8" riser spool and a 13-5/8" Class IIIB 5M BOPE. All connections and valves must be flanged and at least 5000 psig rated. Install a test plug in the 13-5/8" 5M casing head.

a. Pressure test the 13-5/8" 5M annular preventer to 3600 psig (high) / 300 psig (low) for 20 minutes. Test Blind Rams and the 5" Pipe Rams to 5000 psig (high) / 300 psig (low) for 20 minutes. Test all the lines and the connections to 5000 psig (high) / 300 psig (low) for 20 minutes each. All tests are to be charted and witnessed by a DOGGR representative. Remove the test plug.

11. Pressure test the 13-3/8", 54.5#, K-55 surface casing to 1000 psig surface pressure. Run a 12-1/4" cleanout bit, and 8" drill collars on the 5" drill pipe and clean out the cement and the float equipment from 1360' to 1400'. Make approximately 120-150' of rathole below the 13-3/8" surface casing shoe or to depth as recommended by the directional drilling company. Circulate the well clean, pull out of the hole and lay down the clean out BHA.

12. Pick up and run a 12-1/4" Kymera bit, and the 9-1/2" Autotrak rotary steerable system, 14" Rhino Reamer and associated BHA on the 5" drill pipe. Drill 14" directional hole from 1401'MD (+/-) to 9250'MD (+/-) per the attached directional program. Verify the final production casing shoe depth.

    a. *Note:* There is a potential for lost circulation in this 14" hole section from possibly 3000'-5000' MD. The plan is to initially dose the loss interval(s) with LCM, lightweight cement and/or foam cement to heal the losses. If these attempts are unsuccessful and depending on the calculated bottomhole pressure in the loss area(s), an aerated mud system may be used to drill to the 9-5/8" production casing point of approximately 9250' (+/-). If the aerated mud system is deemed to be not feasible, then the 9-5/8" production casing will be set and cemented across these loss intervals from 5000' to the surface, a 9-7/8" hole drilled to the originally planned production casing point at 9250' (+/-) and 7", 26#, L-80 liner will be cemented with a 100' lap above the 9-5/8" production casing shoe.

    b. If the 9-5/8" production casing is set early as an intermediate string, then all the BHAs, directional tools and drill pipe sizes will have to be adjusted accordingly to accommodate drilling through the 7" cemented liner to TD. The ESS liner will also have to be downsized to the 4-1/2" size and the appropriate liner hanger will have to be installed as well.

13. Condition the mud for the open hole logging runs. Note the salinity and other mud properties from the daily mud report. Pull out of the hole and lay down the 12-1/4" Kymera bit, the 9-1/2" Autotrak rotary steerable system and the 14" Rhino Reamer.

Note: Collect a sample of the mix water to be used for cementing the 9-5/8" production casing. Supply cementing company with the water sample for analysis and formulation with the lead and tail slurries.

14. Move in and rig up the wireline logging crew and run a Platform Express Log from 1400' to 9250' (+/-). Rig down and move out the wireline logging crew.

15. Run a 12-1/4" cleanout bit with jets removed below one stand of 8" drill collars and a 14" Rhino reamer and clean out the well to bottom. Condition the mud for casing running/cementing operations. Pull out of the well and lay down the cleanout BHA.

16. Rig up the casing running crew and WEA Jam Unit and run 9-5/8", 47#/ft., L-80, Hydril 563 connection, casing to 9250' (+/-). Production casing string to include a 9-5/8" casing differential fill float shoe, and a differential float collar with an 80' shoe track.

    a. The 9-5/8" x 14" centralizers will be run spaced and run according to the hole conditions and as per recommended centralizer plan.
    b. Baker Lock the bottom 3 joints of casing.
    c. During casing running operations, rig up the top drive / Hydril 563 casing cross over as required and reciprocate the casing, if possible.
    d. Make up the Hydril 563 connection per the recommended thread compound application and optimum make up torque requirements.

17. Rig up to the top drive with a cross over sub and circulate the hole clean. Stage circulate the well while running in the hole to maintain good mud properties. Attempt to reciprocate the 9-5/8" casing while conditioning the 14" hole.

18. Rig up a cementing head, cementing equipment, mix and pump per finalized cementing schedule. Cement the 9-5/8", 47#/ft, L-80 production casing.
    a. Cement Density: Class "G", 13.5 ppg lead/14.8 ppg tail w/gas migration additive
    b. Cement Volume: 6450 lineal feet lead / 2800 lineal feet tail.
    c. 20%-30% Excess cement in the lead slurry (adjust amount of excess depending on hole conditions).
    d. The cement lead slurry may require an LCM additive as there may be lost circulation intervals mid way in the 14" hole section..
    e. Adjust the pump time of the cement slurry based on the current hole conditions.
    f. Use top and bottom wiper plugs.
    g. Condition the hole and pump the recommended fresh water, mud preflush followed by cement slurry, mud displacement and water.
    h. Reciprocate the 9-5/8" casing during hole conditioning and casing cementing operations.
    i. Bump the plug with 1000 psig maximum surface pressure.
    j. Leave a small volume of cement on top of the wiper plug.

19. After the 9-5/8" production casing cement slurry has setup (approximately 18-24 hrs), use a lift kit to pick up the 13-5/8" Class IIIB 5M BOPE stack.
    a. Land the 9-5/8" casing in a minimum of 100,000 lb tension in the 13-5/8" casing head with the 13-5/8" x 9-5/8" non automatic slips and independent pack off assembly.
    b. Cut off the 9-5/8" casing stub in preparation for the installation of the 13-5/8"x 13-5/8" 5M seal flange.
        i. Verify 9-5/8" casing stub height to ensure the 9-5/8" casing stub will pack off in the lower tubing head seal assembly.
        ii. Install the 13-5/8" x 13-5/8" 5M seal flange.
        iii. Install the 13-5/8" x 11" 5M tubing head.
        iv. NOTE: If the rig sub base beams allow, orient the tubing head to align with the other wellheads on the location and with the existing production header.
        v. Energize all seals and pressure test to 5000 psig.

20. Install an 11" x 13-5/8" 5M DSA and reinstall the 13-5/8" Class IIIB 5M BOPE stack and nipple up the same.

21. A repeat BOPE pressure test or function test may be required by DOGGR, if so, use procedures outlines in Step #9 in the program.
    a. Pressure test the 9-5/8" production casing to 1000 psig surface pressure.

22. Run in the hole with an 8-1/2" cleanout bit with jets removed and 9-5/8" casing scraper 30' above bit on one stand of heavy weight drill pipe.
    a. Clean out the cement 10 ft past the 9-5/8" production casing shoe. **Do not let scraper go out of shoe.**
    b. Pull up inside the production casing and circulate the hole clean.

23. Change the well over to a 3%KCl / XC polymer based Drill-In mud system. Verify the current storage field pressure while building the mud system to determine whether or not the overbalance is excessive and requires the addition of sized calcium carbonate to the mud in order to control mud losses.

24. Pull out of the hole and lay down the 8-1/2" cleanout bit, the 9-5/8" casing scraper and the 5" heavy weight drill pipe.

25. Rig up the cased hole wireline unit with lubricator and run a cement bond / USIT log or equivalent from the 9-5/8" production casing shoe to the surface to verify the 9-5/8" cement bond. Rig down and move out the wireline unit. Note: If drilling operations do not allow for the timely or efficient running of the USIT log, the log may be run with the workover rig during the final well completion process.

26. Pick up and run an 8-1/2" (Type 517 or Kymera or equivalent) bit and the 6-3/4" Autotrak steerable tools and associated BHA. Drill an 8-1/2" hole with the rotary steerable tools to 10290'MD (+/-) as per the directional plan. Circulate the well clean and condition the polymer mud. Note the mud properties before drilling into the zone and at total depth. Pull out of the hole and lay down the directional tools/BHA.

27. Rig down the mud loggers and mud logging equipment.

28. Pick up a 9-5/8", 47# casing scraper on the 5" drill pipe and run to within 20' of the 9-5/8" casing shoe to confirm the production casing is free from debris and any residual cement residue. Pull out of the hole and lay down the 9-5/8" casing scraper. Circulate the well clean.

29. Run in the hole with open ended 5" drill pipe to bottom. Circulate the 8-1/2" hole clean, rotating the 5" drill pipe and working the pipe continuously. Condition the completion hole and change the shaker screens to the Weatherford recommended procedure/sizing in order to condition the well fluids. Record the up and down weights while circulating the hole clean and also while sliding through the open hole section. Stage circulate the hole at 7850', 6000', 4500' and repeat same procedure ensure at least two hole volumes have been circulated.

30. Lower the 5" drill pipe to bottom. Spot a high viscosity polymer pill on bottom (if deemed necessary); calculated to fill the open hole volume plus 200' above the 9-5/8" production casing shoe. Keep the hole

full while pulling out of the hole. The open hole section may be changed over to 3% KCl brine depending on the hole conditions.

COMPLETION: PHASE I (Drilling Rig):

31. As per the Weatherford recommended Expandable Screen Liner running procedure; Rig up the casing running crew and run approximately 1140'(+/-) of 7", 120 micron, Weatherford Expandable Screen liner, associated blank with the 9-5/8" x 7" EXR hanger assembly. Note: The ESS liner size may change from 7" to 4-1/2" depending on the results during the production hole section of the well.

32. Run the 7" ESS liner per the vendor recommended running procedure. Do not rotate the liner during the running process. Position the 7" ESS liner on depth for the installation operations. The liner shoe will be approximately 2' (+/-) of the final TD.

33. Drop the ball and set the 9-5/8" x 7" EXR hydraulic set packer/packer hanger at approximately 9150' (+/-) with approximately 1300 psig for 10 mins per the Weatherford hanger setting procedure. Pull out of the hole with the liner setting tools and lay down the same.

34. Pick up the 7" x 8-1/2" ESS liner expansion assembly on the 5" drill pipe and run in the well to the top of the screen in the liner. Test the installation tools and begin the liner expansion process per the recommended installation procedure. This assembly will be initially run to the top of the screen, the assembly activated via pump pressure, then rotated and pushed from the top of the screen to down the liner bottom as per the optimum ROP and WOB requirements.

35. Pull out of the well with the ESS liner expansion assembly and lay down the same.

36. If a polymer pill was required in the open hole section during the liner installation process, then run in the hole with a 2-7/8" or 3-1/2" tubing tail with a ported bullnose to the bottom of the 7" ESS liner and place the polymer breaker across the 7" liner.

37. Pull out of the well and run back in the well with a 9-5/8" bridge plug on 5" drill pipe and set the bridge plug at approximately 8500' (+/-). Pressure test the 9-5/8" bridge plug to 1000 psig surface pressure. Verify the hole is full of 3% KCl brine.

38. Secure the well, rig down and move the Ensign #587 drilling rig.

COMPLETION: PHASE 2 (Workover Rig):

1. Move in and rig up the Ensign #321 workover rig.

2. Verify there is no pressure on the well and that the well is full of 3% KCl brine. Verify the current field pressure and ensure that the brine in the well and the brine on the location are of sufficient weight to manage the current reservoir pressure.

3. Nipple up an 11" Class III 5M BOPE (per Gas Company Procedure) on the 11" 5M tubing head.
   a. Fit the 5M BOPE with 3-1/2" pipe rams and CSO.
   b. The 5M BOPE must have connection and valve below the blind rams. Fit with 5000 psig minimum rated valve.
   c. Pressure test the 11" 5M BOPE system to assure the integrity of connections.
   d. Pressure test the pipe rams and blind rams to 5000 psig (high) and 300 psig (low). Pressure test the Annular Preventer to 3500 psig (high) and 300 psig (low) all tested for 20 minutes at each pressure.
   e. Pressure test the lines and connections to 5000 psig (high) and 300 psig (low) for 20 minutes each pressure.
   f. Notify the DOGGR prior to the BOPE testing operations.

4. Pick up the 3-1/2" tubing string with the 9-5/8" bridge plug retrieving tool and run in the hole to 8500' (+/-). Adjust the workover brine in the well to the correct kill weight if necessary. Circulate the well the well clean above the bridge plug. Note: The well is planned to be completed with an ESS liner with an inclination of approximately 80 degrees. This may result in additional circulation to properly kill the well after the removal of the bridge plug.

5. If the USIT log was not performed in the 9-5/8" production casing during the drilling operations, then prepare to run the USIT log. Move the bridge plug down to 9100' (+/-), reset the bridge plug, pressure test to 500 psig surface pressure and fill the well with workover brine. Pull out of the well with the bridge plug retrieving tool. Move in and rig up the USIT logging tool and associated equipment. Log the 9-5/8" production casing from 9100' (+/-) to the surface. Rig down and move out the wireline equipment.

6. Run in the well with the 9-5/8" bridge plug retrieving tool, engage the bridge plug and release the 9-5/8" bridge plug and allow the well to equalize, circulate the well, if necessary, then pull out of the hole and lay down the 9-5/8" bridge plug.

7. Pick up a 2-3/8" tubing tail with a ported bullnose on the 3-1/2" tubing and make a feeler/cleanout run to bottom to verify the liner is clear to bottom. Pull out of the hole and lay down the 2-3/8" tubing tail.

8. Pick up and run the completion tubing string:
   a. 9-5/8" WEA Completion packer set at approximately 9150' (+/-).
   b. 1 pup joint of 3-1/2", 9.3#, L-80 tubing
   c. 1 3-1/2", XN profile
   d. 1 joint of 3-1/2", 9.3, L-80 tubing
   e. 3-1/2" WEA - sliding sleeve (closed)

f. 1 joint of 3-1/2", 9.3# L-80 tubing
g. 3-1/2" GLM with dummy valve installed
h. 3-1/2" EUE 8R L-80 tubing to the surface.

9. Land the 3-1/2" production tubing string/completion in compression as per the tube move recommendation.

10. Space out the 3-1/2" completion string and land the 3-1/2" completion string in the tubing hanger. Run in all the hold down studs and pressure test production packer to 1000 psig for 15 minutes. Record pressure tests on charts and file the original charts.

11. Install the BPV. Remove the 11" Class IIIB 5M BOPE and install the 5M rated production tree. Pressure test the production tree and all the wellhead seals to 5000 psig. Remove the BPV.

12. Rig down and move out the Ensign #321 workover rig. Clean the location.

Southern California Gas Company
A Sempra Energy utility*

SOUTHERN CALIFORNIA GAS COMPANY

Location: CALIFORNIA_2 Slot: SS4B
Field: Aliso Canyon (Grid) Well: SS4B
Facility: Standard Sesnon (Grid) Wellbore: SS4B

BAKER HUGHES

Plot reference wellpath is SS4B Rev-G.0	
True vertical depths are referenced to Rig on SS4B PRELIM (RKB)	Grid System: NAD83 / Lambert California SP, Zone V (405), US feet
Measured depths are referenced to Rig on SS4B PRELIM (RKB)	North Reference: Grid north
Rig on SS4B PRELIM (RKB) to Mean Sea Level: 2910.41 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SS4B): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: meyedavt on 5/4/2015

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Standard Sesnon (Grid)			6395883.020	1919713.800	34°15'58.350"N	118°32'55.220"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SS4B	17717.40	-6894.43	6388998.900	1937430.420	34°18'53.238"N	118°34'18.584"W
Rig on SS4B PRELIM (RKB) to Mud line (At Slot: SS4B)					2910.41ft	
Mean Sea Level to Mud line (At Slot: SS4B)					0ft	
Rig on SS4B PRELIM (RKB) to Mean Sea Level					2910.41ft	

Survey Program

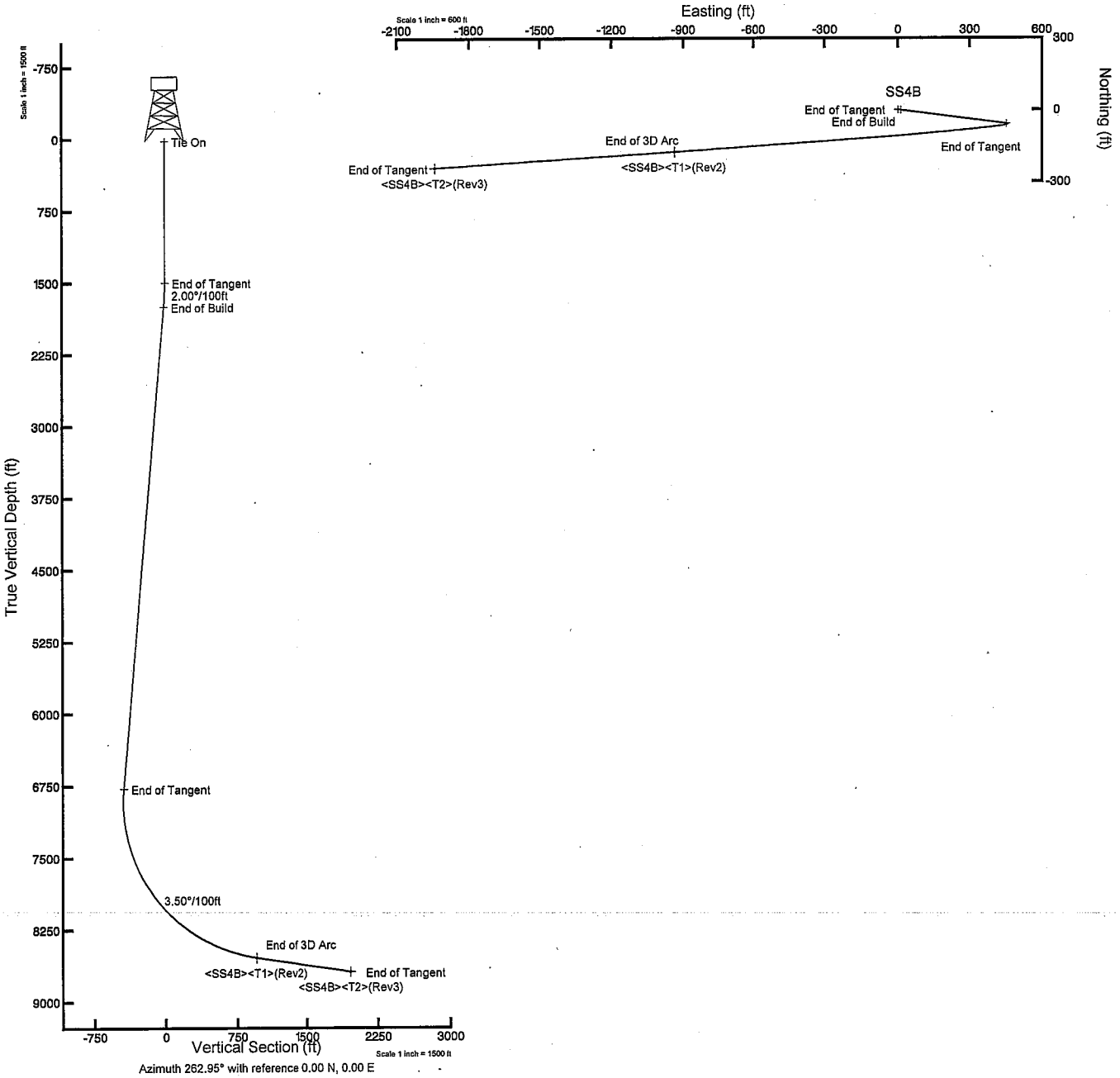
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
22.50	1000.00	NaviTrak	NaviTrak (Standard)		SS4B
1000.00	6750.00	NaviTrak	NaviTrak (Standard)		SS4B
6750.00	10291.60	OnTrak	OnTrak (Standard)		SS4B

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
10291.60	81.688	266.296	8687.41	-240.43	-1943.00	6387056.00	1937190.00	34°18'50.748"N	118°34'41.710"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	22.50	0.000	97.472	22.50	0.00	0.00	0.00	0.00
End of Tangent	1500.00	0.000	97.472	1500.00	0.00	0.00	0.00	0.00
End of Build	1752.05	5.041	97.472	1751.73	-1.44	10.99	2.00	-10.73
End of Tangent	6799.50	5.041	97.472	6779.85	-59.12	450.74	0.00	-440.07
End of 3D Arc	9274.77	81.688	266.296	8540.41	-175.43	-938.95	3.50	953.38
End of Tangent	10291.60	81.688	266.296	8687.41	-240.43	-1943.00	0.00	1957.82



Southern California Gas Company
A Sempra Energy utility

Planned Wellpath Report

SS4B Rev-G.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHERN CALIFORNIA GAS COMPANY	Slot	SS4B
Area	CALIFORNIA_2	Well	SS4B
Field	Aliso Canyon (Grid)	Wellbore	SS4B
Facility	Standard Sesnon (Grid)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert California SP, Zone V (405), US feet	Software System	WellArchitect® 4.0.0
North Reference	Grid	User	Meyedavr
Scale	0.999951	Report Generated	5/4/2015 at 1:31:04 PM
Convergence at slot	0.33° West	Database/Source file	Extra/SS4B.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	17717.40	-6894.43	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W
Facility Reference Pt			6395893.02	1919713.80	34°15'58.360"N	118°32'55.220"W
Field Reference Pt			6395893.02	1919713.80	34°15'58.360"N	118°32'55.220"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on SS4B PRELIM (RKB) to Facility Vertical Datum	2910.41ft
Horizontal Reference Pt	Slot	Rig on SS4B PRELIM (RKB) to Mean Sea Level	2910.41ft
Vertical Reference Pt	Rig on SS4B PRELIM (RKB)	Rig on SS4B PRELIM (RKB) to Mud Line at Slot (SS4B)	2910.41ft
MD Reference Pt	Rig on SS4B PRELIM (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	262.95°

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SS4B Rev-G.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHERN CALIFORNIA GAS COMPANY	Slot	SS4B
Area	CALIFORNIA_2	Well	SS4B
Field	Aliso Canyon (Grid)	Wellbore	SS4B
Facility	Standard Sesnon (Grid)		

WELLPATH DATA (109 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]
0.00†	0.000	97.472	0.00	-2910.41	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
22.50	0.000	97.472	22.50	-2887.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
122.50†	0.000	97.472	122.50	-2787.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
222.50†	0.000	97.472	222.50	-2687.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
322.50†	0.000	97.472	322.50	-2587.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
422.50†	0.000	97.472	422.50	-2487.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
522.50†	0.000	97.472	522.50	-2387.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
622.50†	0.000	97.472	622.50	-2287.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
722.50†	0.000	97.472	722.50	-2187.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
822.50†	0.000	97.472	822.50	-2087.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
922.50†	0.000	97.472	922.50	-1987.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1022.50†	0.000	97.472	1022.50	-1887.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1122.50†	0.000	97.472	1122.50	-1787.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1222.50†	0.000	97.472	1222.50	-1687.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1322.50†	0.000	97.472	1322.50	-1587.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1422.50†	0.000	97.472	1422.50	-1487.91	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1500.00	0.000	97.472	1500.00	-1410.41	0.00	0.00	0.00	6388998.90	1937430.42	34°18'53.236"N	118°34'18.564"W	0.00
1522.50†	0.450	97.472	1522.50	-1387.91	-0.09	-0.01	0.09	6388998.99	1937430.41	34°18'53.236"N	118°34'18.563"W	2.00
1622.50†	2.450	97.472	1622.46	-1287.95	-2.53	-0.34	2.60	6389001.50	1937430.08	34°18'53.233"N	118°34'18.533"W	2.00
1722.50†	4.450	97.472	1722.28	-1188.13	-8.36	-1.12	8.56	6389007.46	1937429.30	34°18'53.225"N	118°34'18.462"W	2.00
1752.05	5.041	97.472	1751.73	-1158.68	-10.73	-1.44	10.99	6389009.89	1937428.98	34°18'53.222"N	118°34'18.433"W	2.00
1822.50†	5.041	97.472	1821.90	-1088.51	-16.72	-2.25	17.12	6389016.02	1937428.17	34°18'53.215"N	118°34'18.360"W	0.00
1922.50†	5.041	97.472	1921.52	-988.89	-25.23	-3.39	25.84	6389024.74	1937427.03	34°18'53.204"N	118°34'18.256"W	0.00
2022.50†	5.041	97.472	2021.13	-889.28	-33.73	-4.53	34.55	6389033.45	1937425.89	34°18'53.193"N	118°34'18.152"W	0.00
2122.50†	5.041	97.472	2120.74	-789.67	-42.24	-5.67	43.26	6389042.16	1937424.75	34°18'53.182"N	118°34'18.048"W	0.00
2222.50†	5.041	97.472	2220.36	-690.05	-50.74	-6.82	51.97	6389050.87	1937423.60	34°18'53.171"N	118°34'17.944"W	0.00
2322.50†	5.041	97.472	2319.97	-590.44	-59.25	-7.96	60.69	6389059.58	1937422.46	34°18'53.160"N	118°34'17.840"W	0.00
2422.50†	5.041	97.472	2419.58	-490.83	-67.76	-9.10	69.40	6389068.30	1937421.32	34°18'53.150"N	118°34'17.736"W	0.00
2522.50†	5.041	97.472	2519.19	-391.22	-76.26	-10.24	78.11	6389077.01	1937420.18	34°18'53.139"N	118°34'17.632"W	0.00
2622.50†	5.041	97.472	2618.81	-291.60	-84.77	-11.39	86.82	6389085.72	1937419.03	34°18'53.128"N	118°34'17.528"W	0.00
2722.50†	5.041	97.472	2718.42	-191.99	-93.27	-12.53	95.54	6389094.43	1937417.89	34°18'53.117"N	118°34'17.424"W	0.00
2822.50†	5.041	97.472	2818.03	-92.38	-101.78	-13.67	104.25	6389103.14	1937416.75	34°18'53.106"N	118°34'17.320"W	0.00
2922.50†	5.041	97.472	2917.65	7.24	-110.29	-14.81	112.96	6389111.86	1937415.61	34°18'53.096"N	118°34'17.216"W	0.00
3022.50†	5.041	97.472	3017.26	106.85	-118.79	-15.96	121.67	6389120.57	1937414.46	34°18'53.085"N	118°34'17.112"W	0.00
3122.50†	5.041	97.472	3116.87	206.46	-127.30	-17.10	130.39	6389129.28	1937413.32	34°18'53.074"N	118°34'17.008"W	0.00
3222.50†	5.041	97.472	3216.49	306.08	-135.80	-18.24	139.10	6389137.99	1937412.18	34°18'53.063"N	118°34'16.904"W	0.00
3322.50†	5.041	97.472	3316.10	405.69	-144.31	-19.39	147.81	6389146.70	1937411.04	34°18'53.052"N	118°34'16.800"W	0.00
3422.50†	5.041	97.472	3415.71	505.30	-152.82	-20.53	156.52	6389155.41	1937409.89	34°18'53.042"N	118°34'16.696"W	0.00
3522.50†	5.041	97.472	3515.33	604.92	-161.32	-21.67	165.24	6389164.13	1937408.75	34°18'53.031"N	118°34'16.593"W	0.00
3622.50†	5.041	97.472	3614.94	704.53	-169.83	-22.81	173.95	6389172.84	1937407.61	34°18'53.020"N	118°34'16.489"W	0.00
3722.50†	5.041	97.472	3714.55	804.14	-178.34	-23.96	182.66	6389181.55	1937406.47	34°18'53.009"N	118°34'16.385"W	0.00
3822.50†	5.041	97.472	3814.17	903.76	-186.84	-25.10	191.37	6389190.26	1937405.32	34°18'52.998"N	118°34'16.281"W	0.00
3922.50†	5.041	97.472	3913.78	1003.37	-195.35	-26.24	200.08	6389198.97	1937404.18	34°18'52.987"N	118°34'16.177"W	0.00
4022.50†	5.041	97.472	4013.39	1102.98	-203.85	-27.38	208.80	6389207.69	1937403.04	34°18'52.977"N	118°34'16.073"W	0.00
4122.50†	5.041	97.472	4113.01	1202.60	-212.36	-28.53	217.51	6389216.40	1937401.89	34°18'52.966"N	118°34'15.969"W	0.00

Southern California Gas Company
A Sempra Energy utility

Planned Wellpath Report

SS4B Rev-G.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHERN CALIFORNIA GAS COMPANY	Slot	SS4B
Area	CALIFORNIA_2	Well	SS4B
Field	Aliso Canyon (Grid)	Wellbore	SS4B
Facility	Standard Sesnon (Grid)		

WELLPATH DATA (109 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]
4222.50†	5.041	97.472	4212.62	1302.21	-220.87	-29.67	226.22	6389225.11	1937400.75	34°18'52.955"N	118°34'15.865"W	0.00
4322.50†	5.041	97.472	4312.23	1401.82	-229.37	-30.81	234.93	6389233.82	1937399.61	34°18'52.944"N	118°34'15.761"W	0.00
4422.50†	5.041	97.472	4411.85	1501.44	-237.88	-31.95	243.65	6389242.53	1937398.47	34°18'52.933"N	118°34'15.657"W	0.00
4522.50†	5.041	97.472	4511.46	1601.05	-246.38	-33.10	252.36	6389251.25	1937397.32	34°18'52.923"N	118°34'15.553"W	0.00
4622.50†	5.041	97.472	4611.07	1700.66	-254.89	-34.24	261.07	6389259.96	1937396.18	34°18'52.912"N	118°34'15.449"W	0.00
4722.50†	5.041	97.472	4710.69	1800.28	-263.40	-35.38	269.78	6389268.67	1937395.04	34°18'52.901"N	118°34'15.345"W	0.00
4822.50†	5.041	97.472	4810.30	1899.89	-271.90	-36.53	278.50	6389277.38	1937393.90	34°18'52.890"N	118°34'15.241"W	0.00
4922.50†	5.041	97.472	4909.91	1999.50	-280.41	-37.67	287.21	6389286.09	1937392.75	34°18'52.879"N	118°34'15.137"W	0.00
5022.50†	5.041	97.472	5009.52	2099.11	-288.92	-38.81	295.92	6389294.81	1937391.61	34°18'52.868"N	118°34'15.033"W	0.00
5122.50†	5.041	97.472	5109.14	2198.73	-297.42	-39.95	304.63	6389303.52	1937390.47	34°18'52.858"N	118°34'14.929"W	0.00
5222.50†	5.041	97.472	5208.75	2298.34	-305.93	-41.10	313.35	6389312.23	1937389.33	34°18'52.847"N	118°34'14.826"W	0.00
5322.50†	5.041	97.472	5308.36	2397.95	-314.43	-42.24	322.06	6389320.94	1937388.18	34°18'52.836"N	118°34'14.722"W	0.00
5422.50†	5.041	97.472	5407.98	2497.57	-322.94	-43.38	330.77	6389329.65	1937387.04	34°18'52.825"N	118°34'14.618"W	0.00
5522.50†	5.041	97.472	5507.59	2597.18	-331.45	-44.52	339.48	6389338.37	1937385.90	34°18'52.814"N	118°34'14.514"W	0.00
5622.50†	5.041	97.472	5607.20	2696.79	-339.95	-45.67	348.20	6389347.08	1937384.76	34°18'52.804"N	118°34'14.410"W	0.00
5722.50†	5.041	97.472	5706.82	2796.41	-348.46	-46.81	356.91	6389355.79	1937383.61	34°18'52.793"N	118°34'14.306"W	0.00
5822.50†	5.041	97.472	5806.43	2896.02	-356.96	-47.95	365.62	6389364.50	1937382.47	34°18'52.782"N	118°34'14.202"W	0.00
5922.50†	5.041	97.472	5906.04	2995.63	-365.47	-49.09	374.33	6389373.21	1937381.33	34°18'52.771"N	118°34'14.098"W	0.00
6022.50†	5.041	97.472	6005.66	3095.25	-373.98	-50.24	383.04	6389381.93	1937380.19	34°18'52.760"N	118°34'13.994"W	0.00
6122.50†	5.041	97.472	6105.27	3194.86	-382.48	-51.38	391.76	6389390.64	1937379.04	34°18'52.750"N	118°34'13.890"W	0.00
6222.50†	5.041	97.472	6204.88	3294.47	-390.99	-52.52	400.47	6389399.35	1937377.90	34°18'52.739"N	118°34'13.786"W	0.00
6322.50†	5.041	97.472	6304.50	3394.09	-399.49	-53.66	409.18	6389408.06	1937376.76	34°18'52.728"N	118°34'13.682"W	0.00
6422.50†	5.041	97.472	6404.11	3493.70	-408.00	-54.81	417.89	6389416.77	1937375.62	34°18'52.717"N	118°34'13.578"W	0.00
6522.50†	5.041	97.472	6503.72	3593.31	-416.51	-55.95	426.61	6389425.49	1937374.47	34°18'52.706"N	118°34'13.474"W	0.00
6622.50†	5.041	97.472	6603.34	3692.93	-425.01	-57.09	435.32	6389434.20	1937373.33	34°18'52.695"N	118°34'13.370"W	0.00
6722.50†	5.041	97.472	6702.95	3792.54	-433.52	-58.24	444.03	6389442.91	1937372.19	34°18'52.685"N	118°34'13.266"W	0.00
6799.50	5.041	97.472	6779.65	3869.24	-440.07	-59.12	450.74	6389449.62	1937371.31	34°18'52.676"N	118°34'13.186"W	0.00
6822.50†	4.254	99.557	6802.58	3892.17	-441.86	-59.39	452.58	6389451.46	1937371.03	34°18'52.674"N	118°34'13.164"W	3.50
6922.50†	1.161	142.830	6902.46	3992.05	-445.93	-60.81	456.85	6389455.73	1937369.61	34°18'52.660"N	118°34'13.113"W	3.50
7022.50†	3.016	247.749	7002.41	4092.00	-443.90	-62.62	455.03	6389453.91	1937367.81	34°18'52.642"N	118°34'13.135"W	3.50
7122.50†	6.430	257.821	7102.06	4191.65	-435.78	-64.79	447.12	6389446.00	1937365.63	34°18'52.620"N	118°34'13.229"W	3.50
7222.50†	9.904	260.888	7201.03	4290.62	-421.60	-67.34	433.15	6389432.03	1937363.08	34°18'52.594"N	118°34'13.396"W	3.50
7322.50†	13.392	262.370	7298.95	4388.54	-401.42	-70.24	413.18	6389412.05	1937360.18	34°18'52.564"N	118°34'13.633"W	3.50
7422.50†	16.884	263.248	7395.47	4485.06	-375.31	-73.48	387.27	6389386.15	1937356.94	34°18'52.531"N	118°34'13.942"W	3.50
7522.50†	20.379	263.832	7490.21	4579.80	-343.37	-77.06	355.53	6389354.41	1937353.36	34°18'52.493"N	118°34'14.320"W	3.50
7622.50†	23.876	264.251	7582.83	4672.42	-305.72	-80.96	318.07	6389316.95	1937349.46	34°18'52.453"N	118°34'14.767"W	3.50
7722.50†	27.373	264.568	7672.99	4762.58	-262.49	-85.17	275.03	6389273.92	1937345.26	34°18'52.409"N	118°34'15.279"W	3.50
7822.50†	30.871	264.819	7760.33	4849.92	-213.86	-89.66	226.58	6389225.47	1937340.76	34°18'52.362"N	118°34'15.857"W	3.50
7922.50†	34.369	265.023	7844.54	4934.13	-159.99	-94.43	172.89	6389171.79	1937336.00	34°18'52.311"N	118°34'16.496"W	3.50
8022.50†	37.868	265.193	7925.31	5014.90	-101.10	-99.45	114.17	6389113.07	1937330.97	34°18'52.258"N	118°34'17.196"W	3.50
8122.50†	41.367	265.338	8002.33	5091.92	-37.39	-104.71	50.63	6389049.53	1937325.71	34°18'52.203"N	118°34'17.953"W	3.50
8222.50†	44.865	265.465	8075.32	5164.91	30.88	-110.19	-17.48	6388981.42	1937320.24	34°18'52.145"N	118°34'18.765"W	3.50
8322.50†	48.364	265.577	8144.00	5233.59	103.47	-115.86	-89.93	6388908.98	1937314.57	34°18'52.085"N	118°34'19.628"W	3.50
8422.50†	51.864	265.678	8208.11	5297.70	180.11	-121.71	-166.42	6388832.49	1937308.72	34°18'52.023"N	118°34'20.540"W	3.50
8522.50†	55.363	265.769	8267.43	5357.02	260.51	-127.71	-246.69	6388752.22	1937302.72	34°18'51.959"N	118°34'21.496"W	3.50

Southern California Gas Company
A Sempra Energy utility

Planned Wellpath Report

SS4B Rev-G.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHERN CALIFORNIA GAS COMPANY	Slot	SS4B
Area	CALIFORNIA_2	Well	SS4B
Field	Aliso Canyon (Grid)	Wellbore	SS4B
Facility	Standard Sesnon (Grid)		

WELLPATH DATA (109 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVD from Fld Vert Ref [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]
8622.50†	58.862	265.853	8321.72	5411.31	344.36	-133.84	-330.43	6388668.49	1937296.59	34°18'51.893"N	118°34'22.494"W	3.50
8722.50†	62.362	265.931	8370.78	5460.37	431.36	-140.08	-417.32	6388581.60	1937290.35	34°18'51.827"N	118°34'23.529"W	3.50
8822.50†	65.861	266.004	8414.44	5504.03	521.19	-146.41	-507.05	6388491.88	1937284.02	34°18'51.759"N	118°34'24.598"W	3.50
8922.50†	69.360	266.073	8452.52	5542.11	613.50	-152.79	-599.27	6388399.66	1937277.64	34°18'51.691"N	118°34'25.698"W	3.50
9022.50†	72.860	266.139	8484.89	5574.48	707.96	-159.22	-693.65	6388305.28	1937271.21	34°18'51.622"N	118°34'26.822"W	3.50
9122.50†	76.359	266.202	8511.43	5601.02	804.20	-165.65	-789.84	6388209.10	1937264.77	34°18'51.553"N	118°34'27.968"W	3.50
9222.50†	79.859	266.264	8532.03	5621.62	901.88	-172.08	-887.47	6388111.48	1937258.35	34°18'51.484"N	118°34'29.132"W	3.50
9274.77	81.688	266.296	8540.41[1]	5630.00	953.38	-175.43	-938.95	6388060.00	1937255.00	34°18'51.447"N	118°34'29.745"W	3.50
9322.50†	81.688	266.296	8547.31	5636.90	1000.53	-178.48	-986.08	6388012.87	1937251.95	34°18'51.415"N	118°34'30.307"W	0.00
9422.50†	81.688	266.296	8561.77	5651.36	1099.31	-184.87	-1084.82	6387914.13	1937245.56	34°18'51.346"N	118°34'31.484"W	0.00
9522.50†	81.688	266.296	8576.22	5665.81	1198.09	-191.27	-1183.56	6387815.40	1937239.16	34°18'51.277"N	118°34'32.660"W	0.00
9622.50†	81.688	266.296	8590.68	5680.27	1296.87	-197.66	-1282.31	6387716.66	1937232.77	34°18'51.208"N	118°34'33.837"W	0.00
9722.50†	81.688	266.296	8605.14	5694.73	1395.66	-204.05	-1381.05	6387617.92	1937226.38	34°18'51.139"N	118°34'35.014"W	0.00
9822.50†	81.688	266.296	8619.59	5709.18	1494.44	-210.44	-1479.79	6387519.18	1937219.99	34°18'51.070"N	118°34'36.190"W	0.00
9922.50†	81.688	266.296	8634.05	5723.64	1593.22	-216.84	-1578.54	6387420.44	1937213.59	34°18'51.002"N	118°34'37.367"W	0.00
10022.50†	81.688	266.296	8648.51	5738.10	1692.00	-223.23	-1677.28	6387321.71	1937207.20	34°18'50.933"N	118°34'38.544"W	0.00
10122.50†	81.688	266.296	8662.96	5752.55	1790.78	-229.62	-1776.02	6387222.97	1937200.81	34°18'50.864"N	118°34'39.720"W	0.00
10222.50†	81.688	266.296	8677.42	5767.01	1889.56	-236.01	-1874.76	6387124.23	1937194.42	34°18'50.795"N	118°34'40.897"W	0.00
10291.60	81.688	266.296	8687.41[2]	5777.00	1957.82	-240.43	-1943.00	6387056.00	1937190.00	34°18'50.748"N	118°34'41.710"W	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) <SS4B><T1>(Rev2)	9274.77	8540.41	-175.43	-938.95	**6388060.00**	**1937255.00**	34°18'51.447"N	118°34'29.745"W	point
2) <SS4B><T2>(Rev3)	10291.60	8687.41	-240.43	-1943.00	**6387056.00**	**1937190.00**	34°18'50.748"N	118°34'41.710"W	point

SURVEY PROGRAM - Ref Wellbore: SS4B Ref Wellpath: SS4B Rev-G.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
22.50	1000.00	NaviTrak (Standard)		SS4B
1000.00	6750.00	NaviTrak (Standard)		SS4B
6750.00	10291.60	OnTrak (Standard)		SS4B

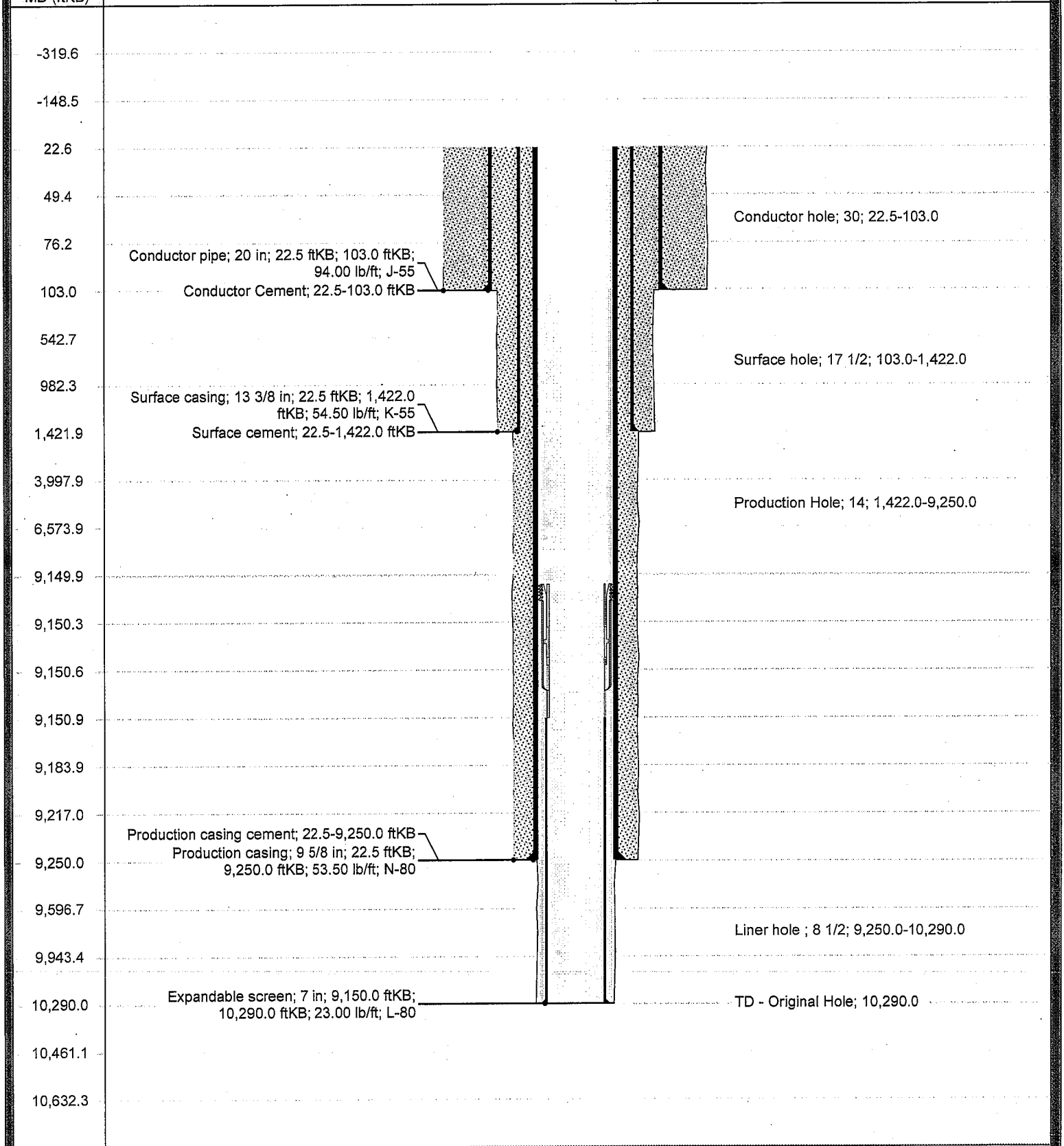
Standard Sesnon 4 B

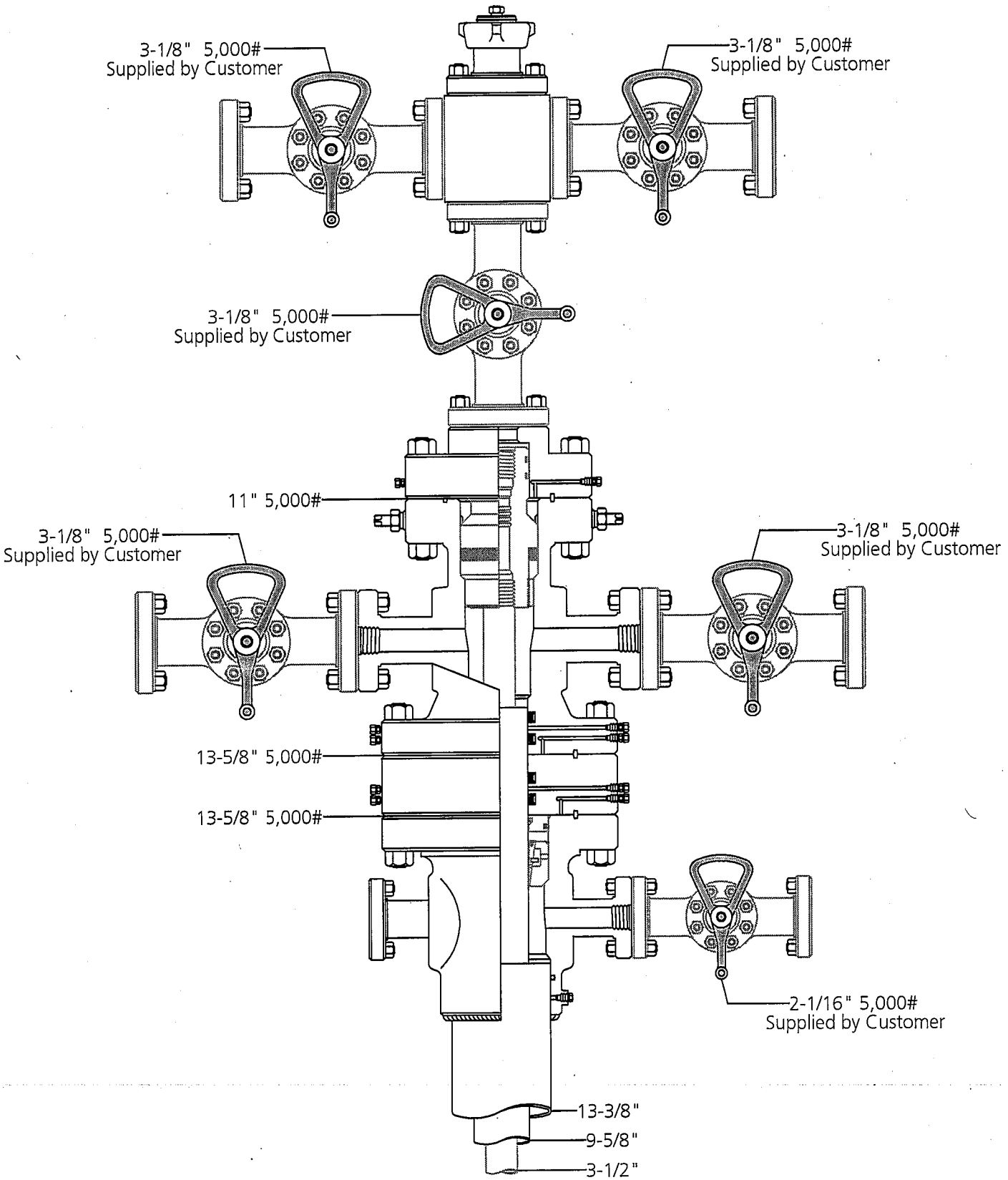
Gas Company Schematic

API	Field Name	Operator	County	State
	Aliso Canyon	Southern California Gas Company	Los Angeles	California

Ground Elevation (ft)	KB-Ground Distance (ft)	Spud Date
2,888.00	22.50	

Original Hole, 7/7/2015 2:20:52 PM





Southern California Gas
Gas Storage / Production Wells
La Goleta & Aliso Canyon

CAMERON

Name:	Jeanette	Date:	6-16-14	Working Pressure:	#	20602012-C

ENSIGN
United States Drilling (California) Inc

Ensign 587 EQUIPMENT LIST
15,000'

DRAWWORKS

- Gardner Denver 800; 1000 Hp drawworks with a Elmago 5032 Aux. Brake.

DRAWWORKS POWER

- One GE 752; 1000 Hp Traction Motor

MAST

- Pyramid 146'; 820 GNC, 590,000# Hook Load with six sheave cluster and 1 ¼" drilling line.
- Traveling Blocks; BJ 350 Ton with BJ 350 Ton Hook.
- Swivel; Oilwell PC 300, 300 ton with a 5 ¼" Hex Kelly with Varco HDS Kelly Bushings.

ROTARY TABLE

- Gardner Denver; 27 ½" Table

SUBBASE

- Pyramid; 24'6" K.B. with 18'9" Rotary Beam Clearance

MUD PUMPS

- Main Pump; Gardner Denver PZ10, 1350 Hp 6 1/2"x10" triplex powered by two GE752 Traction Motors
- Stand By Pump; Gardner Denver PZ10, 1350Hp 6 1/2"x10" triplex powered by two GE752 Traction Motor

MUD SYSTEM

- 600 bbl. Shaker Pit with three Agitators and twin shakers, Swaco Linear Motion
- 600 bbl. Main Pit with five agitators and two 5" X 6" mixing pumps powered by 50 Hp motors at 1750 RPM.

POWER PLANT

2 3516G Caterpillar 1500hp each natural gas fired

- 1 1000 KW Power by Series 16V2000 at 1500 Hp diesel back up

WATER TANK

- 500 bbl water tank

DRILL PIPE/DRILL COLLARS

- 383 Jts of 5"; 41/2"IF 19.50 # Grade X 95
- 90 Jts of 5" 41/2"IF 25.60 # Grade X 95
- (4) 61/2 " x 2 1/4" Drill Collars with 4 ½" XH Thread

B.O.P.

- Two 11" 5,000 PSI Single Hydraulic Gates and 11" 5,000 PSI Annular

Preventor with 140 Gallon Wagner Accumulator

- TOP DRIVE TESCO EXI 350 ELECTRIC