

Form 3160-5  
(October 2024)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0220  
Expires: October 31, 2027

SUNDRY NOTICES AND REPORTS ON WELLS  
Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.	NMNM 0022636
6. If Indian, Allottee or Tribe Name	N/A

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No. Cato San Andres Unit
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. Cato San Andres Unit #163
2. Name of Operator Shell Oil Company (Western Division)		9. API Well No. 30-005-20101
3a. Address P.O. Box 576, Houston, TX 77210	3b. Phone No. (include area code) (832) 337-2434	10. Field and Pool or Exploratory Area Cato; San Andres
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) K-27-08S-30E    1980 FSL    1980 FWL		11. Country or Parish, State Chaves County, New Mexico, USA

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA					
TYPE OF SUBMISSION		TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

Please refer to the attached Plug and Abandonment End of Well Report.

Accepted for Record

Like approval by NMOCD

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Samantha Baker	Title SGWS Legacy Program Manager
Signature Samantha Baker	Date 04/17/2025

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title Petroleum Engineer	Date 04/21/2025
	Office RFO	
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

**LANGAN****Technical  
Memorandum**

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**300 Union Boulevard, Suite 405 Lakewood, CO 80228 T: 303.262.2000 F: 303.262.2001**

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**To:** Bureau of Land Management (BLM)

**From:** Langan Engineering and Environmental Services

**Info:** Shell Oil Company (Western Division)

**Date:** March 25, 2025

**Re:** Plug and Abandonment – End of Well Report  
Cato San Andres Unit #163 / API 30-005-20101  
Section 27, Township 8S, Range 30E  
Langan Project No.: 781014301

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**Work Summary:**

**08/07/24** – Moved equipment to location, PJSM. Hand dug trench for HTT. Welded 2" coupling onto wellhead, NU HTT. Attempted to pressure test HTT, leak at 2" nipple, could not get successful pressure test, ordered new 2" nipples.

**08/08/24** - Move in/spot equipment, PJSM. Inspected and prepped work area, checked WHP = 0 psi. NU HTT to previously welded collar on 8 5/8" wellhead, pressure tested HTT w/N2 to 250 psi, bled back to 50 psi. Hot tapped wellhead w/ 3/4" bit, established vent hole but broke off bit in hole, confirmed flow path through tap hole, removed existing bullplug from wellhead, NU dual barrier ball valves. Prepped 4.5" csg stump for WL Eval, cut csg stump off for bell nipple, noticed pipe corrosion/debris downhole in 4.5" csg, welded bell nipple to 4.5" csg, allowed to cool. NU 4.5" collar, 2"x4.5" swage and valves to 4.5" csg, ready for WL Eval. Secured well, SDFN.

**08/09/24** – Moved equipment to location, PJSM - discussed L&H, JSA review. Inspected equipment and work area. RU WLU & crane, MU/PU lubricator. Shut down due to BLM spraying in area, begin NPT Shell. No Activity.

**08/10/24** – NPT - Drake pump truck arrived late to location. PJSM - Discussed BLM Chemical Treatment in area, SDS, 7 Step Conversation, LSR review, JSA review. Inspected equipment & work area, PU lubricator, pressure tested lubricator 250 psi, 5 minutes/500 psi, 5 minutes. Opened well, RIH w/ 3.5" GRJB, tagged restriction at 570'KB. POOH, LD lubricator, RD WLU & crane. ND 5K gate valve, NU 2" dual barrier ball valves, secured well, SDFWKD.

# Technical Memorandum

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**02/06/25** – Crew travel. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Discussed rig move. Inspected equipment & work areas. Check pressures on #164 well. Both 9-5/8" and 5.5" left open after plugged yesterday. 5.5" = 0 psi. 9-5/8" = 0 psi. Begin moving equipment onto #163 and rigging up. Rig up WOR and continue moving support equipment on. Pressure test BOP. Pump 5 bbls down 4.5" casing and monitor for 30 minutes. Continue move in and rig up equipment. Nipple up BOP and continue rigging up equipment. Drift and tally workstring. Prep to RIH. Secure equipment. SDFN. Crew travel.

**02/07/25** – Crew travel. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Inspected equipment & work areas. Check pressures: 4.5" = 0 psi. 8-5/8" = 0 psi. Make up 3-7/8" tri-cone bit and RIH w/ workstring. Tag at 570'. RU power swivel. 78 bbls to break circulation. Begin drilling on obstruction. Drilled through obstruction at 570'. Continue washing down. EOT @ 2410' w/joint #76. Drilling on solid obstruction. EOT @ 2415'. 5' made in last hour. RD power swivel POOH w/ 76 joints. Out of hole. 3-7/8" tri-cone looked good. Did tag parted casing at 570' while POOH. Discuss with office for next move. Plan to RIH w/ 3.50" tri-cone. Shut well in. SDFN. Crew travel.

**02/08/25** – Crew travel.

**02/09/25** – Crew travel. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Inspected equipment & work areas. Check pressures: 4.5" = 0 psi. 8-5/8" = 0 psi. Make up 3.06" mule shoe and RIH. Tag at 570'. Rotated pipe through every 30'. As if getting hung up on every tubing collar. Got EOT down to 2415'. Broke circulation with 5.5 bbls pumped. Attempted to wash down. Could not make any hole. Get permission to pump cement plug. Pump cement plug #1. Pump 5 bbls FW spacer + Pump 46 sacks (9.8 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg + 6.6 bbls displacement. POOH with tubing (22 joints.) and reverse out w/ 15 bbls @ 1669'. Continue POOH w/ 26 more stands. Estimated cement plug depth: (1815'-2415'.) Continue POOH. Tagged every collar pulling out of hole as well. Out of hole. Shut well in. SDFN and WOC. Crew travel.

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Began RDMO and ND BOP. Transmission leak while RD WOR, guyed out rig, waited on mechanic, moved available equipment. Crew traveled.

**02/10/25** – Crew travel. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Inspected equipment & work areas. Check pressures: 4.5"= 0 psi. 8-5/8"= 0 psi. Make up 3.06" mule shoe and RIH to tag TOC. Tag TOC @ 2308'. (Should have tagged at 1815') Actual plug 2308'-2415' (108'). Discuss w/ engineer. Pump cement plug #2. 8.5 bbls to break circulation. Pump 5 bbls FW spacer + Pump 47 sacks (9.8 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg w/ 2% calcium Chloride + 6.3 bbls displacement. POOH with tubing (20 joints.) and reverse out w/ 15 bbls @ 1700'. Continue POOH w/ 26 more stands. Estimated cement plug depth: (1700'-2308'.) Continue POOH and WOC. Make up mule shoe and RIH to tag TOC. Tag TOC @ 2260'. 48' gain. Discuss plan forward. Pump cement plug #2. stage 2. 3.5 bbls to break circulation. Pump 5 bbls FW spacer + Pump 43 sacks (9.0 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg w/ 2% calcium Chloride + 6.3 bbls displacement. POOH with tubing (18 joints.) and reverse out w/ 15 bbls @ 1700'. Continue POOH w/ 26 more stands. Estimated cement plug depth: (1700'-2260'.) POOH w/ tubing. Out of hole. Shut well in and SDFN. Crew travel.

**02/11/25** – Crew travel. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Inspected equipment & work areas. Check pressures: 4.5"= 0 psi. 8-5/8"= 0 psi. Make up 3.06" mule shoe and RIH to tag TOC. Tag TOC @ 2211'. (49' gain) Discuss next step. Pump cement plug #2. stage 3. 7.5 bbls to break circulation. Pump 5 bbls FW spacer + Pump 40 sacks (8.4 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg w/ 2% calcium Chloride + 6.2 bbls displacement. POOH with tubing (17 joints.). Continue POOH w/ 26 more stands. Estimated cement plug depth: (1700'-2211'.) BLM and drake recommend, do not attempt to reverse out, due to compromised casing. Continue POOH and WOC. Make up mule shoe. RIH to tag TOC. EOT tag solid at 1604'. 100' above where we are supposed to tag. Had to rotate tubing at several different areas to get to that point. Broke circulation and attempted to rotate through spot at 1604' BLM witnessed all events. Discuss options with Shell engineer and the BLM. Decision made to pump cement plug #3 at this point and see where we tag in morning. Pump cement plug #3. 4.5 bbls to break



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circulation. Pump 5 bbls FW spacer + Pump 27 sacks (5.67 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg + 4.6 bbls displacement. POOH with tubing (12 joints.). Continue POOH w/ 19 more stands. Estimated cement plug depth: (1254'-1604'.) BLM and drake recommend, do not attempt to reverse out, due to compromised casing. Continue POOH and WOC overnight. Out of hole. Shut well in and SDFN. Crew travel.

**02/12/25** – Crew travel. Drake monthly safety brief. PJSM - Discussed Equipment Inspections, 7 Step, JSA review, overhead lifts & stop work authority. Discuss daily operations and safety goals for the day. Inspected equipment & work areas. Check pressures: 4.5"= 0 psi. 8-5/8"= 0 psi. H2S readings: 0 ppm. Make up 3.06" mule shoe and RIH to tag TOC. Tag TOC @ 1580'. (24' gain) BLM is happy that it took cement outside casing. Pump cement plug #3, stage #2. 7.5 bbls to break circulation. Pump 5 bbls FW spacer + Pump 47 sacks (9.8 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg w/ 2% calcium Chloride + 3.5 bbls displacement. POOH with tubing (19 joints.) Continue POOH w/ 15 more stands. Estimated cement plug depth: (980'-1580'.) Did not reverse out due to compromised casing. Continue POOH and WOC. Make up 3.06" mule shoe and RIH to tag TOC. Tag TOC or possibly fill at 708' (270' +/- high). Discussed with BLM and shell engineer. BLM believes we have fill falling in on us. Recommend pumping a small plug to get up to 570'. Pump cement plug #3, stage #3. 2.5 bbls to break circulation. Pump 5 bbls FW spacer + Pump 11 sacks (2.25 bbls) type 1/2 cement w/ 1.18 yield @ 15.6 ppg w + 2 bbls displacement. POOH with tubing (5 joints.) Reverse out at 550'. Continue POOH w/ 8 more stands and a single. Estimated cement plug depth: (570'-708'.) Continue POOH and WOC overnight. Out of hole. Shut in well and SDFN. Crew travel.

**02/13/25** – Arrived on location, PJSM - Discussed HSE plan forward, Document retention, 7 Step conversation, JSA review. Inspected equipment & work areas, checked WHP = 0 psi, opened well. Attempted to remove ice from derrick, could not safely remove ice, decision was made to shut down. Secured well, SDFN. NPT due to weather.

**02/14/25** – Arrived on location, PJSM - 7 Step discussion, JSA review. Inspected equipment and work areas, checked WHP = 4.5" 0 psi, 8 5/8" 0 psi. RIH from derrick w/ 2.375" 8 RD EUE workstring & 3.06" OD Muleshoe BHA, tagged TOC at 660'KB, reported TOC depth to Engineer

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& BLM for plan forward. POOH to derrick, LD BHA. RU WLU, NU WL 7 1/16" flange x Bowen to 7 1/16" dbl ram BOP, PU/MU WL lubricator w. single ram BOP & packoff, MU/PU WL perforating BHA. Pressure tested lubricator to 250 psi, 5 minutes/ 800 psi, 5 minutes - good, opened well, RIH w/ WL BHA, perforated 4.5" casing at 512'KB-509'KB, POOH, RD WL. RIH w/ workstring from derrick to EOT 645'KB, RU cement pump lines to tbg. Walked lines, pressure tested pump lines to 800 psi - good, confirmed circulation from 8 5/8" x 4 1/2" annulus, Pumped cement plug #4, pumped 1 bbls FW w/ 70 psi at 2 bpm, pumped 330 SKS (69 bbls) Type I/II cement w/1.18 yield @ 15.6 ppg w/ 123 psi at 2.2 bpm, taking returns from 8 5/8" csg outlet valve, estimated plug from 660'KB-512'KB in 4.5", 512'-Surface in 8 5/8"x 4 1/2", closed 8 5/8" csg outlet valve, opened 4 1/2" csg outlet valve, continued plug #4 w/ 32 SKS (6.75 bbls) w/ 60 psi at 2 bpm in 4 1/2" csg from 512'KB-Surface. RD pump line, POOH w/ workstring to racks, topped off cement to surface in 4 1/2" csg w/ 1 jt. RD & wash out pump line, washed rig floor & BOP, discussed plan forward due to small hole that developed in 4 1/2" casing stump below the bell nipple, RD work floor, supported BOP w/ rig blocks, ND BOP w/o issue. Secured location, SDFN.

**02/15/25** – Arrived on location, PJSM - Discussed overnight earthquake in area, Hazard Hunt, AARs, LSRs, JSA review. Inspected equipment & work areas, Hazard Hunt, checked WHP = 0 psi. Supported wellhead with winch line prior to removal, removed wellhead from 4.5" stump. RD WOR and equipment. Secured location, P&A ops complete, SDFN.

**03/20/25** – Arrived at Well #163 and held a safety meeting with Langan and on-site personnel. Completed a spiral gas check. Dug the cellar 3 feet down using the backhoe. Rigged up the welder and cut off the wellhead. Cement was at the surface in both strings. Installed the P&A marker per all local regulations and backfilled the location.



Plug & Abandonment Program  
Revision: 0

Cato San Andres Unit 163  
K-27-8S-30E  
Chaves County, NM

## NEW MEXICO - CSAU 163 - P&A SCHEMATIC

**Location (Unit-Sec-Twp-Range):** K-27-8S-30E  
**Surface Hole Latitude:** 33.6035156  
**Surface Hole Longitude:** -103.8705368  
**Bottom Hole Location:** Vertical Well

API: 30-005-20101

GL (ft): 0  
KB (ft): 10

### Surface Casing Information

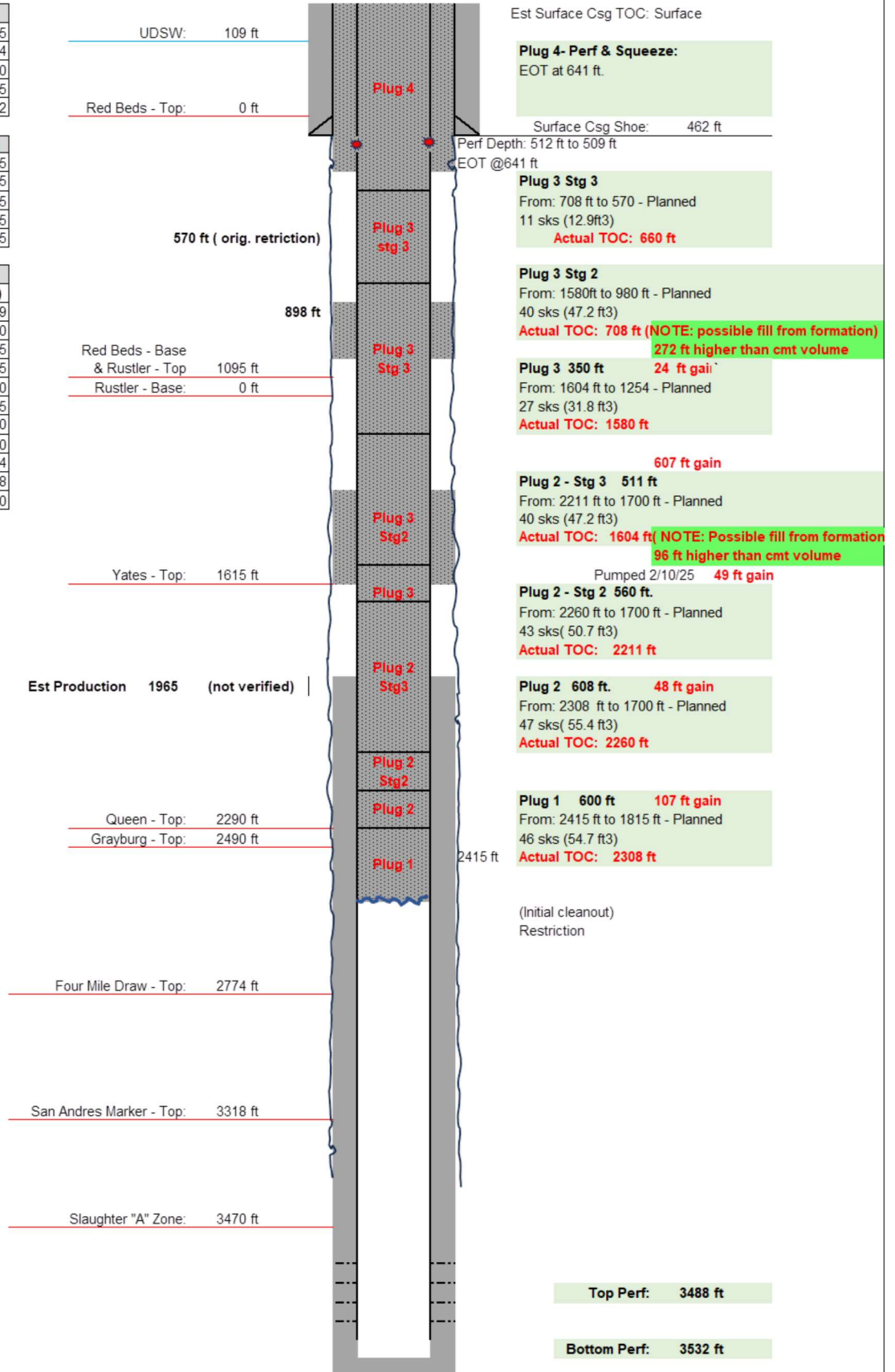
Size (in):	8.625
Weight (lb/ft):	24
Grade:	0
Hole Size (in):	12.25
Setting Depth:	462

### Production Casing Information

Size (in):	4.5
Weight (lb/ft):	9.5
Grade:	J-55
Hole Size (in):	7.875
Setting Depth:	3675

### Formation Depth Information

Formation	MD (ft)
UDSW	109
Red Beds - Top	0
Red Beds - Base	1095
Rustler - Top	1095
Rustler - Base	0
Yates - Top	1615
Queen - Top	2290
Grayburg - Top	2490
Four Mile Draw - Top	2774
San Andres Marker - Top	3318
Slaughter "A" Zone	3470

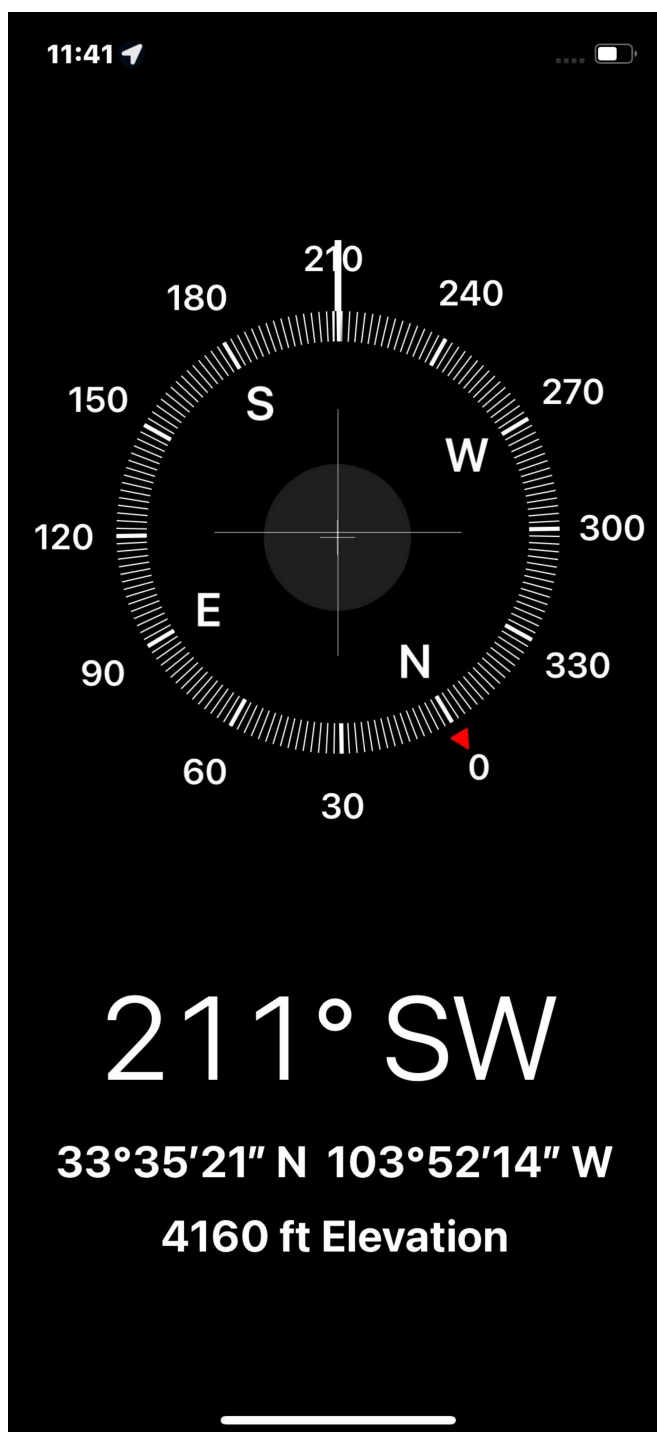












Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oed/contact-us>

State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS

Action 454366

CONDITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 454366
	Action Type: [C-103] Sub. Plugging (C-103P)

CONDITIONS

Created By	Condition	Condition Date
loren.diede	None	4/23/2025