Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

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.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM0073394D

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No. Cato San Andres Unit

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No. Cato San Andres Unit #188

2. Name of Operator Shell Oil Company (Western Division)

9. API Well No. 30-005-20273

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)*
G-05-09S-30E 1980 FNL 2080 FEL

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			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☑ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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

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 11/04/2024

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title Petroleum Engineer

Date 11/07/2024

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.

Office RFO

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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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

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

To: BLM

From: Langan

Info: Shell

Date: November 04, 2024

Re: Plug and Abandonment – End of Well Report
Cato San Andres Unit #188 / API 30-005-20273
Section 5, Township 9S, Range 30E
Langan Project No.: 781014301

Work Summary:

9/01/24 – The crew conducted PJSM and work area inspections to start the day. They proceeded to move in WOR and equipment, spotting equipment as needed, and offloaded/spotted pipe racks. The crew offloaded and tallied 2 3/8" EUE workstring. They backfilled the cellar as needed for rig base beam. The BOP was stump tested at 250 psi for 5 minutes and 500 psi for 5 minutes, with good results. They spotted WOR, completed RU WOR, and finally secured the location and SDFN.

9/02/24 – The crew remained on standby for twelve hours.

9/03/24 – Operations began with PJSM, where they discussed AARs, communication, equipment inspections, proper PPE, and completed JSA Review. The crew inspected equipment and work areas, checking WHP at 0 psi. They opened the well, pumped 5 bbls FW, and observed returns. The well was opened to open top tank, where they observed air bubble from returns before well went to 0 psi. They monitored the well, removed 4 1/2" swage & valves, and NU stump tested 7 1/16" Dbl Ram BOP with 2 3/8" pipe rams. The crew RU workfloor, handrails, slips, and tongs. They RIH with 2 3/8" EUE 8 RD workstring to estimated restriction at 542' KB, observed slight bobble on weight indicator at 575', and tagged solid restriction at 633'KB (5' out on jt. #20). After LD 1 jt, they secured the well for lunch. Following lunch, they PU jt #20, opened TIW, and attempted to work tbg through restriction. They started to trickle FW down backside, worked tbg up/down, rotated tbg with tbg tongs, and continued to work tbg up/down before

contacting the office. The crew discussed plans forward and prepped to circulate well before securing for the night.

9/04/24 – The day started with PJSM discussions covering Zone Management, Equipment inspections, and JSA review. The crew inspected equipment and work areas, then offloaded 4 - 3" drill collars onto storage racks. They RIH with 1 jt with 1- 2 3/8" coupling & 2 3/8" x 2 7/8" XO for WREG BHA & 1-10' 2 3/8" pup jt in slips for WL camera run. Drake WL NPT occurred briefly before MU/PU Camera BHA & Lubricator. The crew RIH with camera BHA, observed fluid level at 404.4'KB, last csg collar before restriction at 615.9'KB, observed potential corroded csg at 628.2'KB, and tagged at 629.4'KB before POOH. They then LD Lubricator 7 camera BHA and RIH with tbg. The crew RU to reverse circulate FW, broke circulation, and worked tbg to previous pipe tally tag at 633'KB. They washed down to 633.5'KB, lost circulation as pump pressure increased, picked up workstring which decreased pressure and re-established circulation. After working pipe down and losing circulation again, they picked up workstring to 633'KB and pumped additional 10 bbls of FW until returns were clean. The RD pump truck was followed by RU WL, MU/PU WL lubricator & camera BHA, and RU pump truck to forward circulate. The crew RIH with WL down tbg, recorded camera video, observed corroded casing but could not determine restriction before POOH. They LD WL lubricator & camera BHA, POOH with workstring to derrick, RIH with new 3.875" Tri-cone bit without collars on workstring, RU power swivel, secured well, and SDFN.

9/05/24 - The day began with PJSM discussions about 7 Step, AARs, trapped pressure, and JSA review. After equipment and work area inspections with WHP at 0 psi, the crew removed TIW from power swivel and NU Kelly valve to power swivel. They lined up the pump to reverse circulate, broke circulation with 17.5 bbls FW at 2bpm at 10 psi, and began cleanout at 633'KB. After losing circulation at 625'KB, they lined up pump to forward circulate, regained circulation with 15 bbls FW, and washed down to Kelly Down at 638'KB. They checked 8 5/8" x 4 1/2" WHP at 48psi, MU swivel connection, and broke forward circulation. The crew resumed cleanout at various depths, RU 8 5/8" annulus to open top tank for returns, and bled 47 psi to 0 psi with no flow. They continued rotating while washing down with jt#27, reached a harder tag at 882'KB, and continued washing down while rotating to KD at 892'KB. Returns showed black silt/pipe

scale, which they circulated clean. Finally, they hung back power swivel, POOH to derrick with workstring, and LD bit BHA, noting the bit looked good with some reddish material embedded in the teeth before securing the well and SDFN.

9/06/24 – Operations started with PJSM covering LSRs, Valid Permit, ERP, and JSA Review. During equipment inspections, they found WHP at 0 psi with vacuum on 4 1/2" & 8 5/8" csg strings. They opened a Hot Work Permit for welding, and the welder revamped the return tank for return lines. After some NPT with Drake, they RU power swivel and pressure tested pump lines and kelly valve from bottom of closed Kelly Valve at 250 psi and 1000 psi with good results. The crew MU swivel connection, RIH to tag at 882'KB (10' fill), and began pumping at 2.7 bpm at 10-12psi with no returns. They broke circulation with 12 BBLS FW and took samples, finding possible pipe scale. After observing the same tight area from 882'-892', they continued operations, making swivel connections and drilling at various rates. ROP decreased to 8 mpf at 905', but increased to 6mpf after increasing WOB from 1k to 2K. The string experienced several drops and continued drilling to various depths with no change in pump pressure. Returns showed pipe scale with increased amounts of redbed. They mixed and pumped 20 bbl LCM pill with 45 viscosity and 25# Cedar Fiber before hanging back power swivel, POOH with workstring to derrick, and LD 3.875" Bit BHA. The well was then secured.

9/07/24 – The day began with PJSM discussing 7 Step and JSA Review, followed by equipment inspections showing WHP at 0 psi. The crew RIH with 3.5" Tri-cone bit BHA, tagged restriction at 923'KB (10' fill overnight), and broke circulation with 2 bbls FW. They washed down while rotating to 1146'KB and observed consistent tag with tbg collar at 888'KB (10'-12' each jt) that would not smooth out. After contacting the office, they planned to RIH with 3.75" Tapered mill in the morning. They hung swivel back, POOH to derrick with workstring, LD 3.5" bit BHA, and secured the well for SDFN.

9/08/24 – Operations began with PJSM covering PPE, Impact Gloves, Pinch Points, LOF, and JSA Review. After inspecting equipment and work areas, spotting in water trucks, and checking WHP at 0 psi, they PU/MU 3.758" Tapered mill BHA and RIH from derrick with 2.375" 8 RD EUE workstring. The crew RIH to 860'KB, broke stand to RU swivel, LD jt #28, MU stripper rubber,

and RU power swivel. They RIH to 888'KB and began milling through restricted area, lined up pump to forward circulate, and broke circulation with 16 bbls of FW. They worked tapered mill through tight spot in casing, cleaned up & down through tight spot, and continued to work mill downhole while circulating/rotating to 1210'KB. The ROP decreased and 2.375" couplings were catching the potential damaged casing at 888'. After racking back power swivel and POOH with tapered mill slowly through damaged area, they LD 3.758" tapered mill and MU/PU 3.875" tapered mill. They RIH from derrick without feeling damaged area at 888'KB, RIH to 1034'KB, and POOH with mill, working couplings through damaged area before securing the well for SDFN.

9/09/24 – The day started with PJSM discussing LFI's, incident reporting, and JSA Review. After equipment inspections and confirming WHP at 0 psi, the crew MU/PU 3.75" Tricone (not capable of reverse circulating), 1 jt 2.375" EUE tbg & 3.875" string mill. They RIH with workstring from derrick to 888', found no tag, PU above 888', RIH, and tagged with tricone at 888'. After RU power swivel, they RIH to slight tag with string mill at 888', lined up pump to forward circulate, broke circulation with 14 bbls of FW, and began rotating and dressing area from 875'-900'. They worked pipe up and down until achieving smooth passes through the restriction area. When pulling through the damaged area above 888', they encountered 14K over string weight (6K string weight). After working pipe back down and attempting various maneuvers, they pulled 24K over, and the pipe pulled free. Following lunch and continued circulation, they pulled heavy on pipe until tri-cone bit cleared 888', RD power swivel, continued to POOH, and LD BHA before securing the well.

9/10/24 - Well secured and SDFN. PJSM conducted with discussions of LFI's, incident reporting, and JSA Review. Equipment and work areas were inspected, with WHP checked at 0 psi. Made up and picked up 3.75" Tricone (not capable of reverse circulating), 1 joint 2.375" EUE tubing & 3.875" string mill. RIH with workstring from derrick to 888' with no tag, picked up above 888', RIH and tagged with tricone at 888'. Rigged up power swivel, RIH to slight tag with string mill at 888', lined up pump to forward circulate, broke circulation with 14 bbls of FW. Began rotating and dressing area from 875'-900', worked pipe up and down until working smooth passes through restriction area. Picked up through damaged area above 888', pulled 14K over string weight (6K string weight), worked pipe back down, picked up at string weight for 10', pulled over,

attempted to lower string but stacked out, pulled 24K over until pipe pulled free. Shut down for lunch and continued to circulate. Pulled heavy on pipe (dragging) until tri-cone bit cleared 888', rigged down power swivel, continued to POOH, and laid down BHA.

9/11/24 – The day began with PJSM covering derrick rescue, trapped pressure, and JSA review. After equipment inspections and WHP check at 0 psi, the crew RIH with 3.06" notched collar & 2.375" x 6' perforated pup jt., tagging at 1018'KB. They RU power swivel, lined up pump to forward circulate, and pumped 15 bbls of FW to break circulation but did not make hole. After POOH to derrick with workstring and LD BHA, they found the notched collar was plugged with Redbed. The crew then RIH with 3.375" Concave mill BHA, tagged at 1018'KB, broke circulation with 5 bbls FW, noted slight flow from 8 5/8", and worked mill to 1524'KB.

9/12/24 – Operations began with PJSM discussions covering 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, Trapped pressure, and PPE. After inspections and WHP check at 0 psi, they topped off water and empty roll offs, LD bad joints and prepared to RIH while waiting on orders. Following BLM recommendation, the decision was made to run downhole camera. They waited on wireline and equipment, including camera, thru tubing perf guns, free point tools & 2.375" jet cutter. The crew ND stripping head, prepped for WL operations, finished topping off FW trucks and sucked down roll off return tanks before securing the well. Travel to Roswell.

9/13/24 – The crew experienced NPT waiting for Drake Well Service crew to arrive. The day included PJSM discussions and standard equipment inspections. They began rigging up wireline equipment and downhole camera BHA, followed by troubleshooting downhole camera issues. When wireline RIH with downhole camera, they tagged fluid at 183' but couldn't see anything with the camera after that. Following WL POOH and RD, they discussed plans forward with Shell management and BLM. The decision was made to RIH with 3.250" mill and tubing the next day, attempting to reach 1524' or deeper and pump a 500' cement plug. The well was then secured for SDFN. Travel to Roswell.

9/14/24 – The day began with PJSM discussions covering 7 Step, LSRs, Equipment inspections, JSA Review, BOP drill Discussion, and PPE. Following equipment inspections and WHP check

at 0 psi, they made up 3.250" junk mill and RIH with 2.375" tubing. The crew tagged obstruction at 1238', rigged up power swivel and broke circulation with 25 bbls away. After reaching 1534' with no forward progress, they received BLM approval to pump 500' of cement. For Plug #1 Stage 1, they pumped 5 bbls FW spacer + 38 sacks type 1/2 cement w/1.18 yield at 15.6 ppg + 3.5 bbls displacement. After POOH with tubing, they reversed out with 5 bbls at 800', finding no cement in returns. The estimated plug was set at 1034' - 1534'.

9/15/24 – Operations began with PJSM and standard equipment checks. After making up 3.250" junk mill and RIH to tag TOC, they tagged at 945'. After rigging up power swivel and continuing downhole, they tagged at 1028' & 1275', rotating and falling through all spots. They tagged solid cement at 1435' and received approval from Shell, BLM & NM state to pump more cement. For Plug #1 Stage 2, they pumped similar specifications as the previous day, establishing an estimated cement plug from 935'-1435'. Later in the day, they tagged TOC at 1403' and pumped Plug #1 Stage 3 with 25 sacks of cement, creating an estimated plug from 1069'-1398'.

9/16/24 – PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, BOP drill Discussion, and PPE. Equipment and work areas were inspected, with WHP checked at 0 psi. Made up 3.250" junk mill and RIH to tag TOC. Tagged at 1210' & 1263', had to turn pipe with tongs to fall through, and continued TIH. Tagged at 1290' and could not fall through, so rigged up power swivel. Used 9 bbls to break circulation, RIH while rotating and pumping, and tagged solid at 1370'. Laid down power swivel and prepared to pump cement after Shell management approval. NPT-Drake Well Service began due to inability to get cement out of bulk truck. Troubleshot issue but could not repair. NPT-Drake Well Service continued as cement bulk truck needed to be swapped out, POOH with tubing. NPT-Drake Well Service continued with string out of hole, bit plugged with red bed, waiting on cement bulk truck. New bulk truck arrived on location. Made up 3.250" mill and RIH with tubing. Pumped Plug #1 Stage 4, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6+ ppg + 3.8 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 1041'-1370'. Continued POOH, shut well in and SDFN.

9/17/24 – Following PJSM and standard inspections, the crew RIH with 3.06" tag tool to tag TOC. They tagged at 1295', requiring pipe rotation to fall through, and eventually tagged TOC at 1370'. After breaking circulation with 8 bbls, they pumped Stage #1 Plug 5, including an LCM pill and cement mixture. Later in the day, they tagged at 1370', pumped an LCM pill, and allowed it to set overnight before securing the well. Shut well in and SDFN.

9/18/24 – PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE. Equipment and work areas were inspected, with WHP checked at 0 psi (on vacuum). Made up 3.06" tag tool and RIH to tag TOC. Tagged at 1355', had to turn pipe with tongs to fall through, and continued TIH. Tagged TOC at 1370', broke circulation with 3.5 bbls away. Pumped cement plug #1 Stage 6, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with 2% calcium chloride & Cello-flake LCM sprinkled in + 3.8 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 1041'-1370'. Continued POOH with tubing. Out of hole, WOC until 11:15am. Ran in hole to tag TOC. Tagged TOC at 1347' and discussed with Shell management, decided to pump cement plug #1(G). Pumped cement plug #1 Stage 7, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake LCM sprinkled in + 3.8 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 1018'-1347'. POOH with tubing, shut well in and SDFN. Crew traveled to Roswell.

9/19/24 – PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE. Equipment and work areas were inspected, with WHP checked at 0 psi (on vacuum). Made up 3.06" tag tool and RIH to tag TOC. Tagged TOC at 1315' (+32'). Broke circulation with 2.5 bbls and prepared to pump cement. Pumped cement plug #1 stage 8, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with 2% calcium chloride & Cello-flake LCM sprinkled in + 3.6 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 986'-1315'. POOH with tubing and WOC. RIH to tag TOC. Tagged TOC at 1315' (0'), broke circulation with 2 bbls and prepared to pump cement. Pumped cement plug #1 stage 9 with same specifications as stage 8. POOH with tubing and WOC. RIH to tag TOC at 1315' (0'

made). Pumped cement plug #1 stage 10, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake/cedar fiber LCM sprinkled in + 3.6 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 986'-1315'. Continued POOH with tubing, out of hole with tubing, shut well in, WOC, and SDFN. Crew traveled to Roswell.

9/20/24 – PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE. Equipment and work areas were inspected, with WHP checked at 0 psi (on vacuum). NPT due to waiting on lightning to pass. Made up 3.06" tag tool and RIH to tag TOC. Tagged TOC at 1305', broke circulation with 3 bbls and prepared to pump cement. Pumped cement plug #1 stage 11, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with 2% calcium chloride & Cello-flake LCM sprinkled in + 3.6 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 976'-1305'. Continued POOH & WOC. RIH to tag TOC. Tagged TOC at 1303' (+2"), broke circulation with 5 bbls and prepared to pump cement. Pumped cement plug #1 stage 12 with similar specifications but added Cedar fiber to LCM mix. While POOH, noticed heavy grey cement water flowing up the backside of the 2.375" tubing. Got EOT at 950' and circulated wellbore clean with 27 bbls of FW, noticed clumps of dehydrated cement in returns. Continued POOH with tubing. Out of hole, WOC. RIH to tag TOC. Tagged TOC at 1295' (+8'), rigged up to circulate, called for orders and prepared to pump cement. Pumped cement plug #1 stage 13, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake LCM sprinkled in + 3.6 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 966'-1295'. Shut well in, WOC, SDFDN. Crew traveled to Roswell.

9/21/24 – PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE. Equipment and work areas were inspected, with WHP checked at 0 psi (on vacuum). Made up 3.06" tag tool and RIH to tag TOC. Tagged TOC at 1273' (+32'), broke circulation with 2 bbls and prepared to pump cement. Pumped cement plug #1 stage 14, consisting of 5 bbls FW spacer + 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake LCM sprinkled in + 3.3 bbls displacement. POOH with tubing

and reversed out with 5 bbls at 800', continued POOH. Estimated cement plug from 944'-1273'. Continued POOH & WOC. RIH to tag TOC. Tagged TOC at 1273' (+0"), broke circulation with 2 bbls and prepared to pump cement. Pumped cement plug #1 stage 15, consisting of 5 bbls FW spacer + 2 bbls of a heavy visc (65+) LCM pill. Pulled out of hole with 126' +/-. Pumped 25 sacks (5.25 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake/Cedar fiber LCM sprinkled in + 3.2 bbls displacement. POOH with tubing and reversed out with 5 bbls at 800', continued POOH. Estimated LCM plug depth from 1147'-1273' and estimated cement plug depth from 818'-1147'. Continued POOH, out of hole, shut well in, WOC, and SDFN.

9/22/24 - PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE. Equipment and work areas were inspected, with WHP checked at 0 psi, 8-5/8" = 0 psi. Made up 3.06" tag tool and RIH to tag TOC. Tagged TOC at 1273' (+0'), broke circulation with 2 bbls, pumped 20 bbls to clean wellbore, and prepared to pump cement. Pumped cement plug #1 stage 16, consisting of 5 bbls FW spacer + 38 sacks (7.9 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake/cedar fiber LCM sprinkled in at 1lb/sack + 2.7 bbls displacement. POOH with tubing and reversed out with 4 bbls at 700', continued POOH. Estimated cement plug from 776'-1273'. Continued POOH & WOC. RIH to tag TOC. Tagged TOC at 1273' (+0"), broke circulation with 2 bbls, circulated 20 bbls to clean wellbore, and prepared to pump 2 bbl LCM pill. Pumped 2 bbl LCM pill with 65 visc, displaced 4.8 bbls, POOH with tubing (experienced overbalanced condition). Held conference call with Shell management and Drake. RIH to 1273'. Pumped 5 bbl weighted LCM pill with 20 bbls of FW + 5 bbls of LCM pill weighted to 9.5ppg + 2.5 bbls of FW for displacement. POOH with tubing, out of hole, shut well in, and SDFN. Crew traveled to Roswell.

9/23/24 - PJSM conducted with discussions of 7 Step with rig crew, LSRs, Equipment inspections, JSA Review, overhead lifts & PPE, and performed well control drill. Equipment and work areas were inspected, with WHP checked at 0 psi, 8-5/8" = 0 psi. Made up 3.06" tag tool and RIH to tag TOC. Tagged TOC at 1273' (+0'), broke circulation with 3 bbls, ceased pumping, and prepared to pump cement. Pumped cement plug #2 stage 1, consisting of 38 sacks (7.9 bbls) type 1/2 cement with 1.18 yield at 15.6 ppg with Cello-flake/cedar fiber LCM sprinkled in at 1lb/sack + 2% calcium chloride + 2.7 bbls displacement. POOH with tubing and reversed out

with 4 bbls at 700', continued POOH. Estimated cement plug from 776'-1273'. Continued POOH & WOC. RIH to tag TOC at 1273'. Began POOH and made call to Shell management. Held conference call with Shell & Drake management & Shell cementing SME, resulting in decision to pump a Calcium chloride, Sodium Silicate & 15.6ppg cement mix. Waited on approvals, chemicals & equipment. Continued POOH with tubing, shut well in, WOO & SDFN. Crew traveled to Roswell.

9/24/24 - The crew started with PJSM at Drake's yard, discussing Shell's expectations with the new crew. They spent time discussing the next day's pump plan and arranging for equipment and chemicals. A conference call with Shell & Drake management confirmed plans to pump a Calcium chloride, Sodium Silicate & 15.6ppg cement mix, which received BLM approval. The rig crew performed preventative maintenance on equipment while waiting for the next day's cement plug equipment.

9/25/24 - After PJSM and equipment inspections with WHP at 0 psi (slight vacuum) and 8-5/8" at 0 psi (slight blow), they RIH and placed EOT at 351' KB. Following some waiting time for equipment and chemicals, they built a dirt berm around the cellar. After pressure testing surface iron & equipment to 500 psi, they performed injection tests and pumped 10 bbls of 25% Calcium chloride followed by FW. They observed pressure changes and collected fluid samples showing 8.5ppg, PH=6 & 2000 chlorides. They then pumped cement plug #2 stage 2, with estimated plug from 912'-1242'.

9/26/24 - Crew traveled to Roswell, conducted PJSM discussing SDS, Right To Know, and PPE with JSA review, inspected equipment and found WHP at 0 psi (vacuum), RIH with workstring and tagged TOC at 1210'KB (32' gain from previous), circulated wellbore with 27 bbls FW getting 10.6 ppg returns with PH 14, pumped cement plug #2 stage 3 (25 sacks) setting plug from 1210'-880'KB, waited on cement for 4 hours, then RIH again and tagged TOC at 1199'KB (11' gain), circulated wellbore getting 10.2 ppg returns with PH 13, pumped cement plug #2 stage 4 (25 sacks) setting plug from 1199'-869'KB, POOH with workstring and secured well.

9/27/24 - Conducted PJSM covering housekeeping and slips/trips/falls with JSA review, inspected equipment with WHP at 0 psi, RIH with workstring and tagged TOC at 1199'KB (no

change from previous), circulated wellbore, received new procedure from office to pump CaCl2 pill ahead of cement plug, established injection rates and pumped 5 bbls of 25% CaCl2 pill, monitored pressures during bullhead operations, pumped cement plug #2 stage 5 (25 sacks) setting plug from 1199'-869'KB, POOH and waited on cement, RIH again and tagged TOC at 1174'KB (25' gain), performed second CaCl2 pill treatment, attempted to RIH for next cement plug but encountered hard tag at 1034'KB with damage to bottom tubing coupling observed, secured well.

9/28/24 - Conducted PJSM discussing PPE and trapped pressure with JSA review, inspected equipment with WHP at 0 psi, replaced two bent joints of 2.375" tubing and confirmed passage through restriction, experienced NPT waiting on DOT hours reset, RIH to 1157'KB and circulated bottoms up with estimated fluid level at 500', pumped cement plug #2 stage 6 (25 sacks) setting plug from 1174'-844'KB, waited on cement and tagged TOC at 1174' (no gain), circulated with returns showing pH 13 and 10.4 ppg, performed CaCl2 pill treatment with pressure monitoring, pumped cement plug #2 stage 7 (25 sacks) also setting plug from 1174'-844'KB, POOH with workstring and secured well.

9/29/24 - Conducted PJSM discussing adequate lighting and complacency with JSA review, inspected equipment with WHP at 0 psi (vacuum), RIH and tagged TOC at 1147'KB (27' gain), experienced NPT waiting on Drake personnel, circulated wellbore getting returns with pH 13 and 10.2 ppg, performed CaCl2 pill treatment with pressure testing and monitoring, pumped cement plug #2 stage 8 (25 sacks) setting plug from 1174'-844'KB, waited on cement and tagged TOC at 1137'KB (10' gain), conducted HSE pause to review procedures, then performed complex CaCl2/Sodium Silicate pill treatment sequence with detailed pressure monitoring (pressures ranging from 40-320 psi, finally stabilizing at 200 psi), secured well after consulting with office.

9/30/24 - Crew arrived onsite and conducted PJSM, discussing Near Miss AAR, HSE diligence, equipment inspections, and JSA review. Equipment and work areas were inspected, with well parameters recorded as WHP = SITP 136 psi, SICP (4 1/2) 120 psi, and SICP (8 5/8) 110 psi. The well was opened and bled back 35 bbls, with the ending sample showing 9.5 ppg PH6, CHL 3000. RIH with tubing while circulating wellbore at intervals: at 442'KB readings were 9.5 ppg,

PH6, 3000 CHL, Sulphate 1200; at 633'KB readings showed 9.7 ppg, PH5, 3000 CHL; at 823'KB readings were 9.7 ppg, PH7, 2000 CHL; and at 982'KB readings showed 8.7 ppg, PH6, 3000 CHL. NPT Shell began due to inability to washout cement lines to open top. After NPT ended, RIH with 1 joint to 1018'KB and circulated wellbore. Cement plug #2, stage 9 was pumped using 25 SKS (5.25 bbls) Type 1/2, 15.6 ppg, 1.18Y with 2% CaCl2 and 2% LCM. Displaced 2 bbls FW, shut down pump, and POOH with workstring. Estimated plug from 1018'-688'. POOH to derrick and WOC. RIH to 1018' with no tag. Forward circulated wellbore with 20 bbls of FW (2 bbls to break circulation), with returns showing 9.5 ppg cement water, PH14. RIH to 1137'KB and circulated wellbore with 20 bbls FW at 2.1 bpm with 94 psi, returns were 9.7 ppg, PH12, CHL 3000, Sulphate 800. POOH to derrick with workstring. SDFN.

10/01/24 - SDFN to start the day. PJSM was conducted with discussions of weather-related hazards and JSA review, resulting in a decision to wait on weather. NPT was recorded due to high winds in the area. Well parameters were checked with WHP = 0 psi, and the well was opened. RIH with tubing open-ended from derrick to 1125'. Rigged up to pump Sodium Silicate pill & cement plug, pressure tested pump lines to 1000 psi with good results. Broke forward circulation with 1.5 bbls of FW (PH7 from truck) and pumped bottoms up with 12 bbls. Returns showed 9.3 ppg, PH 14, CHL 3000, and Sulphates 1600. Began preparations to load sodium silicate onto pump truck when NPT Drake began. POOH to derrick, secured well, and SDFN.

10/02/24 - NPT Drake ended. PJSM was conducted with discussions of Zone Management, Safety Barriers, and JSA review. Equipment and work areas were checked, WHP confirmed at 0 psi, well was opened, and pump was lined up to forward circulate. RIH from derrick, broke circulation with 1.5 bbls of FW at 1 bpm with 25 psi, loaded sodium silicate from 250 gal. plastic tote onto pump truck. Lined up pump truck to spot Sodium Silicate from 1125'KB - 811'KB, pumped product at 3 bpm with 45 psi pump pressure, displaced tbg with 2.5 bbls FW at 2.2 bpm with 38 psi. POOH with tbg to EOT at 796'KB. Forward circulated 5 bbls of FW at 2.2 bpm with 65 psi, pumped plug #2 stg 10 from 796'KB - 482'KB at 3.2 bpm with 66 psi, pumped 5 bbls (24 SKS) of 15.6 PPG, 1.18Y Type I/II cement with 2% CaCl2 & 2% LCM, displaced tbg with 1.

10/03/24 - PJSM conducted with JSA review. Equipment and work areas were inspected, WHP checked at 0 psi (8 5/8" slight vacuum), and well was opened. RIH with workstring to 733'KB, circulated wellbore with returns showing 8.33 ppg, PH 13, CHL 1000, Sulphates 200. Discussed plan forward. Prepared to pump die to determine 8 5/8" integrity, lined up pump to tbg, closed 4 1/2" x 2 3/8" csg valves, opened 8 5/8" x 4 1/2" csg valves, pumped 0.5 bbls of FW, pressured to 260 psi, shut down pump, and bled pressure from B annulus. Pumped plug #4 stg 1 from 735'KB - 435'KB at 2 bpm with 70 psi, using 3.9 bbls (19 SKS) Type I/II Neat Cement, 1.18Y 15.6 ppg, 2%CC with LCM, displaced tbg with 1.4 bbls FW. WOC, POOH to 352'KB, reverse circulated tbg with 5 bbls FW, continued POOH to derrick with workstring. RIH with workstring from derrick, tagged TOC at 478'KB, POOH to derrick, spotted in WLU, MU/PU WL lubricator, pressure tested 4.5" csg to 250 psi - good, pressure tested lubricator to 300 psi - good. RIH with 3 1/8" x 3' gun (6 spf) to 321', pressured 4.5" csg to 300 psi, shot perfs at 321KB-319'KB, POOH, attempted to circulate down 4.5" out 8 5/8" annulus, pressured to 260 psi with 0.5 bbls pumped, attempted to pump down 8 5/8" annulus out 4.5", pressured to 350 psi with 0.5 bbls pumped, bled to 280 psi, stabilized. RIH with 3 1/8" x 3' gun (6 spf) to 221', pressured 4.5" csg to 300 psi, shot perfs at 221KB-219'KB, POOH, circulated 8 5/8" annulus with 13 bbls FW at 1.5 bpm with 50 psi.

10/04/24 - PJSM conducted with discussions of Zone Management, work pace, and JSA review. Equipment and work areas were inspected, with WHP checks showing SITP 0 psi, SICP 0 psi, and 8 5/8" slight vacuum. RIH with workstring from derrick (14 jts + 10' pup) to EOT at 458'KB, lined up pump to forward circulate 8 5/8" annulus, pressure tested pump lines to 1000 psi - good, broke circulation with 0.5 bbls FW on 8 5/8" annulus, pumped 1 bbl total at 3 bpm with 45 psi. Pumped plug #5 from 221'KB to surface in 8 5/8" casing at 1.9 bpm with 45 psi, using 12 bbls (97 SKS) Type I/II Neat Cement, 1.18Y 15.6 ppg. Pumped 4 1/2" casing from 458'KB to Surface at 1.9 bpm with 45 psi, using 14 bbls (23 SKS) Type I/II Neat Cement, 1.18Y 15.6 ppg (120 SKS total). POOH with workstring to racks, LD 13 jts, topped off 4 1/2" casing with 5-10 gallons Type I/II Neat Cement, 1.18Y 15.6 ppg, LD jt #14. Washed out all lines and equipment with FW to open top tank. RD WOR & equipment, ND BOP, and prepped equipment to move to well #185 on 10/5/24.

10/23/24 – Langan met with Drake at well 188 for cut and cap. Safety was discussed, and permits were issued. Drake cut and cap well 188 without need for cement. Donald Christie with NMOCD was on site and witnessed part of the cut and cap process. Confirmation email sent to Donald Christie with photographs of the completed well, cut and capped.

New Mexico - CSAU 188- P&A Schematic

SHL Location:	Section 05, T9S, R30E	#	Network:	
	Chaves Co, New Mexico	Lat. 30° 40' 42.126"	GLE	ft
API Number	30-005-20273-00-00	Unit G, 1980 FNL, 2080 FEL, Sec 05, T09S, R	DFE	ft
Acual BHL:	Vertical well		RKB	ft
Objectives:	NM CSAU P&A			

Formations

Zones of Interest

Formation	Top	Base
Base of Red Beds	244'	912'
Yates	1458'	+/-1560'
San Andres	2619'	
Slaughter A	3309'	

MD/TVD (ft)

Directional
Vertical Hole

Water Table = 32' (Shell)

Perf F/219 - T321'(6 SPF)

Top of Red Beds 244'

8-5/8" 24# (0-269') X 12.25" hole

Perf F/319'-T/321' (6 SPF)

4-1/2" OD X 7-7/8" OH

478' Tag TOC 3Oct24

735' Tag TOC 2Oct24

796' Top of Sodium Silicate

Top of Rustler = 812'

Bottom of Rustler = 962'

NOTE: * Tight Spot at 1034'

1137' TOC

Top of Yates = 1458'

Base of Yates = 1508'

397 ft

1534'

Original stoppage/Cleanout

Queen = 2150'(Plug up to 2050')

Grayburg = 2267' (Plug down 2317')

ETOC 2600'

San Andres (Four Mile Draw)-2619' -Shell

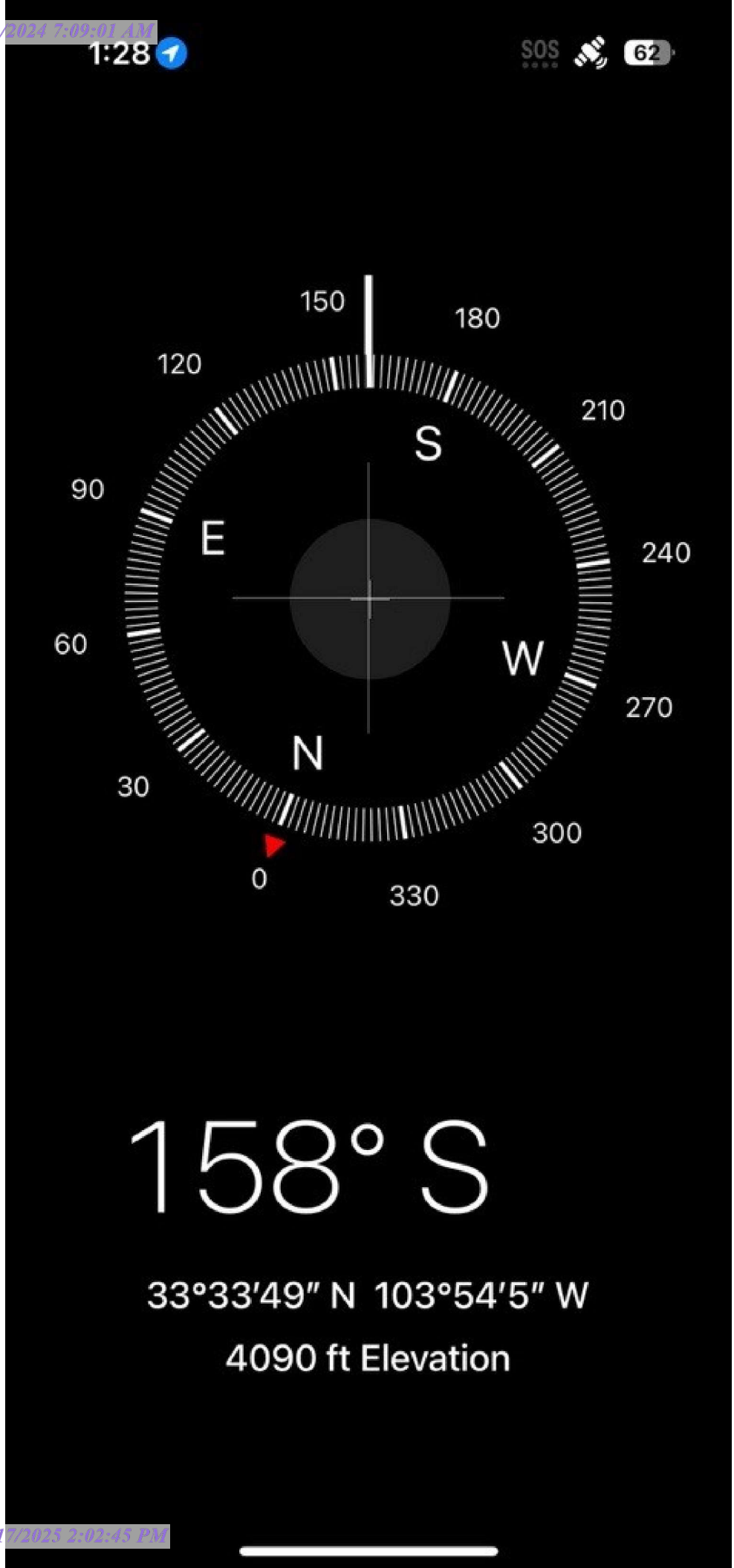
San Andres Marker - 3163' -Shell

Slaughter "A "Zone 3309'

3315'-3349' Perforations

4-1/2" 10.50# (0-3361')


SHELL
CSAU #188
API #30-005-20273
G-05-09S-30E
1980 FNL, 2080 FEL
Chaves County, NM
Lat/Long
33.563684, -103.892571


1:28
SOS
62
150
180
120
210
S
90
E
240
60
W
270
N
30
300
0
330
158° S
33°33′49″ N 103°54′5″ W
4090 ft Elevation

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

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 413743
	Action Type: [C-103] Sub. Plugging (C-103P)

CONDITIONS

Created By	Condition	Condition Date
loren.diede	None	6/17/2025