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. NM-0276225

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 #139

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

9. API Well No. 30-005-20131

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)* Section 22 Township 8S Range 30E

11. Country or Parish, State USA, Chaves County, New Mexico

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
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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 enclosed plugging and abandonment and well bore diagram for review.

SEE CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* Samantha Baker

Title SGWS Legacy Program Manager

Signature Samantha Baker Digitally signed by Samantha Baker Date: 2024.12.16 14:09:19 -07'00'

Date 12/16/2024

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by JENNIFER SANCHEZ Digitally signed by JENNIFER SANCHEZ Date: 2025.01.14 14:17:58 -07'00'

Title PETROLEUM ENGINEER

Date 01/14/2025

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

Cato San Andres Unit No. 139
Abandonment Program
API Number: 30-005-20131
Cato San Andres [10540]

Date: 12/6/2024

Comments:

9/1967: Spudded well and drilled well to 3630'. Installed 4-1/2", 9.5#/11.6# production casing at 3629' and cemented in-place with 400 sxs cement.
Perforation Record: 3460', 3463', 3471', 3475', 3477', 3480', 3483', 3486', 3489', 3491' (10 holes).

1. 3460' – 3491': Acdz with 4000-gals 28% Super X + additives.

Notes:

Note 1: Insure all bradenheads have been exposed, identified and valves are operational prior to rig up.

Note 2: NM EMNRD/OCD Conditions of Approval dated January 1, 2024, Item 7 establishes cement class based on the following table. *The cement class to be used will be determined by the service provider.*

Class	TVD Lower Limit (feet)
Class A/B	6,000
Class I/II	6,000
Class C or III	6,000
Class G and H	8,000
Class D	10,000

Note 2a: Cement volumes for this abandonment program are based on using Type I/II cement with following cement properties:

- Density = 15.6 ppg
- Yield = 1.18 cf/sx
- Mix water = 5.23 gals/sx
- All cement volume includes 50 feet excess

Note 3: Mud Requirement: Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of brine water. Minimum nine (9) pounds per gallon. Per a phone conversation with Jennifer Sanchez on Friday March 8, 2024, at 10:25 AM, getting a minimum of nine (9) pounds per gallon abandonment fluid will be sufficient. Drake will achieve a 9 pound per gallon abandonment fluid by mixing gel to a freshwater system and adding Barite to get the 9+ ppg abandonment fluid with a 40-funnel viscosity.

Note 4: Yates perforations and cement volumes can be adjusted as necessary.

Note 5: Surface plug perforations and cement volumes can be adjusted as necessary.

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Note 6: Cement and mud calculations will be based on 4-1/2, 9.5# casing.

a. Cement calculations will be based on 4-1/2", 9.5# (volume factor = 0.0912 cf/ft).
b. Mud calculations will be based 4-1/2", 9.5# csg (Volume factor – 0.0162 bbls/ft.).

Note 7: Bureau of Land Management, Interior, Subpart 3263 – Well Abandonment, 3261.11(2): Methods you will use to verify the plugs (Tagging, pressure, etc.).

Note 8: Blowout Preventers: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet.

CSAU 139 Abandonment Procedure

1. Hold pre-job safety meeting. Comply with NMOCD, BLM safety and environmental regulations. Test and anchors prior to MIRU if not rigged to base beam.

2. Perform spiral gas check. Check casing, tubing and Bradenhead pressures.

3. Remove existing piping on casing valve. RU blow lines from casing valves and begin blowing down casing pressure. Perform mandatory 40 bbl well kill. If a different fluid or amount is required kill well as necessary. Ensure the well is dead or on a vacuum.

4. MIRU abandonment rig. Install Class II 2M BOPE with hydraulic controls on 4-1/2" casing, during abandonment operations with 2" kill line rated to 2000 psi per permit instructions. It will be maintained in operating condition and meet the following minimum guidelines:
   a. Class II 2M with hydraulic controls during abandonment operations
   b. A 2M lubricator for wireline operations
   c. BOPE prevention drills will be conducted and recorded on the tour sheet.
   d. Hole fluid of a quality and in sufficient quantity to control subsurface conditions.

5. Pick-up 2-3/8" work string.

6. Run in well with bit and all weight casing scraper for 4-1/2" casing on work string to 3425'. Circulate well clean. Pull out of well and lay down casing scraper and bit. Notify Shell engineer of deepest point reached with bit and casing scraper.

7. Run in well with 4-1/2" CIBP and/or cement retainer as determined by well service provider, on 2-3/8" work string to 3408' (52' above top perforation at 3460'). Set CIBP at 3408', tag CIBP to verify setting depth. Release from CIBP set at 3408', circulate well clean thoroughly with water. Pull out of well with 2-3/8" work string.

8. Fill the well with water as necessary and pressure test casing to 500 psi. Notify Shell engineer of pressure test results. If pressure test fails, pull out of well with open ended work string and run in well with test packer for 4-1/2" casing on work string to locate leak and establishing injection rate

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and pressure. Notify Shell engineer of injection rate and pressure results and review possible squeeze cementing operations. If no casing leaks are identified continue with abandonment program.

9. MIRU wire line equipment, run in well with Radial Cement Bond Log (RCBL) to ±3408'. Run RCBL F/3408' – T/surface to determine TOC in 4-1/2" casing x OH annulus. Maintain wire line logging speed of ±60 ft/minute. After the RCBL run is complete, nipple down wire line lubricator, RDMO wireline unit.

   Note: Email copy RCBL log to the following individuals upon completions of logging operations:

   a. Jennifer Sanchez j1sanchez@blm.gov
   b. Noel Dominguez ndominguez@blm.gov
   c. Loren Diede loren.diede@emnrd.nm.gov
   d. Gilbert Cordero gilbert.cordero@emnrd.nm.gov
   e. E Shell OSR SEPCO-CWI-1@shell.com
   f. John MacKinnon john.mackinnon@shell.com
   g. Darrell Holmes darrell.holmes@shell.com
   h. Morgan Halbert (Petrophysicist SME) morgan.halbert@shell

10. Run in well with open ended work string tag top of CIBP and/or cement retainer at +/- 3408'. Circulate well clean with water.

11. MIRU cementers, test lines to 800 psi. Place a 329' cement plug F/3408' – T/3079' with 25 sx (30 cf) of Type I/II cement. Pull out of well with work string to 2900', circulate work string. Wait on cement to set and tag top of cement plug notify BLM to witness cement tag (if required).

12. Load well with 6 bbls of at least 9 lb/gal abandonment fluid F/3079' - T/2740'.

13. Pull out of well with open ended work string to 2790'.

14. MIRU cementers, test lines to 800 psi. Place a 329' cement plug F/2790' – T/2461' with 25 sx (30 cf) of Type I/II cement. Pull out of well with work string to 2200', circulate work string clean. Wait on cement and tag top of cement plug notify BLM to witness cement tag (if required).

15. Load well with 13 bbls of at least 9 lb/gal abandonment fluid F/2461' - T/1536'.

16. Pull out of well with open ended work string T/1686'.

17. With open ended work string at 1686' place 100' balanced cement plug F/1686' – T/1586' (top of Yates ±1586') with 8 sxs (9 cf) of Type I/II cement (no excess included). Allow cement to set, notify BLM to witness tagging of cement plug (if required).

18. MIRU wireline unit with lubricator. Run in well with 3' perforating equipment to 1586' (top of Yates ±1586') and perforate F/1586' – T/1583' with 6 SPF (18 holes). Pull out of well with perforating equipment, nipple down wire line lubricator, RDMO wireline unit.

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19. Run in well with test packer for 4-1/2” casing on work string to 600’. Set test packer at 600’, open bradenhead valves and establish circulation through perforations F/1586’ – T/1583’, notify Shell Engineer of circulation rate and pressure results and review squeeze cementing operations.

Note 9: From the Yates to the top of the Rustler the caliper log illustrates a hole size of ±16”. Cement calculations will be based on 4-1/2” x 16” OH volume factor = 1.2858 cf/ft) per the Halliburton Red Book. Therefore from 4-1/2” x 7-7/8” volume factor of 0.2278 cf/ft to a 4-1/2” x 16” OH volume factor = 1.2858 cf/ft is 464% in cement.

20. MIRU cementing equipment test lines. Pump 818 sxs (965 cf) of Type I/II cement as follows:
    a. Pump 765 sxs cf (902 cf/161 bbls) through perforations F/1586’ – T/1583’, should bring top of cement in 4-1/2” csg x 16” OH to +/-957’.
    b. Followed by 54 sxs (63 cf/11 bbls) of Type I/II neat cement in 4-1/2” casing F/1586’ – T/957’. Allow cement to set. RD cementing equipment.
    c. Total Type I/II cement pump = 818 sxs (965 cf/172 bbls).

21. After allowing cement to set, release packer and pull out of well with work string and packer, lay down packer.

22. Run in well with work string and tag top of cement plug at ±957’, notify BLM to witness cement tag (if required).

23. Load well with 16 bbls of at least 9 lb/gal abandonment fluid F/957’ - T/surface’. Pull out of well with open ended work string.

24. The 9-5/8” surface casing is set 475’. MIRU wireline unit with lubricator. Run in well with 5’ of perforating equipment and perforate F/530’ – T/525’ (50’ below 9-5/8” surface casing seat at 475’). RDMO wireline unit.

25. MIRU cementing equipment, test lines. Tie on to 4-1/2”, open casing valve between 4-1/2” x 9-5/8” casing. After casing valve is opened, establish circulation rate through perforations F/530’ – T/525’, notify Shell Engineer of circulation rate and pressure results and review cementing operations.

26. After circulation has been established, pump 147 sxs (173 cf) of Type I/II cement as follows:
    a. Pump 102 sxs (120 cf/21 bbls – cement volumes include 10% excess) of Type I/II neat cement through perforations F/530’ – T/surface, should bring cement in the 4-1/2” x 9-5/8” casing annulus to surface.
    b. Followed by 45 sxs (53 cf/9 bbls) of Type I/II neat cement in 4-1/2” casing F/530’ – T/surface. Allow cement to set. RD cementing equipment.
    c. Total cement to be pumped = 147 sxs (173 cf/30 bbls).

27. Confirm cement at surface in 4-1/2" x 9-5/8” casing annulus and 4-1/2" casing. If cement has dropped make arrangements to top off cement as necessary in both casing and annulus. RD Cement equipment.

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28. Prior to nippling down BOP, monitor wellhead prior to removal. The wellhead shall only be removed when one of the following conditions is met:

    a. Monitoring has demonstrated absence of pressure build-up(s) and/or bubbles.

    b. If the above cannot be met, a documented assessment is required to demonstrate that risks are ALARP (**A**s **L**ow **A**s **R**easonably **P**racticable).

29. Rig down and move out workover rig.

30. All casing shall be cut-off at the base of the cellar or 3 feet below final restored ground level (whichever is deeper). Install surface cap.

    a. Surface cap: the well bore shall be covered with a metal plate at least ¼" think and welded in place. A weep hole shall be left if a metal plate is welded in place.

    b. The following information shall be permanently inscribed on the surface cap.

        i. Well name
        ii. Well number
        iii. Name of Operator
        iv. Lease serial number
        v. Surveyed location (quarter-quarter section, Section, Township, Range – or other authorized survey designation acceptable to the authorized officer, such as metes and Bounds)

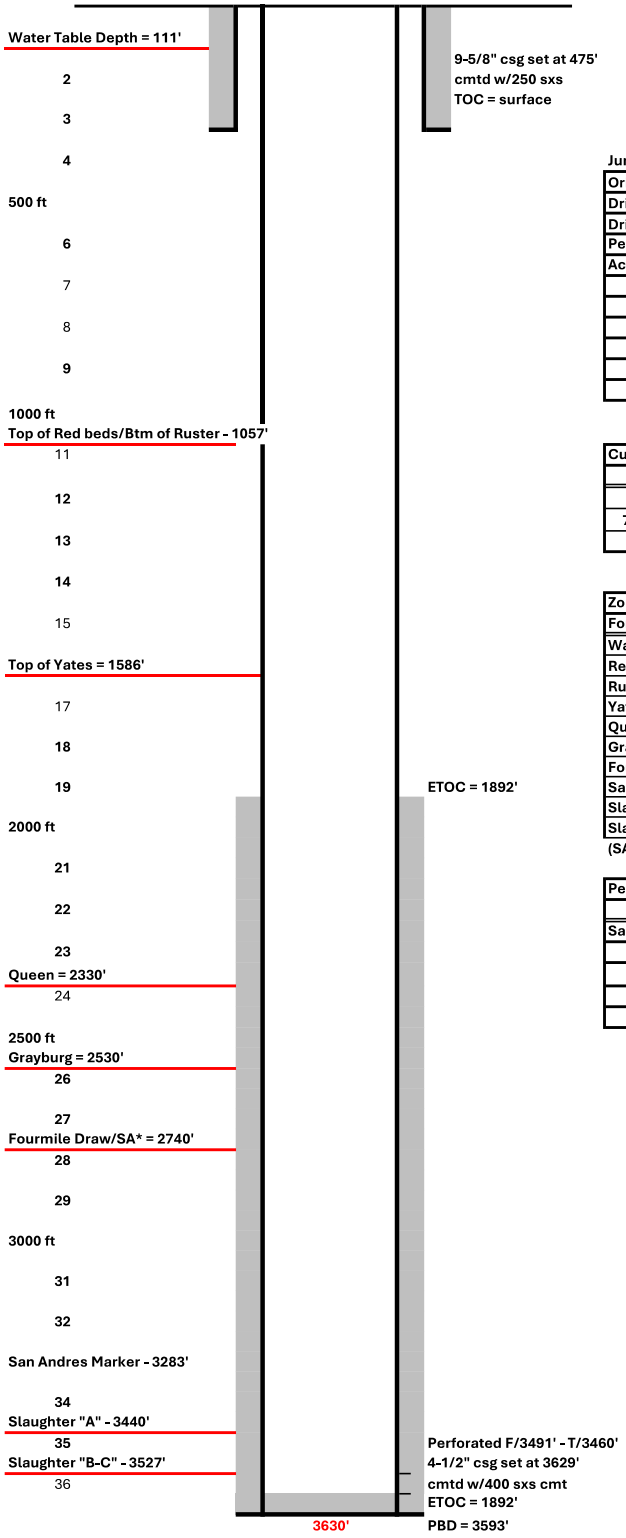
31. Backfill cellar.

Current Well Bore Diagram after Abandonment Operations

Well #: Cato San Andres Unit 139
Status: Idle
API#: 30-005-20131

Date: 12/6/2024
Field: Cato San Andres Unit
Unit K, 1980 FSL, 1980 FWL, Sec 22, T08S, R30E, Chaves County

Elevation	DF	above mat
DF	4162'	ASL
TD	3630'	
Completion Date:	9/19/1967	
Directional Drilled:	Vertical	



Junk/Plugs

Original drill well (1967)		
Drilled 11" hole, 9-5/8" surface casing set at 475' cmtd w/250 sxs, circulated cmt.		
Drilled 7-7/8" hole to 3630', 4-1/2", 9.5#/11.6# csg set at 3629', cmtd w/400 sxs of cmt, ETOC = 1892'.		
Perforation record: 3460', 3463', 3471', 3475', 3477', 3480', 3483', 3486', 3489', 3491' (10 holes).		
Acidized with 4000 gals 28% Super X + addivitives		

Current Hole and Casing Information

Hole	Casing	WPF	Top	Bottom	CF	Sacks	ETOC	Comments
11"	9-5/8"	53.5#	0'	475'		250	Surface	Circulated
7-7/8"	4-1/2"	9.5#/11.6#	0'	3629'		400	1892'	

Zones of Interest

Formation	Top	Base
Water Table Depth	111'	
Red Beds		1057'
Rustler	1057'	
Yates	1586'	
Queen	2330'	
Grayburg	2530'	
Fourmile Draw/SA*	2740'	
San Andres Marker	3283'	
Slauthter "A" Zone	3440'	
Slauthter "B-C" Zone	3527'	

(SA)* = San Andres

Perforations

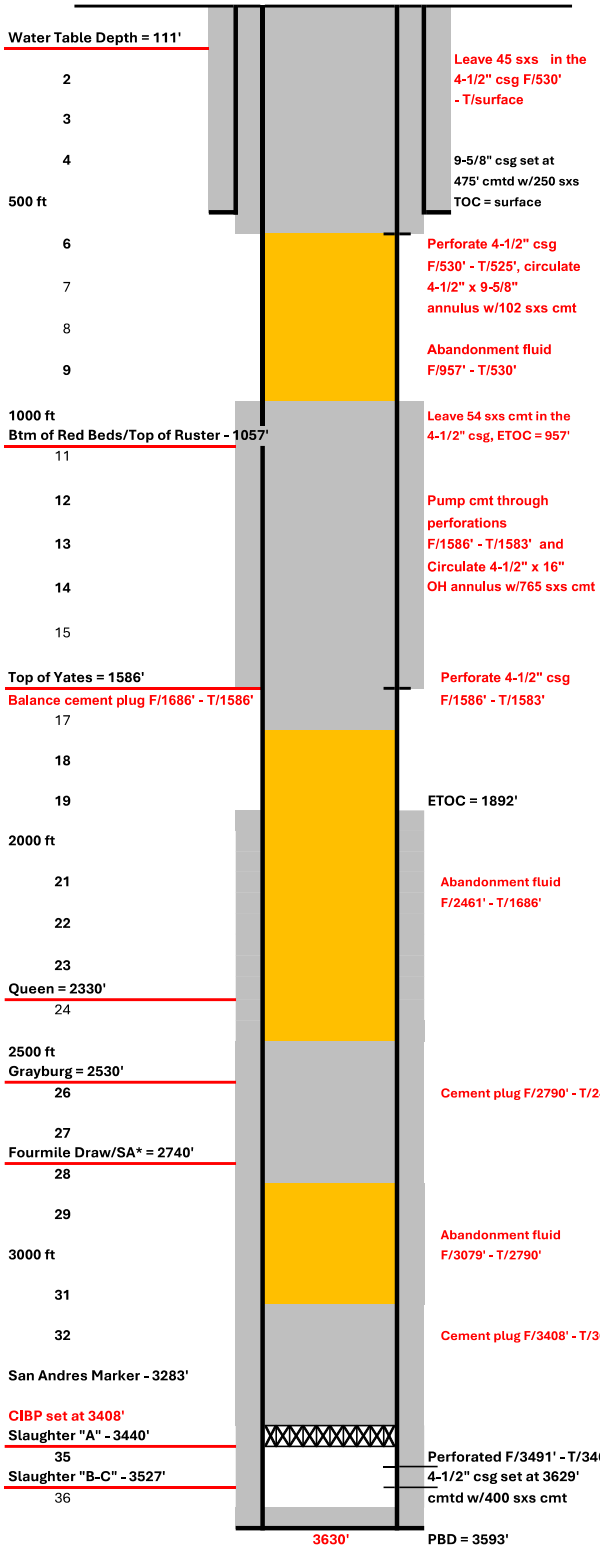
	Top	Bottom	Comments	
San Andres	3460'	3491'	Open	

Proposed Well Bore Diagram after Abandonment Operations

Well #: Cato San Andres Unit 139
Status: Idle
API#: 30-005-20131

Date: 12/6/2024
Field: Cato San Andres Unit
Unit K, 1980 FSL, 1980 FWL, Sec 22, T08S, R30E, Chaves County

Elevation	DF	above mat
DF	4162'	ASL
TD	3630'	
Completion Date:	9/19/1967	
Directional Drilled:	Vertical	



Junk/Plugs

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Drilled 7-7/8" hole to 3630', 4-1/2", 9.5#/11.6# csg set at 3629', cmtd w/400 sxs of cm t, ETOC = 1892'.		
Perforation record: 3460', 3463', 3471', 3475', 3477', 3480', 3483', 3486', 3489', 3491' (10 holes).		
Acidized with 4000 gals 28% Super X + addivitives		

Current Hole and Casing Information

Hole	Casing	WPF	Top	Bottom	CF	Sacks	ETOC	Comments
11"	9-5/8"	53.5#	0'	475'		250	Surface	Circulated
7-7/8"	4-1/2"	9.5#/11.6#	0'	3629'		400	1892'	

Zones of Interest

Formation	Top	Base
Water Table Depth	111'	
Red Beds		1057'
Rustler	1057'	
Yates	1586'	
Queen (SIS)	2330'	
Grayburg (SIS)	2530'	
Fourmile Draw/SA*	2740'	
San Andres Marker	3283'	
Slauthter "A" Zone	3440'	
Slauthter "B-C" Zone	3527'	

(SA)* = San Andres

Perforations

	Top	Bottom	Comments	
San Andres	3460'	3491'	Open	

Cato San Andres Unit 139
30-005-20131
Shell Oil Company
January 14, 2025
Conditions of Approval

1. **Operator shall place CIBP at 3,408' (50'-100' above top most perf) and place a minimum of 25 sx of Class C cement on top. WOC and TAG.**

2. **Operator shall place a balanced Class C plug from 2,790'-2,170' to isolate the San Andres, Grayburg, and Queen Formations. WOC and TAG.**

3. **Operator shall perf at 1,636'and squeeze Class C cement to 1,010' as proposed to seal the Yates and the Salt Formations. WOC and TAG.**

4. **Operator shall perf at 525' and squeeze class c cement to surface to seal the 9-5/8'' casing shoe.**

5. **Dry hole marker must be below ground.**

6. **Surface reclamation will need to be completed once the well bore has been plugged. Please contact rflores@blm.gov for additional information.**

7. **See Attached for general plugging stipulations.**

JAM 01142025

BUREAU OF LAND MANAGEMENT
Roswell Field Office
2909 W. Second Street
Roswell, New Mexico 88201
575-627-0272

General Requirements for Plug Backs

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

1. Plugging operations shall commence within **ninety (90)** days from this approval.

If you are unable to plug back the well by the 90th day provide this office, prior to the 90th day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged back. Failure to do so will result in enforcement action.

2. **Notification: Contact the appropriate BLM office at least 24 hours prior to the commencing of any plug back operations. Call 575-627-0205.**

3. Blowout Preventers: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet; a 3M system for a well not deeper than 13,636 feet; and a 5M system for a well not deeper than 22,727 feet.

4. Mud Requirement: Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.

5. Cement Requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement. **Before pumping cement on top of CIBP, tag will be required to verify depth. Based on depth, a tag of the cement may be deemed necessary.**

Unless otherwise specified in the approved procedure, the cement plug shall consist of either **Neat Class "C"**, for up to 7,500 feet of depth or **Neat Class "H"**, for deeper than 7,500 feet plugs.

6. Subsequent Plug back Reporting: Within 30 days after plug back work is completed, file one original and three copies of the Subsequent Report, Form 3160-5 to BLM. The report should give in detail the manner in which the plug back work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date work was completed.**

7. Trash: All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

State of New Mexico
Energy, Minerals and Natural Resources Department

NOTICE

NEW MEXICO PLUG AND ABANDON CONDITIONS OF APPROVAL

Effective January 1, 2024

The New Mexico Oil Conservation Division ("OCD") is announcing the release of its updated Plugging and Abandoning Conditions of Approval ("COA"). These COAs will bring consistency throughout the state and formalize existing practice in the field that are already being required by OCD and performed by Operators. OCD staff reviewing plans are directed to implement these COA's are throughout the entire State of New Mexico, except when circumstances warrant modifications or additional requirements as dictated by specific plugging project conditions, which determines are left solely to OCD.

For the most part, these updates simply consolidate current practice to ensure it applied uniformly state-wide. The most significant changes from existing practice are as follows:

- Logs.
  - A Cement Bond Log is required to ensure isolation of producing formations, protection of water and correlative rights. A CBL must be run or be on file that can properly evaluate the cement behind the casing.

    Note: Logs must be submitted to OCD via OCD permitting. A copy of the log may be emailed to the Compliance Officer Supervisor for faster review times, but email transmittal does not relieve the requirement for an operator to file through OCD permitting.
- Cement:
  - A table has been included which indicates the Class of cement and its allowed lower limits. This table is intended to align OCD requirements with applicable API standards and the Haliburton Redbook.
  - We are also standardizing practices with respect to cement waiting times:
    - 4 hours for accelerated (calcium chloride) cement.
    - 6 hours on regular cement.
- Formations:

- The COAs now include appendices for geological formation tops that shall be plugged.

The updated plugging COAs are attached to this notice. These COAs are effective for plugging operations for any NOI C-103F submitted on or after January 1, 2024, unless OCD determines that a modification or additional COAs are necessary based on specific plugging project conditions.

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Standard Plugging Conditions

This document provides OCD's general plugging conditions of approval. It should be noted that the list below may not cover special plugging programs in unique and unusual cases, and OCD expressly reserves the right to impose additional requirements to the extent dictated by project conditions. The OCD also reserves the right to approve deviations from the below conditions if field conditions warrant a change. A C-103F NOI to P&A must be approved prior to plugging operations. Failure to comply with the conditions attached to a plugging approval may result in a violation of 19.15.5.11 NMAC, which may result in enforcement actions, including but not limited to penalties and a requirement that the well be re-plugged as necessary.

1. Notify OCD office at least 24 hours before beginning work and seek prior approval to implementing any changes to the C-103 NOI to PA.
    - North Contact, Monica Kuehling, 505-320-0243, monica.kuehling@emnrd.nm.gov
    - South Contact, Gilbert Cordero, 575-626-0830, gilbert.cordero@emnrd.nm.gov

2. A Cement Bond Log is required to ensure strata isolation of producing formations, protection of water and correlative rights. A CBL must be run or be on file that can be used to properly evaluate the cement behind the casing.

    Note: Logs must be submitted to OCD via OCD permitting. A copy of the log may be emailed to OCD inspector for faster review times, but emailing does not relieve the operators obligation to submit through OCD permitting.

3. Once Plugging operations have commenced, the rig must not rig down until the well is fully plugged without OCD approval. If gap in plugging operations exceeds 30 days, the Operator must file a subsequent sundry of work performed and revised NOI for approval on work remaining. At no time shall the rig be removed from location if it will result in waste or contamination of fresh water.

4. Insure all bradenheads have been exposed, identified and valves are operational prior to rig up.

5. Fluids must be placed between all cement plugs mixed at 25 sacks per 100 bbls of water.
    - North, water or mud laden fluids
    - South, mud laden fluids

6. Closed loop system is to be used for entire plugging operation. Upon completion, contents of steel pits are to be hauled to an OCD permitted disposal facility.

7. Class of cement shall be used in accordance with the below table for depth allowed.

Class	TVD Lower Limit (feet)
Class A/B	6,000
Class I/II	6,000
Class C or III	6,000
Class G and H	8,000
Class D	10,000

Class E	14,000
Class F	16,000

8. After cutting the well head any “top off cement jobs” must remain static for 30 minutes. Any gas bubbles or flow during this 30 minutes shall be reported to the OCD for approval of next steps.

9. Trucking companies being used to haul oilfield waste fluids (Commercial or Private) to a disposal facility shall have an approved OCD C-133 permit.
    - A copy of this permit shall be available in each truck used to haul waste products.
    - It is the responsibility of the Operator and Contractor to verify that this permit is in place prior to performing work.
    - Drivers shall be able to produce a copy upon request of an OCD Compliance Officer.

10. Filing a [C-103] Sub. Plugging (C-103P) will serve as notification that the well has been plugged.

11. A [C-103] Sub. Release After P&A (C-103Q) shall be filed no later than a year after plugging and a site inspection by OCD Compliance officer to determine if the location is satisfactorily cleaned, all equipment, electric poles and trash has been removed to meet OCD standards before bonding can be released.

12. Produced water or brine-based fluids may not be used during any part of plugging operations without prior OCD approval.

13. Cementing;
    - All cement plugs will be neat cement and a minimum of 100’ in length. 50’ of calculated cement excess required for inside casing plugs and 100% calculated cement excess required on outside casing plugs.
    - If cement does not exist between or behind the casing strings at recommended formation depths, the casing perforations will be shot at 50’ below the formation top and the cement retainer shall be set no more than 50’ from the perforations.
    - WOC (Wait on Cement) time will be:
        - 4 hours for accelerated (calcium chloride) cement.
        - 6 hours on regular cement.
    - Operator must tag all cement plugs unless it meets the below condition.
        - The operator has a passing pressure test for the casing annulus and the plug is only an inside plug.
    - If perforations are made operator must tag all plugs using the work string to tag unless given approval to tag with wireline by the correct contact from COA #1 of this document.
        - This includes plugs pumped underneath a cement retainer to ensure retainer seats properly after cement is pumped.
    - Cement can only be bull-headed with specific prior approval.
    - Squeeze pressures are not to exceed the exposed formations frac gradient or the burst pressure of the casing.

14. A cement plug is required to be set from 50’ below to 50’ above (straddling) formation tops, casing shoes, casing stubs, any attempted casing cut offs, anywhere the casing is perforated, DV tools.
    - Perforation/Formation top plug. (When there is less than 100ft between the top perforation to the formation top.) These plugs are required to be started no greater than

50ft from the top perforation. However, the plug should be set below the formation top or as close to the formation top as possible for the maximum isolation between the formations. The plug is required to be a 100ft cement plug plus excess.

- Perforation Plug when a formation top is not included. These plugs are required to be started within 50ft of the top perforation. The plug is required to be a 100ft cement plug plus excess.
- Cement caps on top of bridge plugs or cement retainers for perforation plugs, that are not straddling a formation top, may be set using a bailer with a minimum of 35’ of cement in lieu of the 100’ plug. The bridge plug or retainer must be set within 50ft of the perforations.
- Perforations are required below the surface casing shoe if cement does not exist behind the casing, a 30-minute minimum wait time will be required immediately after perforating to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. If gas is detected contact the OCD office for directions.

15. No more than 3000 feet is allowed between cement plugs in cased hole and no more than 2000 feet is allowed in open hole.

16. Formation Tops to be isolated with cement plugs, but not limited to are:
    - Northwest See Figure A
    - South (Artesia) See Figure B
    - Potash See Figure C
        - In the R-111-P (Or as subsequently revised) Area a solid cement plug must be set across the salt section. Fluid used to mix the cement shall be saturated with the salts that are common to the section penetrated and in suitable proportions, not more than 3% calcium chloride (by weight of cement) will be considered the desired mixture whenever possible, woe 4 hours and tag, this plug will be 50' below the bottom and 50' above the top of the Formation.
    - South (Hobbs) See Figure D1 and D2
    - Areas not provided above will need to be reviewed with the OCD on a case by case basis.

17. Markers
    - Dry hole marker requirements 19.15.25.10.
      The operator shall mark the exact location of plugged and abandoned wells with a steel marker not less than four inches in diameter set in cement and extending at least four feet above mean ground level. The marker must include the below information:
        1. Operator name
        2. Lease name and well number
        3. API number
        4. Unit letter
        5. Section, Township and Range

    - AGRICULTURE (Below grade markers)
      In Agricultural areas a request can be made for a below ground marker. For a below ground marker the operator must file their request on a C-103 notice of intent, and it must include the following;
        A) Aerial photo showing the agricultural area
        B) Request from the landowner for the below ground marker.

C) Subsequent plugging report for a well using a below ground marker must have an updated C-102 signed by a certified surveyor for SHL.

Note: A below ground marker is required with all pertinent information mentioned above on a plate, set 3' below ground level, a picture of the plate will be supplied to OCD for record, the exact location of the marker (longitude and latitude by GPS) will be provided to OCD. OCD requires a current survey to verify the location of the below ground marker, however OCD will accept a GPS coordinate that were taken with a GPS that has an accuracy of within 15 feet.

18. If work has not commenced within 1 year of the approval of this procedure, the approval is automatically expired. After 1 year a new [C-103] NOI Plugging (C-103F) must be submitted and approved prior to work.

Figure A

North Formations to be isolated with cement plugs are:

- San Jose
- Nacimiento
- Ojo Alamo
- Kirtland
- Fruitland
- Picture Cliffs
- Chacra (if below the Chacra Line)
- Mesa Verde Group
- Mancos
- Gallup
- Basin Dakota (plugged at the top of the Graneros)
- Deeper formations will be reviewed on a case-by-case basis

Figure B

South (Artesia) Formations to be isolated with cement plugs are:

- Fusselman
- Montoya
- Devonian
- Morrow
- Strawn
- Atoka
- Permo-Penn
- Wolfcamp
- Bone Springs
- Delaware , in certain areas where the Delaware is subdivided into;
    - 1. Bell Canyon
    - 2. Cherry Canyon
    - 3. Brushy Canyon
- Any salt sections
- Abo
- Yeso
- Glorieta
- San Andres
- Greyburg
- Queen
- Yates

Figure C

Potash Area R-111-P

T 18S – R 30E
Sec 10 Unit P. Sec 11 Unit M,N. Sec 13 Unit L,M,N. Sec 14 Unit C -P. Sec 15 Unit A G,H,I,J,K,N,O,P. Sec 22 Unit All
except for M. Sec 23, Sec 24 Unit C,D,E,L, Sec 26 Unit A-G, Sec 27 Unit A,B,C

T 19S – R 29E
Sec 11 Unit P. Sec 12 Unit H-P. Sec 13. Sec 14 Unit A,B,F-P. Sec 15 Unit P. Sec 22 Unit A,B,C,F,G,H,I,J
K,N,O,P. Sec 23.
Sec 24. Sec 25 Unit D. Sec 26 Unit A- F. Sec 27 Unit A,B,C,F,G,H.

T 19S – R 30E
Sec 2 Unit K,L,M,N. Sec 3 Unit I,L,M,N,O,P. Sec 4 Unit C,D,E,F,G,I-P. Sec 5 Unit A,B,C,E-P. Sec 6 Unit I,O,P. Sec 7 – Sec
10. Sec 11 Unit D, G—P. Sec 12 Unit A,B,E-P. Sec 13 Unit A-O. Sec 14-Sec 18. Sec 19 Unit A-L, P. Sec 20 – Sec 23. Sec
24 Unit C,D,E,F,L,M,N. Sec 25 Unit D. Sec 26 Unit A-G, I-P. Sec 27, Sec 28, Sec 29 Unit A,B,C,D,F,G,H,I,J,O,P. Sec 32
Unit A,B,G,H,I,J,N,O,P. Sec 33. Sec 34. Sec 35. Sec 36 Unit D,E,F,I-P.

T 19S – R 31E
Sec 7 Unit C,D,E,F,L. Sec 18 Unit C,D,E,F,G,K,L. Sec 31 Unit M. Sec 34 Unit P. Sec 35 Unit M,N,O. Sec 36 Unit O,P.

T 20S – R 29E
Sec 1 Unit H,I,P. Sec 13 Unit E,L,M,N. Sec 14 Unit B-P. Sec 15 Unit A,H,I,J,N,O,P. Sec 22 Unit A,B,C,F,G,H,I,J,O,P. Sec
23. Sec 24 Unit C,D,E,F,G,J-P. Sec 25 Unit A-O. Sec 26. Sec 27 Unit A,B,G,H,I,J,O,P. Sec 34 Unit A,B,G,H. Sec 35 Unit
A-H. Sec 36 Unit B-G.

T 20S – R 30E
Sec 1 – Sec 4. Sec 5 Unit A,B,C,E-P. Sec 6 Unit E,G-P. Sec 7 Unit A-H,I,J,O,P. Sec 8 – 17. Sec 18 Unit A,B,G,H,I,J,O,P.
Sec 19 Unit A,B,G,H,I,J,O,P. Sec 20 – 29. Sec 30 Unit A-L,N,O,P. Sec 31 Unit A,B,G,H,I,P. Sec 32 – Sec 36.

T 20S – R 31E
Sec 1 Unit A,B,C,E-P. Sec 2. Sec 3 Unit A,B,G,H,I,J,O,P. Sec 6 Unit D,E,F,J-P. Sec 7. Sec 8 Unit E-P. Sec 9 Unit E,F,J-P.
Sec 10 Unit A,B,G-P. Sec 11 – Sec 36.

T 21S – R 29E
Sec 1 – Sec 3. Sec 4 Unit L1 – L16,I,J,K,O,P. Sec 5 Unit L1. Sec 10 Unit A,B,H,P. Sec 11 – Sec 14. Sec 15 Unit A,H,I. Sec
23 Unit A,B. Sec 24 Unit A,B,C,D,F,G,H,I,J,O,P. Sec 25 Unit A,O,P. Sec 35 Unit G,H,I,J,K,N,O,P. Sec 36 A,B,C,F – P.

T 21S – R 30E
Sec 1 – Sec 36

T 21S – R 31E

Sec 1 – Sec 36

T 22S – R 28E
Sec 36 Unit A,H,I,P.

T 22S – R 29E
Sec 1. Sec2. Sec 3 Unit I,J,N,O,P. Sec 9 Unit G – P. Sec 10 – Sec 16. Sec 19 Unit H,I,J. Sec 20 – Sec 28. Sec 29 Unit
A,B,C,D,G,H,I,J,O,P. Sec 30 Unit A. Section 31 Unit C – P. Sec 32 – Sec 36

T 22S – R 30E
Sec 1 – Sec 36

T 22S – R 31E
Sec 1 – Sec 11. Sec 12 Unit B,C,D,E,F,L. Sec 13 Unit E,F,K,L,M,N. Sec 14 – Sec 23. Sec 24 Unit
C,D,E,F,K,L,M,N. Sec 25
Unit A,B,C,D. Sec 26 Unit A,BC,D,G,H. Sec 27 – Sec 34.

T 23S – R 28E
Sec 1 Unit A

T 23S – R 29E
Sec 1 – Sec 5. Sec 6 Unit A – I, N,O,P. Sec 7 Unit A,B,C,G,H,I,P. Sec 8 Unit A – L, N,O,P. Sec 9 – Sec 16. Sec 17 Unit
A,B,G,H,I,P. Sec 21 – Sec 23. Sec 24 Unit A – N. Sec 25 Unit D,E,L. Sec 26. Sec 27. Sec 28 Unit A – J, N,O,P. Sec 33
Unit A,B,C. Sec 34 Unit A,B,C,D,F,G,H. Sec 35. Sec 36 Unit B,C,D,E,F,G,K,L.

T 23S – R 30E
Sec 1 – Sec 18. Sec 19 Unit A – I,N,O,P. Sec 20, Sec 21. Sec 22 Unit A – N, P. Sec 23, Sec 24, Sec 25. Sec 26 Unit
A,B,F-P. Sec 27 Unit C,D,E,I,N,O,P. Sec 28 Unit A – H, K,L,M,N. Sec 29 Unit A – J, O,P. Sec 30 Unit A,B. Sec 32 A,B. Sec
33 Unit C,D,H,I,O,P. Sec 34, Sec 35, Sec 36.

T 23S – R 31E
Sec 2 Unit D,E,J,O. Sec 3 – Sec 7. Sec 8 Unit A – G, K – N. Sec 9 Unit A,B,C,D. Sec 10 Unit D,P. Sec 11 Unit G,H,I,J,M,N,O,P. Sec 12 Unit E,L,K,M,N. Sec 13 Unit C,D,E,F,G,J,K,L,M,N,O. Sec 14. Sec 15 Unit A,B,E – P. Sec 16 Unit
I, K – P. Sec 17 Unit B,C,D,E, I – P. Sec 18 – Sec 23. Sec 24 Unit B – G, K,L,M,N. Sec 25 Unit B – G, J,K,L. Sec 26 – Sec
34. Sec 35 Unit C,D,E.

T 24S – R 29E
Sec 2 Unit A, B, C, D. Sec 3 Unit A

T 24S – R 30E
Sec 1 Unit A – H, J – N. Sec 2, Sec 3. Sec 4 Unit A,B,F – K, M,N,O,P. Sec 9 Unit A – L. Sec 10 Unit A – L, O,P. Sec 11.
Sec 12 Unit D,E,L. Sec 14 Unit B – G. Sec 15 Unit A,B,G,H.

T 24S – R 31E
Sec 3 Unit B – G, J – O. Sec 4. Sec 5 Unit A – L, P. Sec 6 Unit A – L. Sec 9 Unit A – J, O,P. Sec 10 Unit B – G, K – N. Sec
35 Unit E – P. Sec 36 Unit E,K,L,M,N.

T 25S – R 31E
Sec 1 Unit C,D,E,F. Sec 2 Unit A – H.

Figure D1 and D2

South (Hobbs) Formations to be isolated with cement plugs are:

The plugging requirements in the Hobbs Area are based on the well location within specific areas of the Area (See Figure D1). The Formations in the Hobbs Area to be isolated with cement plugs are (see Figure D2)

Figure D1 Map

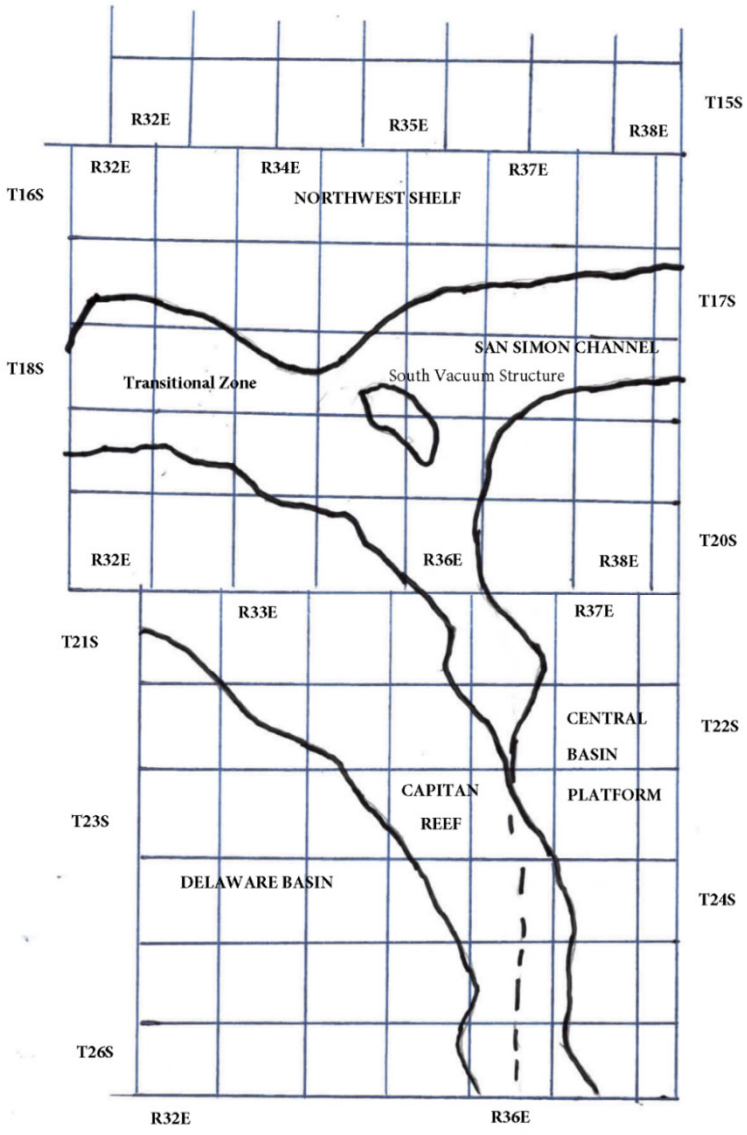

Figure D2 Formation Table

100' Plug to isolate upper and lower fresh water zones (typically 250' to 350')						
Northwest Shelf	**Captan Reef Area**	**Transition Zone**	**San Simon Channel**	**South Vacuum Structure**	**Delaware Basin**	**Central Basin Platform**
Granit Wash (Detrital basement material and fractured pre-Cambrian basement rock)	Siluro-Devonian	Morrow	Siluro-Devonian	Ellenburger	Siluro-Devonian	Granit Wash (Detrital basement material, fractured pre-Cambrian basement rock and fracture Mafic Volcanic intrusives).
Montoya	Mississippian	Atoka	Morrow	Mckee	Morrow	Ellenburger
Fusselman	Morrow	Strawn	Wolfcamp	Siluro-Devonian	Atoka	Connell
Woodford	Atoka	Cisco	Abo Reef	Woodford	Strawn	Waddell
Siluro-Devonian	Strawn	Pennsylvanian	Bone Spring	Mississippian	Pennsylvanian	Mckee
Chester	Pennsylvanian	Wolfcamp	Delaware	Barnett Shale	Lower Wolfcamp	Simpson Group
Austin	Wolfcamp	Bone Spring	San Andres	Morrow	Upper Wolfcamp	Montoya
Mississippian	Abo Reef, if present	Delaware	Queen	Atoka	Wolfcamp	Fusselman
Morrow	Abo, if present	San Andres	Yates	Strawn	Third Bone Spring Sand (Top of Wolfbone)	Silurian
Atoka	Queen, if present	Grayburg-San Andres	Base of Salt	Canyon	First Bone Spring Sand (Top of Lower Bone Spring)	Devonian
Lower Pennsylvanian	Bone Spring	Queen	Rustler	Pennsylvanian	Bone Spring	Strawn
Cisco-Canyon	Delaware	Seven Rivers		Blinebry	Brushy Canyon	Pennsylvanian
Pennsylvanian	Base Capitan Reef	Yates		Bone Spring	Delaware (Base of Salt)	Wolfcamp
Bough	Seven Rivers	Base of Salt		San Andres	Rustler	Abo
Wolfcamp	Yates	Rustler		Queen		Abo Reef
Abo	Top Capitan Reef			Base of Salt		Drinkard
Abo Reef, if present	Base of Salt			Rustler		Tubb
Yeso (Township 15 South to Township 17 South)	Rustler					Blinebry
Drinkard or Lower Yeso (Township 15 South to Township 17 South)						Paddock
Tubb (Township 15 South to Township 17 South)						Glorieta
Blinebry (Township 15 South to Township 17 South)						San Andres
Paddock (Township 15 South to Township 17 South)						Grayburg
Glorieta						Grayburg-San Andres
San Andres						Queen
Queen (Township 15 South to Township 17 South)						Seven Rivers
Seven Rivers (Township 15 South to Township 17 South)						Yates
Yates (Township 15 South to Township 17 South)						Base of Salt
Base of Salt						Rustler
Rustler						

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

Action 422638

CONDITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 422638
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
loren.diede	Notify the OCD inspection supervisor via email 24 hours prior to beginning Plug & Abandon (P&A) operations.	1/21/2025
loren.diede	Submit the CBL tif file for upload into the NMOCD Well Log file.	1/21/2025
loren.diede	NMOCD concurs with the BLM COAs for this well.	1/21/2025