U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

06/04/2025

Well Name: ROSA UNIT

Well Location: T31N / R5W / SEC 34 / NESE / 36.852936 / -107.344086

County or Parish/State: RIO ARRIBA / NM

Well Number: 55

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMSF078773

Unit or CA Name:

Unit or CA Number:

US Well Number: 300392092300S1

Operator: LOGOS OPERATING LLC

Notice of Intent

Sundry ID: 2855552

Type of Submission: Notice of Intent

Type of Action: Plug and Abandonment

Date Sundry Submitted: 06/02/2025

Time Sundry Submitted: 08:55

Date proposed operation will begin: 06/03/2025

Procedure Description: LOGOS Operating, LLC requests permission to plug and abandoned the subject well per the attached procedure and wellbore diagrams.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Rosa_Unit_55_PA_Procedure_20250602085502.pdf

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Conditions of Approval

Additional

General_Requirement_PxA_20250604140945.pdf

2855552_NOI_PnA_Rosa_Unit_55_3003920923_MHK_06.04.2025_20250604140938.pdf

Rosa_Unit_No_55_Geo_Rpt_20250604114729.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: ETTA TRUJILLO

Signed on: JUN 02, 2025 08:56 AM

Name: LOGOS OPERATING LLC

Title: Regulatory Specialist

Street Address: 2010 AFTON PLACE

City: Farmington **State:** NM

Phone: (505) 324-4154

Email address: ETRUJILLO@LOGOSRESOURCESLLC.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: MATTHEW H KADE

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5055647736

BLM POC Email Address: MKADE@BLM.GOV

Disposition: Approved

Disposition Date: 06/04/2025

Signature: Matthew Kade

GENERAL REQUIREMENTS FOR PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES FARMINGTON FIELD OFFICE

1.0 The approved plugging plans may contain variances from the following minimum general requirements.

1.1 Modification of the approved plugging procedure is allowed only with the prior approval of the Authorized Officer, Farmington Field Office.

1.2 Requirements may be added to address specific well conditions.

2.0 Materials used must be accurately measured. (densometer/scales)

3.0 A tank or lined pit must be used for containment of any fluids from the wellbore during plugging operations and all pits are to be fenced with woven wire. These pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced.

3.1 Pits are not to be used for disposal of any hydrocarbons. If hydrocarbons are present in the pit, the fluids must be removed prior to filling in.

4.0 All cement plugs are to be placed through a work string. Cement may be bull-headed down the casing with prior approval. Cement caps on top of bridge plugs or cement retainers may be placed by dump bailer.

4.1 The cement shall be as specified in the approved plugging plan.

4.2 All cement plugs placed inside casing shall have sufficient volume to fill a minimum of 100' of the casing, or annular void(s) between casings, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.3 Surface plugs may be no less than 50' in length.

4.4 All cement plugs placed to fill annular void(s) between casing and the formation shall be of sufficient volume to fill a minimum of 100' of the annular space plus 100% excess, calculated using the bit size, or 100' of annular capacity, determined from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.5 All cement plugs placed to fill an open hole shall be of sufficient volume to fill a minimum of 100' of hole, as calculated from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug. In the absence of a caliper log, an excess of 100% shall be required.

4.6 **A cement bond log or other accepted cement evaluation tool is required to be run if one had not been previously ran or cement did not circulate to surface during the original casing cementing job or subsequent cementing jobs.**

5.0 All cement plugs spotted across, or above, any exposed zone(s), when; the wellbore is not full of fluid or the fluid level will not remain static, and in the case of lost circulation or partial returns during cement placement, shall be tested by tagging with the work string.

5.1 The top of any cement plug verified by tagging must be at or above the depth specified in the approved plan, without regard to any excess.

5.2 Testing will not be required for any cement plug that is mechanically contained by use of a bridge plug and/or cement retainer, if casing integrity has been established.

5.3 Any cement plug which is the only isolating medium, for a fresh water interval or a zone containing a prospectively valuable deposit of minerals, shall be tested by tagging.

5.4 If perforations are required below the surface casing shoe, a 30 minute minimum wait time will be required 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. Short or long term venting may be necessary to evacuate trapped gas. If only a water flow occurs with no associated gas, shut well in and record the pressures. Contact the Engineer as it may be necessary to change the cement weight and additives.

6.0 Before setting any cement plugs the hole needs to be rolled. All wells are to be controlled by means of a fluid that is to be of a weight and consistency necessary to stabilize the wellbore. This fluid shall be left in place as filler between all plugs.

6.1 Drilling mud may be used as the wellbore fluid in open hole plugging operations.

6.2 The wellbore fluid used in cased holes shall be of sufficient weight to balance known pore pressures in all exposed formations.

7.0 A blowout preventer and related equipment (BOPE) shall be installed and tested prior to working in a wellbore with any exposed zone(s); (1) that are over pressured, (2) where the pressures are unknown, or (3) known to contain H_2S.

8.0 Within 30 days after plugging work is completed, file a Sundry Notice, Subsequent Report of Abandonment (Form 3160-5), through the Automated Fluid Minerals Support System (AFMSS) with the Field Manager, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM 87402. The report should show the manner in which the plugging work was carried out, the extent, by depth(s), of cement plugs placed, and the size and location, by depth(s), of casing left in the well. Show date well was plugged.

9.0 All permanently abandoned wells are to be marked with a permanent monument as specified in 43 CFR 3162.6(d) and 43 CFR 3172.12(a)(10). Unless otherwise approved.

10.0 If this well is located in a Specially Designated Area (SDA), compliance with the appropriate seasonal closure requirements will be necessary.

All of the above are minimum requirements. Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1. You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
6251 College Boulevard, Suite A
Farmington, New Mexico 87402
http://www.blm.gov/nm

CONDITIONS OF APPROVAL

June 4, 2025

Notice of Intent - Plug and Abandonment

Operator: LOGOS Operating LLC
Lease: NMSF078773
Well(s): Rosa Unit 55, API # 30-039-20923
Location: NESE Sec 34 T31N R5W (Rio Arriba County, NM)
Sundry Notice ID#: 2855552

The Notice of Intent to Plug and Abandon is accepted with the following Conditions of Approval (COA):

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."

2. **The following modifications to your plugging program are made:**

   a. Add a plug to cover the BLM Geologist's formation top pick for the Gallup formation at 7216'. Plug should at a minimum cover 7096' – 7266', estimated minimum 14 sx Class G.

   b. Adjust BOC on Plug #2 (Mancos/DV Tool) to cover 50' below DV Tool at 5961'. Plug 3 should at a minimum cover 5850' – 6011', estimated minimum 13 sx Class G.

   c. Adjust Plug #3 (Mesaverde) to account for the BLM Geologist's formation top pick for the Mesaverde formation at 5616'. Plug 3 should cover 5516' – 5666', estimated minimum 12 sx Class G.

   Note: Volumes listed for Plug #4 (Picture Cliffs/Fruitland/Kirtland/Ojo Alamo) do not match between procedure (66sx Class G) and wellbore diagram (61sx Class G). A minimum of 63sx Class G needs to be pumped to cover 2635' – 3450'.

3. **Notification:** Farmington Field Office is to be notified at least 24 hours before the plugging operations commence at (505) 564-7750.

4. **Deadline of Completion of Operations:** Complete the plugging operation before May 16, 2026. If unable to meet the deadline, notify the Bureau of Land Management's Farmington Field Office prior to the deadline via Sundry Notice (Form 3160-5) Notice of Intent detailing the reason for the delay and the date the well is to be plugged.

You are also required to place cement excesses per 4.2 and 4.4 of the attached General Requirements. Any estimated minimum sacks provided in procedure modification include necessary excesses.

Office Hours: 7:45 a.m. to 4:30 p.m.

Matthew Kade (mkade@blm.gov/505-564-7736) / Kenny Rennick (krennick@blm.gov/505-564-7742)

BLM - FFO - Geologic Report

Date Completed 6/4/2025

Well No.	Rosa Unit No 55			Surf. Loc.	1510	FSL	1170 FEL
Lease No.	NMSF078773				Sec 34	T31N	R5W
US Well No.	3003920923						
Operator	Logos Operating LLC			County	Rio Arriba	State	New Mexico
TVD	8282	PBTD	8237	Formation	Blanco Mesa Verde-Dakota		
Elevation	GL	6576		Elevation	Est. KB	6589	

Geologic Formations	Est. tops	Subsea Elev.	Remarks
San Jose Fm.	Surface		
Nacimiento Fm.	1268	5321	Surface /fresh water sands
Ojo Alamo Ss	2685	3904	Fresh water aquifer
Kirtland Fm.	2875	3714	
Fruitland Fm.	3311	3278	Coal/gas/possible water
Pictured Cliffs	3400	3189	Possible gas/water
Lewis Shale (Main)	3465	3124	Source rock
Huerfanito Bentonite	4385	2204	Reference bed
Cliff House Ss	5616	973	Possible gas/water
Menefee Fm.	5649	940	Coal/water/possible gas
Point Lookout Fm.	5854	735	Possible gas/water
Mancos Shale	5950	639	Source rock
DV Tool	5961	628	
Gallup	7216	-627	Oil & gas
Juana Lopez	7720	-1131	
Bridge Creek/Greenhorn	7880	-1291	
Graneros Shale	7925	-1336	
Dakota Ss	8056	-1467	Possible gas/water

Remarks:

-Vertical wellbore, all formation depths are TVD from KB at the wellhead.

-Add a plug to cover the Gallup at 7216'.

- Modify Plug 2 to cover the DV tool. Move the BOC to 6011'.

- Modify Plug 3 to account for the BLM geologist's picks for the Cliff House. Move the plug BOC to 5666' and the TOC to 5516'.

- Modify Plug 4 to cover the Ojo Alamo. Move the TOC to 2585'.

Reference Wells:

Logos Operating LLC
Same

Prepared by: Walter Gage

LOGOS OPERATING

Proposed Plug and Abandonment Procedure

Rosa Unit 55

API: 30-039-20923

Notes:

- LOGOS requests to P&A the subject well.
- All cement will be Class G with a 1.15 cf/sk yield or equivalent.
- All proposed plugs include 50' excess inside casing and/or 100% excess in open hole.
- BLM & NMOCD will be notified at least 24 hours prior to beginning work.
- There is no CBL on file for the subject well. A cast iron cement retainer (CICR) will be set at ~8010' and a CBL will be run from the CICR at ~8010' to surface. **Results will be sent to the NMOCD and BLM to verify cement tops and inside/outside plugs.**
    - Plugs will be adjusted according to results of log.
    - TOC of Stage 1 has been calculated at 6359'.
    - TOC of Stage 2 has been calculated at 1914'.

1. Comply with all NMOCD, BLM, Forest Service, and LOGOS safety rules and regulations. Conduct safety meeting for all personnel on location.
2. Move rig on location and RU. Lay flow lines. Check and record bradenhead and casing pressures.
3. Release tubing and pull out of packer. TOOH and LD tubing.
4. Pick up work string and run in hole with packer plucker to retrieve Model D packer at 8001'. TOOH with plucker assembly and LD packer.
5. Pick up work string and 4-1/2" CICR. RIH and set 4-1/2" CICR ~50' above the Dakota perforations at ~8010'.
6. RU wireline and run a CBL in the 4-1/2" casing from CICR at ~8010' to surface. **Send results to LOGOS engineer and regulatory agencies to verify cement tops and wait for further approval.**
7. Roll hole with fresh water and pressure test the 4-1/2" casing to 560 psi for 15 minutes.
    a. If pressure test fails, WOC and tag and record plug tops and top off with more cement if necessary.
8. PU work string and TIH.
9. **Plug #1: 7910'- 8010' (Dakota Perforation top: 8060' / Dakota top: 8056' / CIBP: ~8010'):** Mix and spot 12 sx Class G cement.
10. **Plug #2: 7096'-7266' (Gallup top: 7216'):** Mix and spot 14 sx Class G cement.
11. **Plug #3: 5850'- 6011' (DV tool: 5961' / Mancos top: 5950'):** Mix and spot 13 sx Class G cement.
12. **Plug #4: 5516'-5666' (Mesaverde top: 5616'):** Mix and spot 12 sx Class G cement.

13. **Plug #5: 2585'-3450' (Pictured Cliffs top: 3400' / Fruitland top: 3311' / Kirtland top: 2875' / Ojo Alamo top: 2685'):** Mix and spot 66 sx Class G cement.

14. **Plug #6: 1218'-1318' (Nacimiento top: 1268'):** Perforate squeeze holes at 1318' in 4-1/2" casing and set CICR at 1268'. Mix and pump 33 sx Class G cement. Squeeze 21 sx outside 4-1/2" casing and leave 12 sx inside. WOC and tag plug top. Top off with more cement as necessary.

15. **Plug #7: 0'- 356' (Surface Casing Shoe: 306'):** Perforate squeeze holes at 356' in 4-1/2" casing. Mix and pump 86 sx Glass G cement. Squeeze 55 sx outside 4-1/2" casing and leave 31 sx inside. WOC and tag plug top. Top off with more cement as necessary.

16. ND BOP and cut off wellhead below surface casing flange. Top off with more cement if needed. Install P&A marker with cement per regulations. Photograph P&A marker in place. Cut off anchors and restore location per BLM stipulations.

RU 55 P&A Planning

Formations	Tops (ft)
Surface	0
Csg Shoe	306
Nacimiento	1268
Ojo Alamo	2685
Kirtland	2875
Fruitland Coal	3311
Pictured Cliffs	3400
Mesaverde	5616
Mancos	5950
DV Tool	5961
Gallup	7216
CICR	8010
Dakota	8056

7-5/8" csg & 4-1/2" csg cap	0.1544	cf/ft
6-3/4" hole & 4-1/2" csg	0.1381	cf/ft
4-1/2" csg cap	0.0873	cf/ft
Yield	1.15	

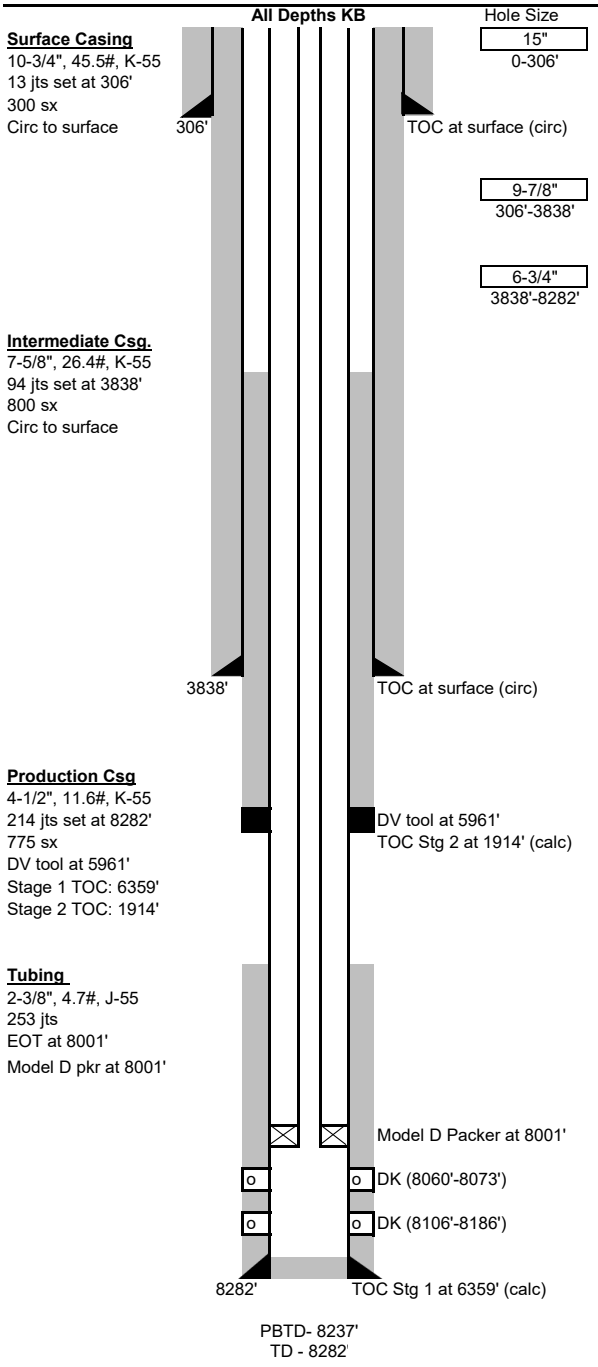
Plugs	Reason	Inside/Outside	Top	Bottom	Length of Plug (ft)	Top of Inside Plug w/ Excess	Inside Csg Volume (cf/ft)	Outside Csg Volume (cf/ft)	# of sx inside (1.15 yield & 50' excess)	# of sx outside (1.15 yield & 100% excess or 50' inside csg)	Total # sx
1	DK Perfs/CICR	Inside	7910	8010	100	7860	0.0873		12	0	12
2	Gallup	Inside	7166	7266	100	7096	0.0873		14	0	14
3	Mancos	Inside	5900	6011	111	5850	0.0873		13	0	13
4	Mesaverde	Inside	5566	5666	100	5516	0.0873		12	0	12
5	PC/Fru/Kirt/Ojo	Inside	2635	3450	815	2585	0.0873		66	0	66
6	Nacimientio	Inside/Outside	1218	1318	100	1168	0.0873	0.1544	12	21	33
7	Surf	Inside/Outside	0	356	356	206	0.0873	0.1544	31	55	86
										Grand total cmt	236

LOGOS OPERATING

Wellbore Schematic

Well Name:	Rosa Unit 55		Date Prepared:	9/9/2019	Moss
Location:	UL I, Sec 34, T31N, R5W 1510' FSL & 1170' FEL		Last Updated:	3/20/2025	Moss
County:	Rio Arriba		Reviewed By:	Mar 28, 2025	
API #:	30-039-20923		Spud Date:	7/28/1974	
Co-ordinates:	Lat: 36.8529892 Long: -107.3445587 NAD83		Completion Date:	10/25/1974	
Elevations:	GROUND: 6576'		Last Workover Date:		
	KB: 6589'				
Depths (KB):	PBTD: 8237'				
	TD: 8282'				

VERTICAL WELLBORE



Surface Casing: (7/28/1974)
Drilled a 15" surface hole to 306'. Set 13 jts 10-3/4", 45.5#, K-55 casing at 306'.
Cmt w/ 300 sx Class A cmt (15.8 ppg). Circ 157 sx to surface.

Intermediate Casing: (8/10/1974)
Drilled a 9-7/8" intermediate hole to 3838'. Set 94 jts 7-5/8", 26.4#, K-55 casing at 3838'.
Cmt lead w/ 750 sx Class B 50/50 poz cmt w/ 6% gel (13.3 ppg) tailed w/ 50 sx Class B cmt (15.6 ppg). Circ 30 sx cmt to surface.

Production Casing (8/21/1974)
Drilled 6-3/4" production hole to 8282'. Set 214 jts 4-1/2", 11.6#, K-55 casing at 8282'.
DV tool at 5961'.
1st Stage: Cmt lead w/ 200 sx Class B 50/50 poz w/ 6% gel (13.3 ppg). Tailed w/ 50 sx Cmt tail w/ 50 sx Class B cmt (15.5 ppg).
TOC at 6359' per calc (assuming 1.48 yld & 1.16 yld & 75% eff.)
2nd Stage: Cmt lead w/ 425 sx Class B 50/50 poz x/ 6% gel (13.3 ppg). Tailed w/ 100 sx Class B cmt (15.6 ppg).
TOC at 1914' per calc (assuming 1.48 yld & 1.16 yield & 75% eff.)

Tubing: (9/11/1974)	Length (ft)
KB	13
(1) 2-3/8" 4.7# J-55 8rd EUE tbg jt	31
(4) 2-3/8" pup jts (8', 4', 3', 2')	17
(252) 2-3/8" 4.7# J-55 8rd EUE tbg jts	7930
(1) Model D Packer w/ 3 seal units	9
Set at:	8001 ft

Artificial Lift:
NA

Perforations:
U DK (8060'-8073'): 4 SPF. Acidized w/ 500 gal 15% HCL. Frac w/ 10,000# 40/60 sand & 50,200# 20/40 sand in unknown volume of My-T-Frac fluid.
L DK (8106'-8186'): 8106'-13', 8124'-34, 8143'-63', 8180'-86' at 2 SPF. Acidized w/ 2000 gal 15% HCL. Frac w/ 10,000# 40/60 sand, 50,200# 20/40 sand in 37,500 My-T-Frac fluid.

Formations:

Nacimiento	1268'	Mesaverde	5616'
Ojo Alamo	2685'	Mancos	5950'
Kirtland	2875'	Gallup	7216'
Pictured Cliffs	3311'	Dakota	8056'
Pictured Cliffs	3400'		

Additional Notes:
09/1974 Initial completion. Drilled & completed DK. 2-3/8" tubing was set at 8001' with a Model D packer on bottom. (EOT depth corrected to 13' KB, reported at 7990' w/o KB).

No recorded workovers since completion.

LOGOS OPERATING

Proposed P&A Wellbore Schematic

Well Name:	Rosa Unit 55		Date Prepared:	9/9/2019	Moss
Location:	UL I, Sec 34, T31N, R5W 1510' FSL & 1170' FEL		Last Updated:	3/20/2025	Moss
County:	Rio Arriba		Reviewed By:		
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Elevations:	GROUND: 6576'		Last Workover Date:		
	KB: 6589'				
Depths (KB):	PBTD: 8237'				
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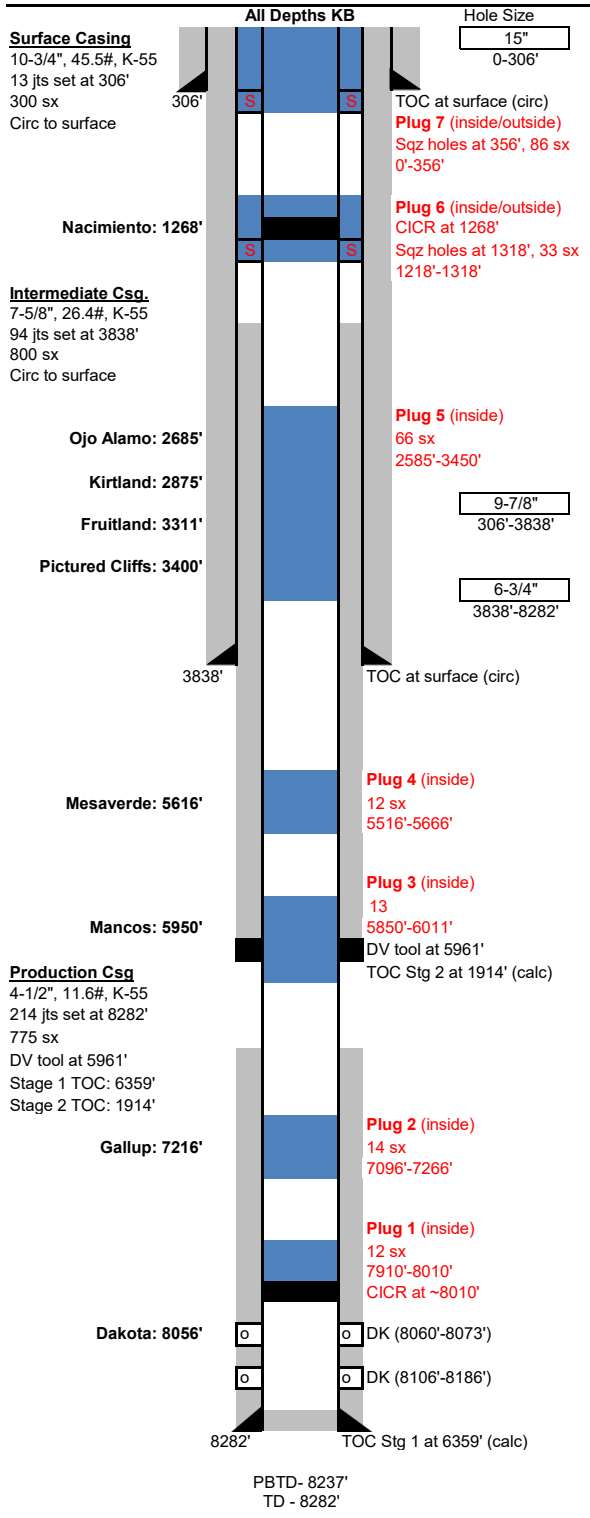
VERTICAL WELLBORE



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DV tool at 5961'.
1st Stage: Cmt lead w/ 200 sx Class B 50/50 poz w/ 6% gel (13.3 ppg). Tailed w/ 50 sx Cmt tail w/ 50 sx Class B cmt (15.5 ppg).
TOC at 6359' per calc (assuming 1.48 yld & 1.16 yld & 75% eff.)
2nd Stage: Cmt lead w/ 425 sx Class B 50/50 poz x/ 6% gel (13.3 ppg). Tailed w/ 100 sx Class B cmt (15.6 ppg).
TOC at 1914' per calc (assuming 1.48 yld & 1.16 yield & 75% eff.)

Tubing: NA - P&A	Length (ft)
KB	13

Artificial Lift:
NA

Perforations:
U DK (8060'-8073'): 4 SPF. Acidized w/ 500 gal 15% HCL. Frac w/ 10,000# 40/60 sand & 50,200# 20/40 sand in unknown volume of My-T-Frac fluid.
L DK (8106'-8186'): 8106'-13', 8124'-34, 8143'-63', 8180'-86' at 2 SPF. Acidized w/ 2000 gal 15% HCL. Frac w/ 10,000# 40/60 sand, 50,200# 20/40 sand in 37,500 My-T-Frac fluid.

Formations:

Nacimiento	1268'	Mesaverde	5616'
Ojo Alamo	2685'	Mancos	5950'
Kirtland	2875'	Gallup	7216'
Fruitland	3311'	Dakota	8056'
Pictured Cliffs	3400'		

Additional Notes:
09/1974 Initial completion. Drilled & completed DK. 2-3/8" tubing was set at 8001' with a Model D packer on bottom. (EOT depth corrected to 13' KB, reported at 7990' w/o KB).

No recorded workovers since completion.

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

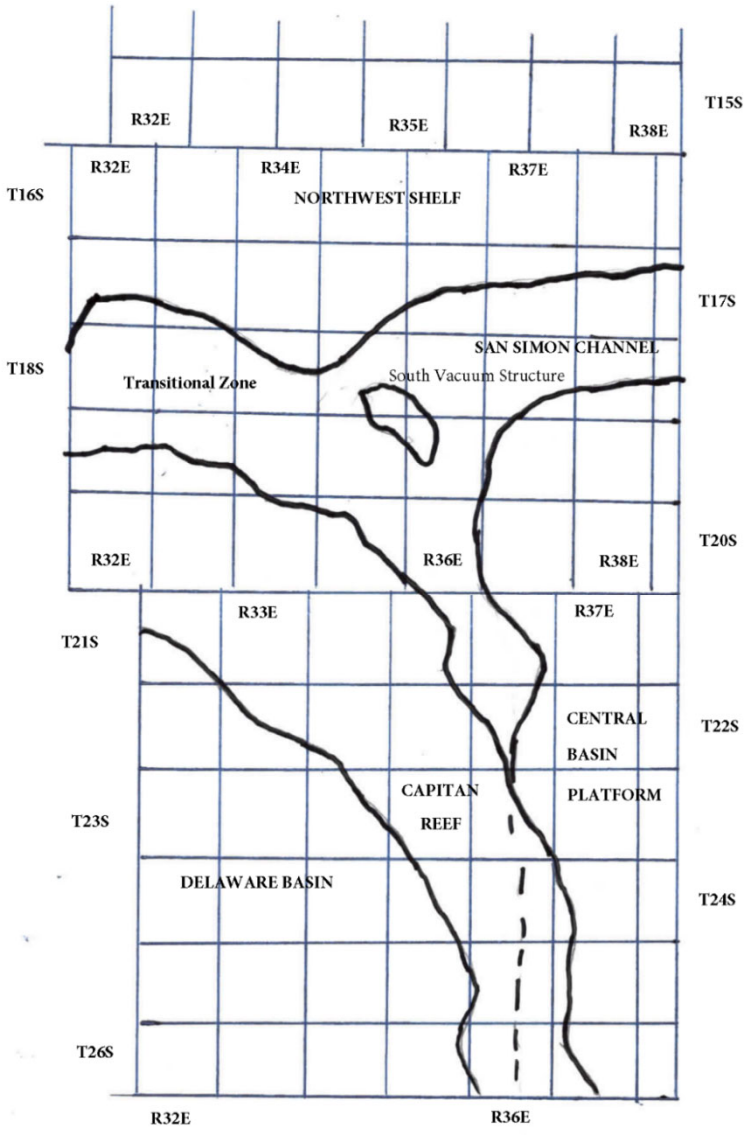

Figure D2 Formation Table

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

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 471719
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	Plug 1 should cover Graneros top at State=7948 BLM= 7925 - State PC=3440 BLM=3400 = adjust plug 5 to accommodate both agencies - Notify NMOCD 24 hours prior to moving on - Monitor string pressures daily - report on subsequent - submit all logs prior to subsequent	6/11/2025