

|                            |  |                                       |
|----------------------------|--|---------------------------------------|
| Well Name: RICHARDSON      | Well Location: T27N / R13W / SEC 10 / SESE / 36.584763 / -108.200226 | County or Parish/State: SAN JUAN / NM |
| Well Number: 5E            | Type of Well: CONVENTIONAL GAS WELL                                  | Allottee or Tribe Name:               |
| Lease Number: NMSF077972   | Unit or CA Name:   | Unit or CA Number:                    |
| US Well Number: 3004526152 | Operator: LOGOS OPERATING LLC  |                                       |

Notice of Intent

Sundry ID: 2789140

|  |                                      |
|--|--------------------------------------|
| Type of Submission: Notice of Intent           | Type of Action: Plug and Abandonment |
| Date Sundry Submitted: 05/08/2024              | Time Sundry Submitted: 01:53         |
| Date proposed operation will begin: 05/08/2024 |                                      |

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

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- 6.4f\_Richardson\_5E\_Regulatory\_P\_A\_Procedure\_20240508135209.pdf
- Reclamation\_Plan\_Richardson\_5E\_20240508135151.pdf

Well Name: RICHARDSON

Well Location: T27N / R13W / SEC 10 / SESE / 36.584763 / -108.200226

County or Parish/State: SAN JUAN / NM

Well Number: 5E

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMSF077972

Unit or CA Name:

Unit or CA Number:

US Well Number: 3004526152

Operator: LOGOS OPERATING LLC

Conditions of Approval

Specialist Review

General\_Requirement\_PxA\_20240509135657.pdf  
2789140\_NOIA\_5E\_3004526152\_KR\_05092024\_20240509135022.pdf  
Richardson\_5E\_Geo\_KR\_20240509135014.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: LACEY GRANILLO

Signed on: MAY 08, 2024 01:53 PM

Name: LOGOS OPERATING LLC

Title: REGULATORY SPECIALIST

Street Address: 2010 AFTON PLACE

City: FARMINGTONState: NM

Phone: (505) 324-4145

Email address: LGRANILLO@LOGOSRESOURCESLLC.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: KENNETH G RENNICK

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5055647742

BLM POC Email Address: krennick@blm.gov

Disposition: Approved

Disposition Date: 05/09/2024

Signature: Kenneth Rennick



## Proposed Plug and Abandonment Procedure

**Richardson 5E**

**API: 30-045-26152**

### Notes:

- LOGOS requests to P&A the subject well.
  - All cement volumes use 50' excess inside.
    - All proposed plugs are inside only.
  - All cement will be Class G with a 1.15 cf/sk yield or equivalent.
  - BLM & NMOCD will be notified at least 24 hours prior to beginning work.
  - A CBL is on file for this well.
  - The well was plugged back to 1550' in 2010 (Plugs #1-#3).
  - The well was TA'd in 2019 with a CIBP at 1284'. Top perforation is 1324'.
1. Comply with all NMOCD, BLM, and LOGOS safety rules and regulations. Conduct safety meeting for all personnel on location.
  2. MOL and RU. Lay flow lines. Check and record bradenhead and casing pressures.
  3. Roll hole with fresh water and pressure test the casing to 560 psi for 15 minutes.
    - a. If pressure test fails, WOC and tag and record each plug top and top off with more cement if necessary.
  4. PU work string and TIH.
  5. **Plug #4: 1184'-1284' (Perforations: 1324' / CIBP: 1284')**: Mix and spot 12 sx Class G cement.
  6. **Plug #5: 824'- 924' (Fruitland: 874')**: Mix and spot 12 sx Class G cement.
  7. **Plug #6: 0'- 374' (Casing Shoe: 324' / Kirtland: 261' / Ojo Alamo top: 135')**: Mix and spot 33 sx Class G cement.
  8. ND BOP and cut off wellhead below surface casing flange. Top off with 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.



Richardson 5E P&A Planning

| Formations      | Tops (ft) |
|-----------------|-----------|
| Surface         | 0         |
| Ojo Alamo       | 135       |
| Kirtland        | 261       |
| Csg Shoe        | 324       |
| Fruitland       | 874       |
| CIBP            | 1285      |
| Pictured Cliffs | 1392      |

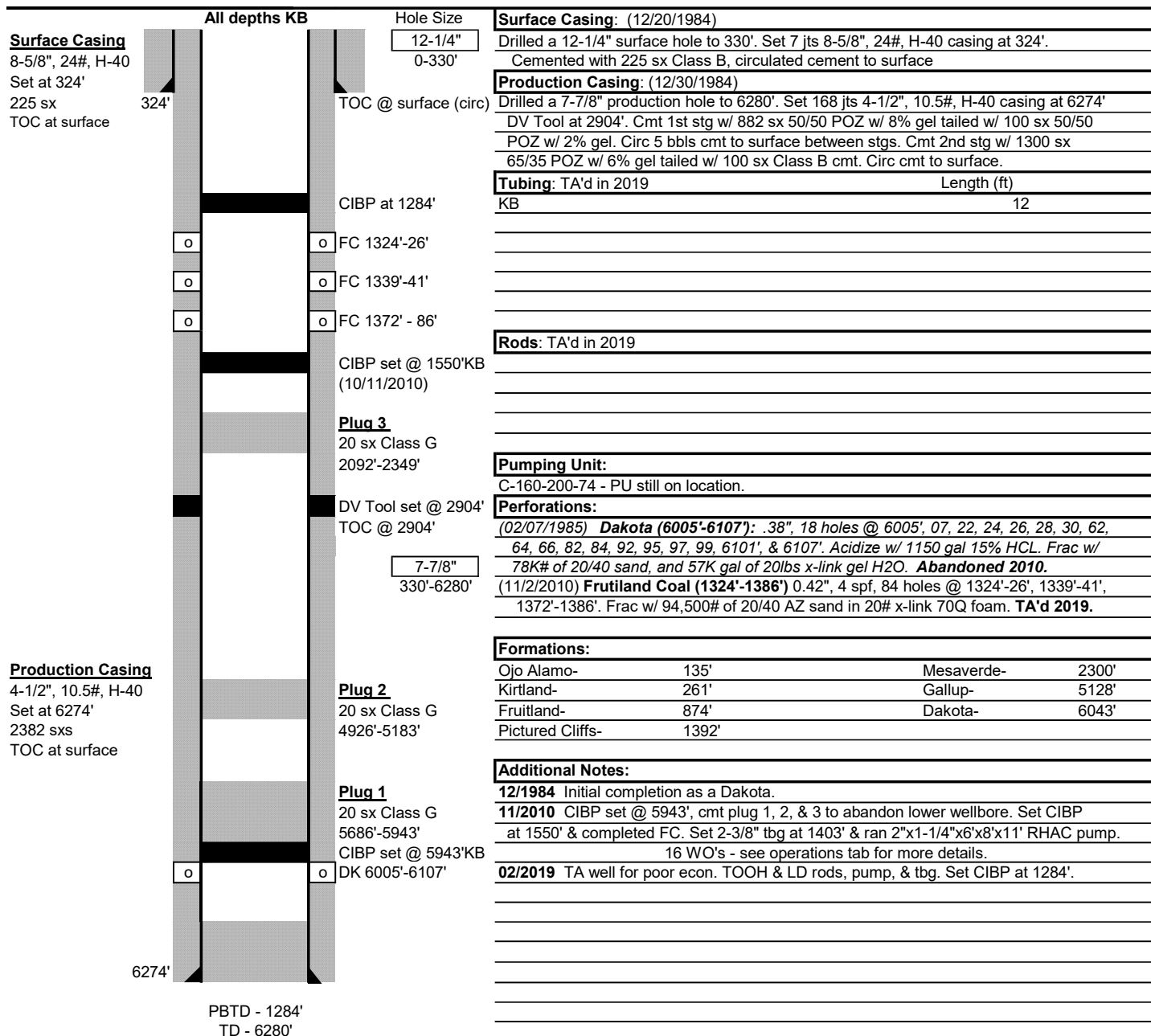
4.5" liner capacity 0.0896 cf/ft

Yield 1.15

| Plugs           | Reason               | Inside/Outside | Top  | Bottom | Total Length of Plug (ft) | 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) | Total # sx |
|-----------------|----------------------|----------------|------|--------|---------------------------|---------------------------|----------------------------|--|--|------------|
| 4               | Perfs/CIBP           | Inside         | 1185 | 1285   | 100                       | 0.0896                    | -                          | 12                                       |  | 12         |
| 5               | Fruitland            | Inside         | 824  | 924    | 100                       | 0.0896                    |                            | 12                                       |  | 12         |
| 6               | Kirtland/Ojo/Surface | Inside         | 0    | 374    | 374                       | 0.0896                    | -                          | 33                                       |  | 33         |
| Grand total cmt |                      |                |      |        |                           |                           |                            |  |  | 56         |

|               |  |       |  |
|---------------|--|-------|--|
| Well Name:    | Richardson 5E                          |       |  |
| Location:     | Sec 10, T27N, R13W 845' FSL & 987' FEL |       |  |
| County:       | San Juan                               |       |  |
| API #:        | 30-045-26152                           |       |  |
| Co-ordinates: | Lat 36.5848389 Long -108.2009048       |       |  |
| Elevations:   | GROUND:                                | 5990' |  |
|               | KB:                                    | 6002' |  |
|               | PBTD:                                  | 1284' |  |
|               | TD:                                    | 6280' |  |
| Depths (KB):  |  |       |  |

|                     |              |                      |
|---------------------|--------------|----------------------|
| Date Prepared:      | 11/1/2017    | Hespe                |
| Last Updated:       | 12/14/2023   | Moss                 |
| Reviewed By:        | Apr 19, 2024 | <i>Crutney Price</i> |
| Spud Date:          | 12/20/1984   |                      |
| Completion Date:    | 12/29/1984   |                      |
| Re-completion Date: | 11/12/2010   |                      |
| Last Workover Date: | 2/26/2019    |                      |
|                     |              |                      |

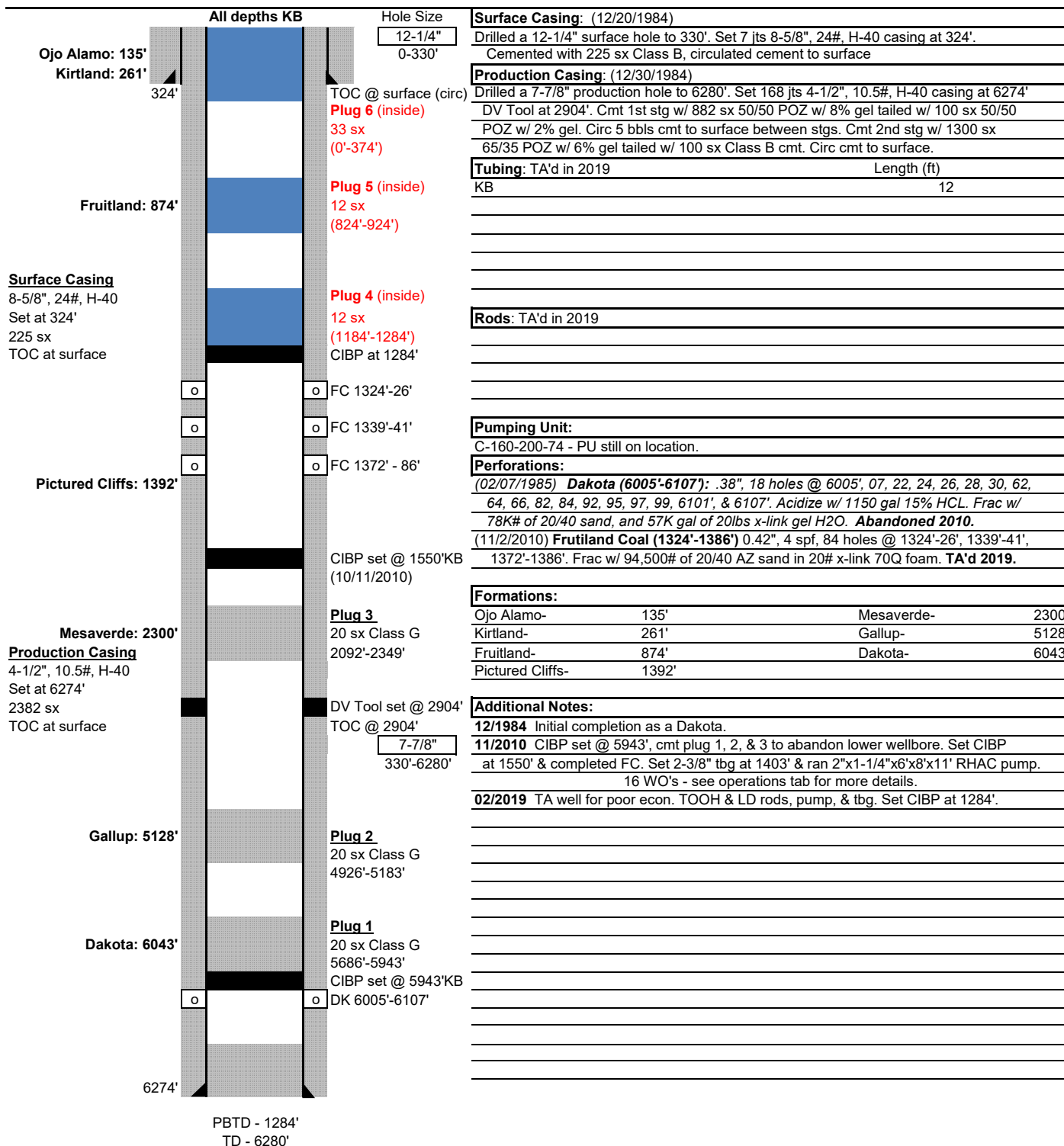




## Proposed P&amp;A Well Schematic

Well Name: Richardson 5E  
 Location: Sec 10, T27N, R13W 845' FSL & 987' FEL  
 County: San Juan  
 API #: 30-045-26152  
 Co-ordinates: Lat 36.5848389 Long -108.2009048  
 Elevations: GROUND: 5990'  
 KB: 6002'  
 Depths (KB): PBTD: 1284'  
 TD: 6280'

Date Prepared: 11/1/2017 Hespe  
 Last Updated: 12/14/2023 Moss  
 Reviewed By:  
 Spud Date: 12/20/1984  
 Completion Date: 12/29/1984  
 Re-completion Date: 11/12/2010  
 Last Workover Date: 9/24/2015



**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
FARMINGTON DISTRICT OFFICE  
6251 COLLEGE BLVD.  
FARMINGTON, NEW MEXICO 87402**

AFMSS 2 Sundry ID 2789140

Attachment to notice of Intention to Abandon

Well: Richardson 5E

**CONDITIONS OF APPROVAL**

1. Plugging work must be completed by December 1, 2024.
2. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."
3. Farmington Office is to be notified at least 24 hours before the plugging operations commence at (505) 564-7750.

You are also required to place cement excesses per 4.2 and 4.4 of the attached General Requirements.

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

K. Rennick 05/09/2024

**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<sub>2</sub>S.

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). 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.

BLM - FFO - Geologic Report

Date Completed 5/9/2024

|              |                     |            |                      |                   |
|--------------|---------------------|------------|----------------------|-------------------|
| Well No.     | Richardson 5E       | Surf. Loc. | 854 FSL              | 987 FEL           |
| US Well No.  | 30-045-26152        |            | Sec. 10              | T. 27N R. 13W     |
| Lease No.    | NMNM09967           |            |                      |                   |
| Agrmt #      | NMNM127404          | County     | San Juan             | State New Mexico  |
| Operator     | Logos Operating LLC | Formation  | Basin Fruitland Coal |                   |
| TVD          | 6280                | PBTD       | 1284                 | Elevation KB 6002 |
| Elevation GL | 5990                |            |                      |                   |

| Geologic Formations | Est. tops | Remarks                 |
|---------------------|-----------|-------------------------|
| Ojo Alamo Ss.       | 135       | Fresh water aquifer     |
| Kirtland Fm.        | 261       |                         |
| Fruitland Fm.       | 874       | Coal/gas/possible water |
| Pictured Cliffs     | 1392      | Possible gas/water      |

Remarks:

The 1284 CIBP above Fruitland Coal perforations was already set. The well was already plug backed to the Fruitland Coal production.

The available induction log and the reference well supports the locations of the formation tops selected by the operator. No changes.

Reference Well:

Robinson 002E  
US Well No. 30-045-26153  
Sec 11 T. 27N R. 13W  
San Juan County, New Mexico

Prepared by: Kenneth Rennick

**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](mailto:monica.kuehling@emnrd.nm.gov)
  - South Contact, Gilbert Cordero, 575-626-0830, [gilbert.cordero@emnrd.nm.gov](mailto: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

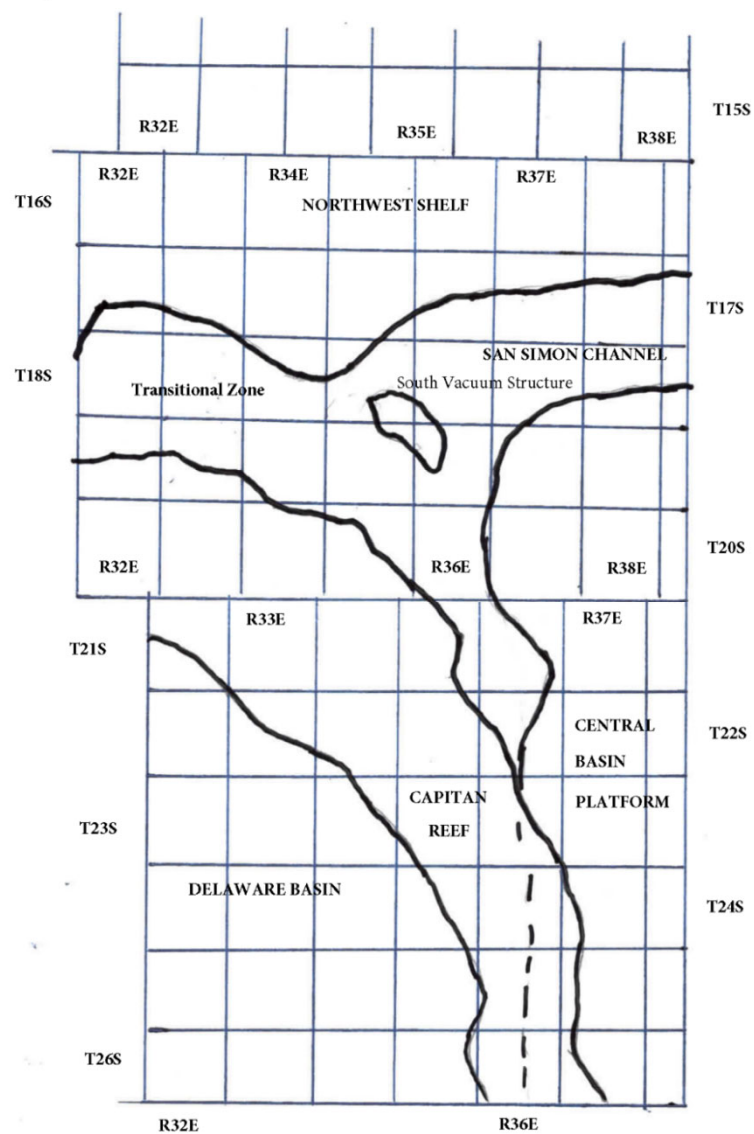


Figure D2 Formation Table

| 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        |                   | Blinbry                | 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              |                     |                   |                        |   | Blinbry  |
| Drinkard or Lower Yeso (Township 15 South to Township 17 South)                   |                      |                     |                   |                        |   | Paddock  |
| Tubb (Township 15 South to Township 17 South)                                     |                      |                     |                   |                        |   | Glorieta   |
| Blinbry (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   |                      |                     |                   |                        |   |  |

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

CONDITIONS

Action 348204

CONDITIONS

|   |   |
|---|---|
| Operator:<br>LOGOS OPERATING, LLC<br>2010 Afton Place<br>Farmington, NM 87401 | OGRID:<br>289408                                    |
|   | Action Number:<br>348204                            |
|   | Action Type:<br>[C-103] NOI Plug & Abandon (C-103F) |

CONDITIONS

| Created By | Condition  | Condition Date |
|------------|--|----------------|
| mkuehling  | Notify NMOCD 24 hours prior to moving on - monitor string pressures daily report on subsequent   | 5/28/2024      |
| mkuehling  | CIBP at 1550 and Plug #3 from plugback will need to be drilled out. MV formation was missed in original plugback - NMOCD calls on tops MV 2955 Chacra 2300 confer with all other BLM formation tops. - Will need to add plug at DV tool. | 5/28/2024      |