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

Sundry Print Report

02/24/2025

Well Name: BREECH D

Well Location: T26N / R6W / SEC 11 / NWSW / 36.499786 / -107.443222

County or Parish/State: RIO ARRIBA / NM

Well Number: 685

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM03553

Unit or CA Name:

Unit or CA Number:

US Well Number: 300390658700S1

Operator: CROSS TIMBERS ENERGY LLC

Notice of Intent

Sundry ID: 2836407

Type of Submission: Notice of Intent

Type of Action: Plug and Abandonment

Date Sundry Submitted: 02/11/2025

Time Sundry Submitted: 01:46

Date proposed operation will begin: 10/01/2025

Procedure Description: Cross Timbers Energy LLC requests approval of the attached Procedure to P&A the Breech D #685. Also attached are the WBDs.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Breech_D_685_WBD_Proposed_PA_02.06.2025_20250211134431.pdf

Breech_D_685_WBD_current_11_13_2023_20250211134258.pdf

Breech_D_685_Proposed_PA_Procedure_02.06.2025_20250211134212.pdf

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Operator: CROSS TIMBERS ENERGY LLC

Conditions of Approval

Additional

General_Requirement_PxA_20250224090053.pdf

2836407_685_3003906587_NOI_ABD_KR_02242025_20250224090036.pdf

Breech_D_685_Geo_Rpt_20250221121335.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: CONNIE BLAYLOCK

Signed on: FEB 11, 2025 01:44 PM

Name: CROSS TIMBERS ENERGY LLC

Title: Regulatory Technician

Street Address: 400 W 7th St.

City: Forth Worth **State:** TX

Phone: (817) 334-7882

Email address: CBLAYLOCK@MSPARTNERS.COM

Field

Representative Name: Amy Byars

Street Address:

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

Phone:

Email address: abyars@mspartners.com

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: 02/24/2025

Signature: Kenneth Rennick

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

February 24, 2025

Notice of Intent – Plug and Abandonment

Operator: Cross Timbers Energy LLC
Lease: NMNM03553

Well(s): Beech D 685, US Well 30-039-06587
Location: NWSW Sec 11 T26N R6W (Rio Arriba County, NM)
Sundry Notice ID #: 2836407

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 modification to your plugging program is to be made:
   a. Modify the Plug 3 TOC to 6090’ to cover the BLM geologist’s pick for the Gallup at 6190’.
   b. Modify Plug 4 to run from 5255’ to 5405’ to cover the BLM geologist’s pick for the Mancos at 5355’.
   c. Modify Plug 5 to run from 4532’ to 4682’ to cover the BLM geologist’s pick for the Mesa Verde Group top (Cliff House Ss) at 4632’.
   d. Modify the Plug 7 TOC to 2570’ to cover the BLM geologist’s pick for the Fruitland at 2670’.
   e. Modify the Plug 8 TOC to 2000’ to cover the BLM geologist’s pick for the Ojo Alamo at 2100’.
   f. Modify Plug 9 by perforating at 1450’, modify inner/ outer TOC to 1300’/ 1350’ to cover the BLM geologist’s pick for the Nacimiento at 1400’.

3. **Notification:** 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 2/24/2025

BLM - FFO - Geologic Report

Date Completed 2/21/2025

Well No.	Breech D # 685			Surf. Loc.	1980	FSL	660	FWL
Lease No.	NMNM03553				Sec	11	T26N	R6W
Operator	Cross Timbers Energy LLC			County	Rio Arriba		State	New Mexico
TVD	7505	PBTD	7430	Formation	Tocito Ss Lentils, Dakota			
Elevation	GL	6512		Elevation	Est. KB	6523		

Geologic Formations	Est. tops	Subsea Elev.	Remarks
San Jose Fm.	0	Surface	
Nacimiento Fm.	1400	5123	Surface /fresh water sands
Ojo Alamo Ss	2100	4423	Fresh water aquifer
Kirtland Fm.	2470	4053	
Fruitland Fm.	2670	3853	Coal/gas/possible water
Pictured Cliffs	2995	3528	Possible gas/water
Lewis Shale (Main)	3080	3443	Source rock
Huerfanito Bentonite	3560	2963	Reference bed
Chacra (lower)	3850	2673	Possible gas/water
Cliff House Ss	4632	1891	Possible gas/water
Menefee Fm.	4710	1813	Coal/water/possible gas
Point Lookout Fm.	5180	1343	Possible gas/water
Mancos Shale	5355	1168	Source rock
Gallup	6190	333	Oil & gas
Mancos Stringer	6563	-40	Source rock
Juana Lopez	6743	-220	
Mancos Stringer	6892	-369	
Brdge Crk/Grnhrn	7050	-527	
Graneros Shale	7190	-667	
Dakota Ss	7271	-748	Possible gas/water
Morrison Fm.	7432	-909	Possible water

Remarks:

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

-Modify the Plug 3 TOC to 6090" to cover the BLM geologist's pick for the Gallup.

-Modify Plug 4 to run from 5255' to 5405' to cover the BLM geologist's pick for the Mancos.

-Modify Plug 5 to run from 4532' to 4682' to cover the BLM geologist's pick for the Mesa Verde Group top.

-Modify Plug 7: Move TOC to 2570' to cover the BLM geologist's pick for the Fruitland.

-Modify Plug 8: Move TOC to 2000' to cover the BLM geologist's pick for the Ojo Alamo.

-Modify Plug 9: Perf at 1450', modify inner/outer TOC to 1300'/1350' to cover the BLM geologist's pick for the Nacimiento.

Reference Well:

Cross Timbers Energy LLC.
Same-Breech D # 685
Surface - Mancos Shale
Breech D 685F
Mancos Shale - Morrison
11K-26N-6W
GL= 6527, KB= 6541'

Prepared by: Walter Gage

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). 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.

Proposed P&A Procedure Revised w/BLM Geo Top Picks

Breech D 685 - 3003906587

Notify Farmington BLM Office at least 24hrs in advance to plugging operations 505 564-7750

All Cement Class G 15.8 ppg 1.15 cuft/sk yield

1. MIRU P&A service rig, ancillary equipment and 2 3/8" workstring.
2. ND WH NU BOP.
3. Scan tubing OOH LD. Send all tubing to Caulkins yard, separate out YB/BB and GB/RB per area foreman guidance.
4. Run a bit and csg scraper for 4 ½" 11.60# csg to ~7170'.
5. Set CIBP/CICR @ ~7122'.
6. Circulate hole with BLM/NMOCD approved P&A fluid.
7. Run CBL from ~7100' to surface. Send CBL to BLM/NMOCD and CTE Engineering.
8. Plug 1 (Dakota Perfs)
    a. Spot **12sx** cement on top of CIBP.
    b. From 7122-6972'
9. Plug 2 (Csg shoe)
    a. Pump balanced plug **12sx** cement.
    b. From 6772-6622'
10. Plug 3 (Liner Top and Gallup)
    a. Pump balanced plug **48sx** cement.
        i. From 6390-6090'
11. Plug 4 (Mancos)
    a. Pump balanced plug **29sx** cement.
        i. From 5405-5255'
12. Plug 5 (Mesa Verde)
    a. Pump balanced plug **29sx** cement.
        i. From 4682-4532'
13. Plug 6 (Chacra)
    a. Perf 3895'

i. Attempt to establish injection; if injection established pump **27 sx** cmt behind pipe and **29 sx** cmt inside casing
    1. Cmt behind pipe 3895-3795' + 100% excess
    2. Cmt inside pipe 3895-3745'
ii. If no injection established pump balanced plug **29sx** cement.
    1. From 3895-3745'

14. Plug 7 (PC/FC)
    a. Perf 3045'
        i. Attempt to establish injection; if injection established pump **67 sx** cmt behind pipe and **92 sx** cmt inside casing
            1. Cmt behind pipe 3045-2570' + 100% excess
            2. Cmt inside pipe 3045-2570'
        ii. If no injection established pump balanced plug **92sx** cement.
            1. From 3045-2570'
15. Plug 8 (Kirtland/Ojo Alamo)
    a. Perf 2535'
        i. Attempt to establish injection; if injection established pump 7**5 sx** cmt behind pipe and **103sx** cmt inside casing
            1. Cmt behind pipe 2535-2000' + 100% excess
            2. Cmt inside pipe 2535-2000'
        ii. If no injection established pump balanced plug **103sx** cement.
            1. From 2535-2000'
16. Plug 9 (Nacimiento)
    a. Perf 1450'
        i. Attempt to establish injection; if injection established pump **21 sx** cmt behind pipe and **29sx** cmt inside casing
            1. Cmt behind pipe 1450-1300' + 100% excess
            2. Cmt inside pipe 1450-1300'
        ii. If no injection established pump balanced plug **29sx** cement.
            1. From 1450-1300'
17. Plug 10 (Surface csg shoe to surface)
    a. Perf 500'

i. Attempt to establish injection; if injection established pump **70 sx** cmt behind pipe and **97sx** cmt inside casing
    1. Cmt behind pipe 500'-surface + 100% excess
    2. Cmt inside pipe 500'-surface
ii. If no injection established pump balanced plug **97sx** cement.
    1. From 500'-surface

18. Cut off wellhead below surface casing flange. Top of w/cmt as needed.
19. Install P&A Marker.

Estimated 480 to 740 sx cement needed in total.

Please make sure all excess volumes are as follows:

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.

4.4 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.

Cross Timbers Energy

Breech D 685
Rio Arriba County, NM

Prepared by: Bberry
Date: 11/13/2023

KB = 6,524 ft
GL = 6,512 ft
API# 30-039-06587

Spud Date: 07/03/1955
Ready to Produce: 08/04/1955
Deepen: 07/17/1965

*Nacimiento: 877'
*Ojo Alamo: 2231'
*Kirtland: 2485'
*Fruitland: 2730'
*Pictured Cliffs: 2995'
*Chacra: 3845'
*Mesa Verde:4685'
*Mancos: 5340'
*Gallup: 6340'
*Dakota: 7340'
*Tops Based on BLM Geo Top Picks from offset P&A Breech A 204

TD – 7505 ft MD

15" hole
Surface Csg: 10.75" 32.75# csg
Setting Depth: 450 ft

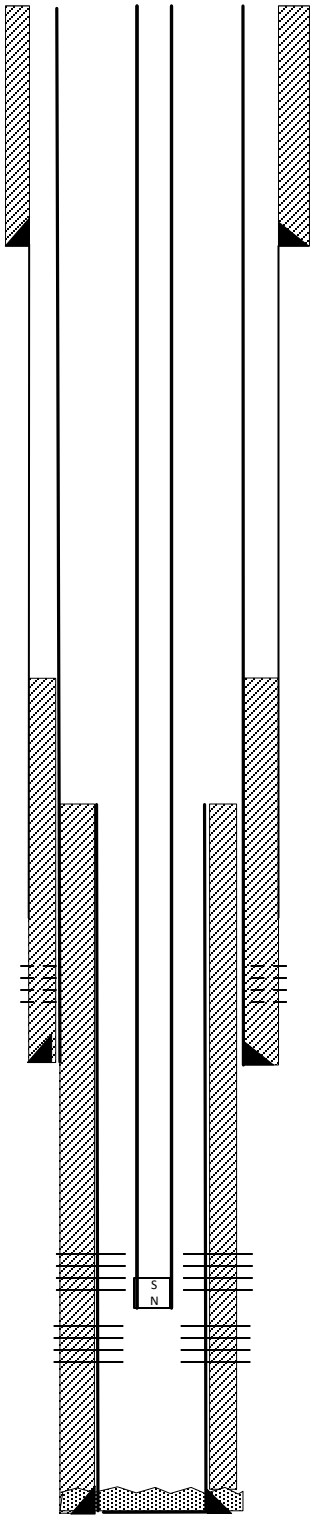
Cement
200 sx cement

8.75" hole to 6727'
Prod Csg: 7" 23# and 26# csg
Setting Depth: 6722 ft

Cement:
500sx
Orig TOC: ~4455' Temp Survey

7/17/1965 – Isolate Tocito and Deepen Well
6 1/8" hole to 7505'
4 ½" 10.5# and 11.6# liner
Setting depth: 7502'
TOL: 6298'

Cement:
140 sx



HIC suspected

Prod Tbg 03/18/2009:
2.375" notched collar, SN, 222 jts 2.375" 4.7# EUE tbg w/beveled couplings from XTO stock

SN 7296'
EOT 7298'

Tocito Perfs:
6683'-6697' – behind pipe
Dakota perfs:
7172'-7220'
7300'-7430'

Well deepened to Dakota in 1965 due to 'wet' Tocito – 100% water

PBTD: 7430 ft MD

Cross Timbers Energy

Breech D 685
Rio Arriba County, NM

*Nacimiento: 1400'
*Ojo Alamo: 2100'
*Kirtland: 2470'
*Fruitland: 2670'
*Pictured Cliffs: 2995'
*Chacra: 3850'
*Mesa Verde:4632'
*Mancos: 5355'
*Gallup: 6190'
*Dakota: 7271'
*BLM Geo Top Picks from COAs

Prepared by: Bberry
Date: 02.06.2025
Updated w/BLM Geo Tops: 03.03.2025

KB = 6,524 ft
GL = 6,512 ft
API# 30-039-06587

Spud Date: 07/03/1955
Ready to Produce: 08/04/1955
Deepen: 07/17/1965

TD – 7505 ft MD

15" hole
Surface Csg: 10.75" 32.75# csg
Setting Depth: 450 ft

Cement
200 sx cement

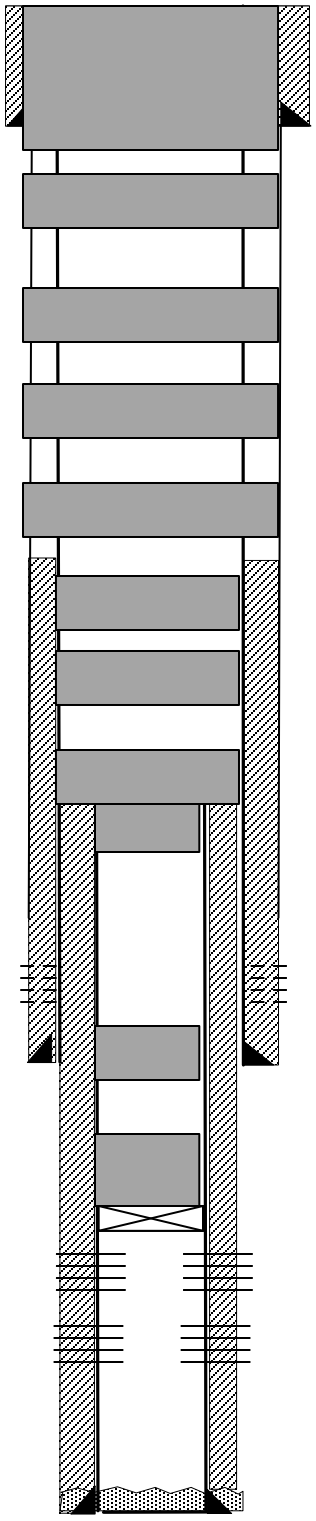
8.75" hole to 6727'
Prod Csg: 7" 23# and 26# csg
Setting Depth: 6722 ft

Cement:
500sx
Orig TOC: ~4455' Temp Survey

7/17/1965 – Isolate Tocito and Deepen Well
6 1/8" hole to 7505'
4 ½" 10.5# and 11.6# liner
Setting depth: 7502'
TOL: 6298'

Cement:
140 sx

TOC Temp Surv ~4455'
07/31/1955



PBTD: 7430 ft MD

Tocito Perfs:
6683'-6697' – behind pipe and cement

Dakota perfs:
7172'-7220'
7300'-7430'

Plug 10 (Surface Shoe and to surface) – Perf 500' – attempt to circ pump 70 sx cmt behind pipe (500-0') and 97 sx inside casing – if no injection, Balance plug 97 sx cmt (500-0')

Plug 9 (Nacimiemto) – Perf 1450' – attempt to circ pump 21 sx cmt behind pipe (1450-1300') and 29 sx inside casing – if no injection, Balance plug 29 sx cmt (1450-1300')

Plug 8 (Kirtland/Ojo Alamo) – Perf 2535' – attempt to circ pump 75 sx cmt behind pipe (2535-2000') and 103 sx inside casing – if no injection, Balance plug 75 sx cmt (2535-2000')

Plug 7 (PC/FC) – Perf 3045' – attempt to inject 67 sx cmt behind pipe (3045-2570') and 92 sx inside casing – if no injection, Balance plug 92 sx cmt (3045-2570')

Plug 6 (Chacra) – Perf 3895' – attempt to circ pump 27 sx cmt behind pipe (3895-3795') and 29 sx inside casing – if no injection, Balance plug 29 sx cmt (3895-3745')

Plug 5 (Mesa Verde) – Balance plug 29 sx cmt (4682-4532')

Plug 4 (Mancos) – Balance plug 29 sx cmt (5405-5255')

Plug 3 (Liner Top and Gallup) – Balance plug 48 sx cmt (6390-6090')

Plug 2 (Casing Shoe) – Balance plug 12 sx cmt (6772-6622')

Plug 1 (Dakota Perfs) – CIBP Set @ ~7122' with 12 sx cmt on top (7122-6972')

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

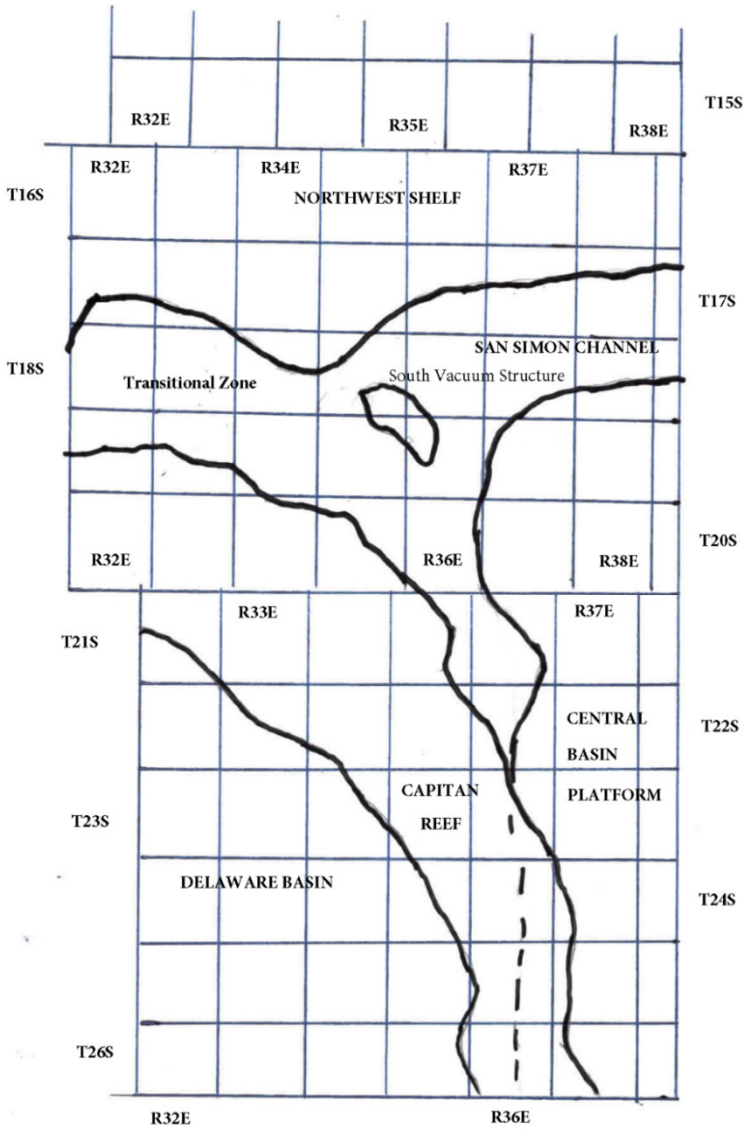


Figure D2 Formation Table

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
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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:	OGRID:
CROSS TIMBERS ENERGY, LLC 400 West 7th Street Fort Worth, TX 76102	298299
	Action Number: 438378
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	NMOCD agrees with BLM on tops except for Dakota = 7297 Graneros = 7160 Gallup = 6290 Nacimiento =1260 - adjust plugs accordingly - extend plug 1 to 7210 to cover Graneros top - cannot combine kirtland/ojo plug if pressure on the bh - Notify NMOCD 24 hours prior to moving on - monitor string pressures daily report on subsequent - submit all logs prior to subsequent	3/10/2025