

Well Name: HARRINGTON	Well Location: T24N / R1W / SEC 32 / NESE / 36.264688 / -106.959979	County or Parish/State: RIO ARRIBA / NM
Well Number: 7	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMSF079352A	Unit or CA Name: HARRINGTON	Unit or CA Number: NMNM073787
US Well Number: 3003905225	Well Status: Gas Well Shut In	Operator: M & M PRODUCTION & OPERATION

Notice of Intent

Sundry ID: 2732132

Type of Submission: Notice of Intent

Date Sundry Submitted: 05/23/2023

Date proposed operation will begin: 10/01/2023

Type of Action: Plug and Abandonment

Time Sundry Submitted: 09:27

Procedure Description: Proposed plugging and abandonment procedure and wellbore schematic. MorningStar Operating LLC is submitting this as the record title owner of the lease.

Surface Disturbance

Is any additional surface disturbance proposed?: No

Oral Submission

Oral Notification Date: May 22, 2023

Contacted By: Connie Blaylock

Oral Notification Time: 12:00 AM

Contact's Email: cblaylock@txoprtners.com

NOI Attachments

Procedure Description

- NMSF079352_7_NOI_ABD_05222023_20230523092345.pdf
- NMSF079352_7_Email_Conversation_Reclamation_05232023_20230523092326.pdf

Well Name: HARRINGTON	Well Location: T24N / R1W / SEC 32 / NESE / 36.264688 / -106.959979	County or Parish/State: RIO ARRIBA / NM
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Lease Number: NMSF079352A	Unit or CA Name: HARRINGTON	Unit or CA Number: NMNM073787
US Well Number: 3003905225	Well Status: Gas Well Shut In	Operator: M & M PRODUCTION & OPERATION

Conditions of Approval

Additional

24N01W32IKpc_Harrington_Com_007_20230523093327.pdf

Authorized

General_Requirement_PxA_20230523095504.pdf

2732132_NOIA_COA_7_3003905225_KR_05232023_20230523095141.pdf

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: 05/23/2023

Signature: Kenneth Rennick

Proposed P&A Procedure

Harrington #7

The Proposed Procedure is being submitted by and the work will be performed by the record title owner of the lease.

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

1. MIRU
2. POOH w/ tbg.
3. Run a bit and csg scraper to 3,117' (top perf).
4. Set CICR @ 3,082'.
5. Plug 1 (PC Perfs)
 - a. Pump squeeze 22sx Class G cement.
 - i. Capacity below CICR and 1/3sx cmt per net perf.
 - b. Spot 6sx Class G cement on top of CICR.
 - i. If squeeze below doesn't take at least 16sx, skip this step and just pull out of CICR and spot remaining initial squeeze volume on top of CICR.
 - ii. Estimated TOC here ~ 3,005' or 77' above CICR.
6. Circulate hole with mud laden fluid.
7. RU and run CBL.
 - a. Confirm with Farmington Office with CBL results.
8. Plug 2 (Ojo)
 - a. Perforate at 2,825' (unless CBL shows cmt behind pipe). Set CICR at 2,775'.
 - b. Pump squeeze 43sx Class G cement.
 - i. Capacity below CICR and 100ft behind pipe with 100% excess.
 - c. Spot 6sx Class G cement on top of CICR.
 - i. If squeeze below doesn't take at least 37sx, skip this step and just pull out of CICR and spot remaining initial squeeze volume on top of CICR.
 - ii. Estimated TOC here ~ 2,698' or 77' above CICR.
9. Plug 3 (Nacimiento)
 - a. Perforate 1,550'. Set CICR at 1,500'.
 - b. Pump squeeze 43sx Class G cement.
 - i. Capacity below CICR and 100ft behind pipe with 100% excess.
 - c. Spot 6sx Class G cement on top of CICR.

Received

MAY 22 2023

**Farmington Field Office
Bureau of Land Management**

- i. If squeeze below doesn't take at least 37sx, skip this step and just pull out of CICR and spot remaining initial squeeze volume on top of CICR.
- ii. Estimated TOC here ~ 1,423' or 77' above CICR.

10. Plug 4 (surface shoe circulation)

- a. Perforate 148'.
- b. Circulate Class G cement to surface. Estimated 45sx required.
- c. Ensure cement at surface on all strings of casing, top off as needed.

11. Cut off wellhead below surface casing flange.

12. Install P&A Marker.

Assigned Operator:
M&M Production & Operation Inc.
(MorningStar Operating, LLC created)

Harrington #7
Rio Arriba County, NM
 SE/4 Section 32 of 24N-1W

TD – 3,194'; PBTD – 3,182'

Surface Csg: 8-5/8" 24# CFI
 Setting Depth: 98'

Cement
 60sx Cement

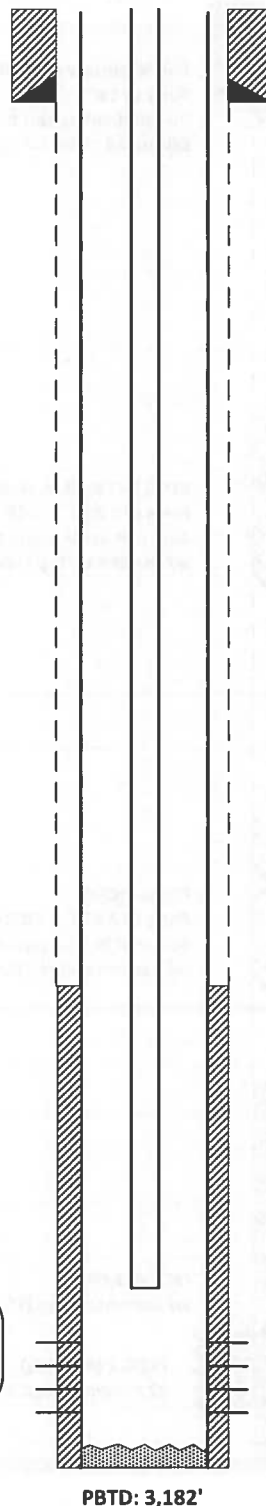
Production Csg: 70 jts 4-1/2" 9.5# CFI
 Setting Depth: 3,182'

Cement:
 100 sx cement
 TOC unknown

Perforations:
 3,117' – 3,139' w/ 2spf

8/15/1962 Frac:
 30,000lbs and 36,788gal water
 Avg Inj Rate = 40.4 gpm
 Treating pressure = 1500-2050 psi

**Estimated and
 Presumed
 Current WBD**



1" Tubing to 3,087' ?

Picture Cliffs Perfs (1962):
 Perfs 3,117' – 3139' (2spf)

10/1974 Proposed sand pump cleanout and reland 1" tbg...

Prepared by: B.Savage
 Date: 02/23/2023

 KB = 8?
 GL = 7,409'
 API# 30-039-05225

 Spud Date: 07/21/1962
 Date Completed: 08/20/1962

<u>NMOCD Record or MSOgeology</u>	
Nacimiento –	x,xxx' or 1,500'
Ojo Alamo –	2,772' or 2,799'
Kirtland –	3,012' or x,xxx'
Fruitland –	3,078' or 3,012'
Picture Cliffs –	3,113' or 3,112'

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Rio Arriba County, NM
 SE/4 Section 32 of 24N-1W

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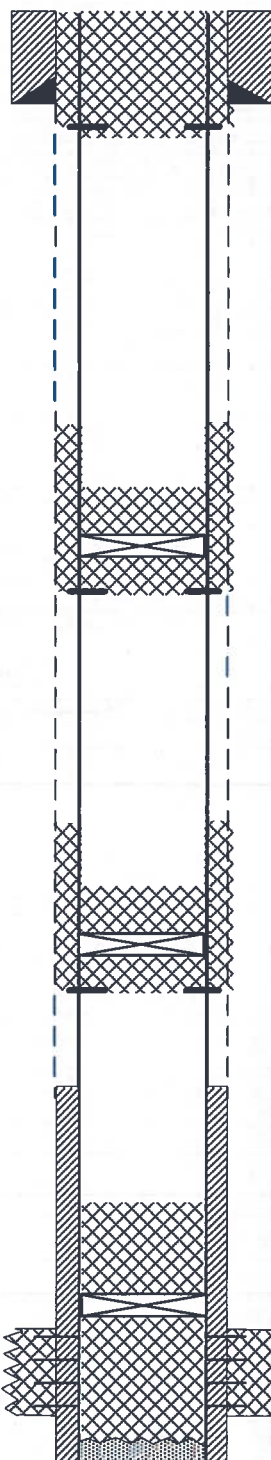
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Picture Cliffs –	3,113' or 3,112'



Plug 4 (surface shoe plug)
 Perfs @ 148'
 Pump/circulate cmt to surface.
 Estimated ~45sx for circulation.

PLUG 3 (~ approx. Nacimiento ~)
 Perfs @ 1,550' ; CICR @ 1,500'
 43sx cmt behind pipe and below CICR
 w/ 6sx cmt on top (TOC~1,423')

PLUG 2 (Ojo)
 Perfs @ 2,825' ; CICR @ 2,775'
 43sx cmt behind pipe and below CICR
 w/ 6sx cmt on top (TOC~2,698)

CICR @ 3,082'
 w/ 6sx cmt on top (TOC~3,005)

PLUG 1 (PC Perfs)
 22 sx cement 3,082' – 3,182'

Picture Cliffs Perfs (1962):

Perfs 3,117' – 3139' (2spf)

PBTD: 3,182'

Re: EXTERNAL:Re: [EXTERNAL] P&A of Harrington #7 per WO 22KGR0200W

Rennick, Kenneth G <krennick@blm.gov>

Tue 5/23/2023 8:57 AM

To: Connie Blaylock <cblaylock@txopartners.com>

Cc: Dave Pearson <dpearson@txopartners.com>; Dave Harford <dharford@txopartners.com>; Brodie Savage <bsavage@txopartners.com>; Fachan, Shannon L <sfachan@blm.gov>; Wenman, Christopher P <cwenman@blm.gov>; Kade, Matthew H <mkade@blm.gov>; Mankiewicz, David J <dmankiew@blm.gov>

Thank you Connie for the clarification. That will work for our purposes. Sufficient for the NOI sundry.

Have a great day!

Kenny Rennick

Kenneth (Kenny) Rennick

Petroleum Engineer

Bureau of Land Management
Farmington Field Office
6251 College Blvd
Farmington, NM 87402

Email: krennick@blm.gov

Mobile & Text: 505.497.0019

From: Connie Blaylock <cblaylock@txopartners.com>

Sent: Tuesday, May 23, 2023 8:25 AM

To: Rennick, Kenneth G <krennick@blm.gov>

Cc: Dave Pearson <dpearson@txopartners.com>; Dave Harford <dharford@txopartners.com>; Brodie Savage <bsavage@txopartners.com>; Fachan, Shannon L <sfachan@blm.gov>; Wenman, Christopher P <cwenman@blm.gov>; Kade, Matthew H <mkade@blm.gov>; Mankiewicz, David J <dmankiew@blm.gov>

Subject: RE: EXTERNAL:Re: [EXTERNAL] P&A of Harrington #7 per WO 22KGR0200W

Hi Kenny,

Regarding the Rec Plan and with reference to the email from Randy McKee, the surface has been confirmed as Private, so MorningStar will give Notice to the owner and provide opportunity for discussion of reclamation. Is this sufficient for the NOI sundry?

Email excerpt:

From: McKee, Randy N <RMcKee@blm.gov>

Sent: Friday, March 03, 2023 9:12 AM

To: Rennick, Kenneth G <krennick@blm.gov>; Dave Pearson <dpearson@txoenergy.com>

Cc: Connie Blaylock <cblaylock@txoenergy.com>; Tafoya, Jeffrey J <JTafoya@blm.gov>; Brodie Savage <bsavage@txoenergy.com>; Dave Harford <dharford@txoenergy.com>

Subject: Re: [EXTERNAL] RE: EXTERNAL:BLM Farmington NM Field Office - NMSF079352A MorningStar Written Order 22KGR0200W Follow Up

Good morning all,

Just for clarification, if the minerals are Federal, the BLM will participate in the down-hole plugging process. If this well site is actually on private surface, as has been indicated, the BLM will not get involved in reclamation of the site unless assistance is specifically requested by the landowner who will need to be contacted by TXO Energy (Morning Star) in order that they can participate in that process if they want.

Thank you,
Randy McKee

Thank you,
Connie

From: Rennick, Kenneth G <krennick@blm.gov>
Sent: Monday, May 22, 2023 5:24 PM
To: Connie Blaylock <cblaylock@txopartners.com>
Cc: Dave Pearson <dpearson@txopartners.com>; Dave Harford <dharford@txopartners.com>; Brodie Savage <bsavage@txopartners.com>; Fachan, Shannon L <sfachan@blm.gov>; Wenman, Christopher P <cwenman@blm.gov>; Kade, Matthew H <mkade@blm.gov>; Mankiewicz, David J <dmankiew@blm.gov>
Subject: EXTERNAL:Re: [EXTERNAL] P&A of Harrington #7 per WO 22KGR0200W

Thank you greatly, Connie! We will process this as soon as we can.

By the way, I see there is no reclamation plan. No worries if there is none yet. Note we will include the below COA with the approval of the plugging procedure.

Kenny Rennick

Reclamation COA

No reclamation plan on file. Operator is required to schedule a pre-reclamation onsite with BLM surface staff prior to submitting a reclamation plan for review and approval. Final reclamation earthwork must be completed within 6 months of well plugging.

Kenneth (Kenny) Rennick

Petroleum Engineer

Bureau of Land Management
Farmington Field Office
6251 College Blvd
Farmington, NM 87402

Email: krennick@blm.gov
Mobile & Text: 505.497.0019

From: Connie Blaylock <cblaylock@txopartners.com>
Sent: Monday, May 22, 2023 2:32 PM
To: Rennick, Kenneth G <krennick@blm.gov>; Fachan, Shannon L <sfachan@blm.gov>
Cc: Dave Pearson <dpearson@txopartners.com>; Dave Harford <dhartford@txopartners.com>; Brodie Savage <bsavage@txopartners.com>
Subject: [EXTERNAL] P&A of Harrington #7 per WO 22KGR0200W

<p>This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.</p>
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Hi Kenny,
In response to BLM Written Order 22KGR0200W, MorningStar Operating, Record Title Owner of Lease No. NMSF079352A, submits the attached NOI Proposed Procedure and WBDs for the P&A of the Harrington #7, 30-39-05225.

*Thank you,
Connie*



400 W. 7th Street
Fort Worth, TX 76102
(deliveries: 400 W. 6th Street)

Connie Blaylock
Senior Regulatory Analyst
TXO Partners, L.P. / MorningStar Operating LLC / Cross Timbers Energy, LLC
Office 817.334.7882
cblaylock@txopartners.com

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

AFMSS 2 Sundry ID 2732132

Attachment to notice of Intention to Abandon

Well: Harrington 7

CONDITIONS OF APPROVAL

1. Plugging operations must be completed by December 31, 2023.
2. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."
3. The following modifications to your plugging program are to be made:
 - a. Bring the top of Plug #1 (Pictured Cliffs) up to 2962' to cover Kirtland and Fruitland tops in addition to the Pictured Cliffs.
4. 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 05/23/2023

**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 H₂S.

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 FLUID MINERALS P&A Geologic Report

Date Completed: 5/23/2023

Well No. Harrington Com #007 (API# 30-039-05225)	Location	1680	FSL	&	990	FEL
Lease No. NMSF079352A	Sec. 32	T24N			R01W	
Operator M & M Production & Operation	County	Rio Arriba		State	New Mexico	
Total Depth 3194'	PBTD 3182'	Formation Pictured Cliffs				
AFMSS Sundry ID 2732132		Elevation (KB) 7416' (estimated)				

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose			Surface	1500	Surface/freshwater sands
Nacimiento			1500	2772	Water
Ojo Alamo Ss			2772	3012	Aquifer (possible freshwater)
Kirtland Shale			3012	3060	Possible gas
Fruitland			3060	3112	Coal/Gas/Water
Pictured Cliffs Ss			3112	PBTD	Gas
Lewis Shale					
Chacra					
Cliff House Ss					
Menefee					
Point Lookout Ss					
Mancos Shale					
Gallup					
Greenhorn					
Graneros Shale					
Dakota Ss					
Morrison					

Remarks:

P & A

- Note: MorningStar Operating, LLC is plugging this well as record title owner of the lease.
- Bring the top of Plug #1 (Pictured Cliffs) up to 2962' to cover Kirtland and Fruitland tops in addition to the Pictured Cliffs.
- Pictured Cliffs perfs 3117' – 3139'.

Reference Well:

1) **Formation Tops**
Same

Prepared by: Chris Wenman

Proposed P&A Procedure

Harrington #7

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 - b. Spot 10sx Class G cement on top of CICR.
 - i. If squeeze below doesn't take at least 12sx, skip this step and just pull out of CICR and spot remaining initial squeeze volume on top of CICR.
 - ii. Estimated TOC here ~ 2,953' or 129' above CICR.
 - iii. Fruitland/Kirtland formation top at 3012', we need 50' above that to have cmt 2962' per BLM COAs.
6. Circulate hole with mud laden fluid.
7. RU and run CBL.
 - a. Confirm with Farmington Office with CBL results.
8. Plug 2 (Ojo)
 - a. Perforate at 2,825' (unless CBL shows cmt behind pipe). Set CICR at 2,775'.
 - b. Pump squeeze 43sx Class G cement.
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- 12. Install P&A Marker.

Please make sure all excess volumes are as follows:

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(MorningStar Operating, LLC created)

Harrington #7
Rio Arriba County, NM

SE/4 Section 32 of 24N-1W

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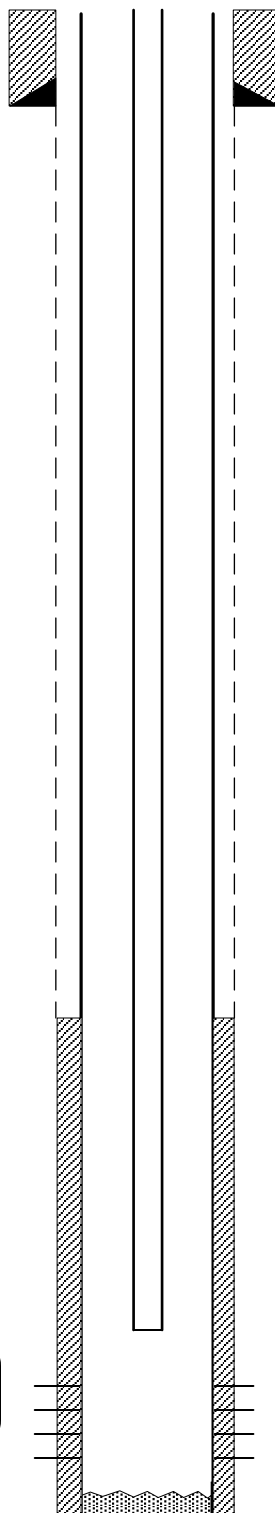
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Fruitland –	3,078' or 3,012'
Picture Cliffs –	3,113' or 3,112'

PLUG 3 (~ approx. Nacimiento ~)
Perfs @ 1,550' ; CICR @ 1,500'
43sx cmt behind pipe and below CICR
w/ 6sx cmt on top (TOC~1,423')

PLUG 2 (Ojo)
Perfs @ 2,825' ; CICR @ 2,775'
43sx cmt behind pipe and below CICR
w/ 6sx cmt on top (TOC~2,698)

CICR @ 3,082'
w/ 10sx cmt on top (TOC~2,953)

PLUG 1 (PC Perfs)
22 sx cement 3,082' – 3,182'

Picture Cliffs Perfs (1962):

Perfs 3,117' – 3139' (2spf)

PBTD: 3,182'

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 236470

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 236470
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
john.harrison	Accepted for record - NMOCD JRH 7/7/23. BLM approved P&A 5/23/23	7/7/2023