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

Sundry Print Report

05/03/2023

Well Name: NATANI

Well Location: T21N / R6W / SEC 12 / SENW / 36.06698 / -107.424746

County or Parish/State: SANDOVAL / NM

Well Number: 2

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM25307

Unit or CA Name: NATANI

Unit or CA Number: NMNM76156

US Well Number: 300432043400S1

Well Status: Gas Well Shut In

Operator: M & M PRODUCTION & OPERATION

Notice of Intent

Sundry ID: 2727246

Type of Submission: Notice of Intent

Type of Action: Plug and Abandonment

Date Sundry Submitted: 04/21/2023

Time Sundry Submitted: 02:09

Date proposed operation will begin: 07/31/2023

Procedure Description: Enduring Resources submitted the Notice of Intent to Abandon as the Record Title Owner of the lease. See attached.

Surface Disturbance

Is any additional surface disturbance proposed?: No

Oral Submission

Oral Notification Date: Apr 21, 2023

Oral Notification Time: 12:00 AM

Contacted By: Heather Huntington

Contact's Email: hhuntington@enduringresources.com

NOI Attachments

Procedure Description

NMNM25307_Natani_2_3004320434_NOIA_04212023_20230421140805.pdf

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Well Status: Gas Well Shut In

Operator: M & M PRODUCTION & OPERATION

Conditions of Approval

Additional

21N06W12FKmv_Natani_002_20230427161608.pdf

Authorized

General_Requirement_PxA_20230502173240.pdf

2727246_NOIA_COA_2_3004320434_KR_05022023_20230502173240.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: 05/02/2023

Signature: Kenneth Rennick

Received
APR 21 2023
Farmington Field Office
Bureau of Land Management

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB
No. 1004-0137 Expires:
December 31, 2024

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM25307

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No. NATANI 002

2. Name of Operator M & M PRODUCTION & OPERATION

9. API Well No. 30-043-20434

3a. Address PO BOX 175
COUNSELOR, NM 87018

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area
RUSTY CHACRA

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
1680 FNL & 1710 FWL SEC 12-T21N-R06W 36.0669823 -107.4247742

11. Country or Parish, State
SANDOVAL COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

ENDURING RESOURCES AS THE RECORD TITLE OWNER REQUESTS TO PLUG AND ABANDON THIS WELL FOR M&M PRODUCTIONS BASED ON NOTICE OF ORDER 22KR0103W ISSUED BY BLM. PLUGGING PROCEDURE, WELLBORE DIAGRAM, AND RECLAMATION PLAN ARE ATTACHED.

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

Title PERMITTING TECHNICIAN

Signature HH

Date 4-21-23

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

ENDURING RESOURCES IV, LLC

PLUG AND ABANDONMENT PROCEDURE

WELL: Natani 002
API: 30-043-20434
ER WELL: 0
LOCATION: 1680' FNL & 1710' FWL, Sec.12, 21N, 6W
COUNTY: Sandoval
STATE: NM
AFE:

RIVING DIRECTIONS: **From the intersection of US HWY 550 & US HWY 64 in Bloomfield, NM:**
From the intersection of US HWY 550 & US HWY 64 in Bloomfield, NM: South on US HWY 550 for ±42.7 miles access road; Left (North) thru cattle guard onto County Road 7997 for 2.7 miles to T, Right (NorthEast) for .5 mi on access road to T, Left (North) to Anderson 1 location.

NOTES:
1) All cement volumes assume 100% excess volume outside pipe and 50' excess inside pipe. Cement will be Type III (14.6 ppg and 1.39 cuft/sx), or similar. A stabilizing wellbore fluid with density of 8.3 ppg will be sufficient to balance pressures encountered in the well.
2) Any waste fluids circulated from the well to surface, including excess cement, will be stored in steel tanks and then disposed of at an approved disposal facility.
3) Notify BLM and NMOCD prior to beginning P&A well-work operations. Comply with all BLM and NMOCD regulations. Obtain approval from BLM and NMOCD prior to making any changes or adjustments to the approved procedure.
4) Plugs will be adjusted as necessary depending on the results of of any RCBLs and pressure tests. All logs and pressure test results will be submitted / reported to Regulatory Agencies.
5) Wait on cement, tag, and spot additional cement plugs as necessary depending on results of casing pressure tests.
6) Hold safety meetings daily (minimum) with all personnel on location. Record tubing, casing, and bradenhead pressures daily on reports.
7) Test and install rig anchors, if necessary (if rig does not have a base-beam).

PROCEDURE:
1) MIRU daylight pulling unit and associated equipment.
2) Blow down well. Kill well, if necessary (well is currently in TA status; should not require blowing down or killing).
3) ND WH. NU BOPE.
4) Establish injection rate down 2-7/8" casing/tubing.
5) Cement entire production casing as follows:

6) ***PLUG #1: CHACRA, PICTURED CLIFFS, OJO ALAMO, NACIMIENTO, SURFACE CASING SHOE, SURFACE***

Inject down well head

Plug Coverage:	0'	to	1,855'
Cement Volume:	45 sx	*0*	
	sx	*0*	
	45 sx	***TOTAL***	

7) ND BOPE. Cut off casing and wellhead (minimum of 3' below finished grade). Top off annulus and casing with cement, if required. RDMO cement equipment. Install P&A marker to comply with BLM and NMOCD regulations. RDMO.

8) Complete surface reclamation as per approved reclamation plan.

Created by: G Olson 1/25/2023

OPERATOR: M & M Production & Operation
WELL: Natani 002
FIELD: Lybrook
API # 30-043-20434
ER WELL #:
WI/NRI: 0.0000% / 0.0000%

CNTY: Sandoval FTG: 1680' FNL & 1710' FWL
STATE: NM Q-Q: SENW
SPUD: 10/06/79 SEC.: 12
COMP: 11/07/79 TWS: 21N
STATUS: WSI RGE: 6W
WBD DATE: 01/25/23 BY: GAO

CURRENT WELLBORE DIAGRAM (TA STATUS)

KBE: 7065 '
KB: 12 '
GLE: 7053 '
TOC by circulated 0'

12-1/4" Hole
8-5/8" 24.0# csg @ 125 '
85 sx Class B Cmt w/3%CaCl Cmt to surf

TOC by temp survey 800'

FORMATION TOPS

Nacimiento @	0
Ojo Alamo @	787
Kirtland @	
Fruitland @	1581
Pictured Cliffs @	1276
Lewis @	
Chacra @	1668
Cliff House @	
Menefee	
Point Lookout @	
Mancos @	
Gallup @	

Top Perf 1682

Btm Perf 1752

ORIG PBTD @ 1805 '

2-7/8" 6.4# Csg @ 1931 '
TD @ 1950 '

CASING RECORD

HOLE (in)	SIZE (in)	WT (lb/ft)	GRADE	TOP (ft)	BTM (ft)	Annulus Vol bbls/ft	Capacity bbls/ft
12 1/4	8 5/8	24	K55	0	125	0.0735	0.0636
6 3/4	2 7/8	6.4	J55	0	1931	0.0362	0.00579

TUBING RECORD COND DATE

SIZE (in)	WT (lb/ft)	GRADE	TOP (ft)	TALLY (ft)	JTS

ITEM	MAKE/MODEL	SIZE (in)	TALLY (ft)	DEPTH (ft)

PERFORATION RECORD

ZONE	TOP (ft)	BTM (ft)	SPF	STAGE	STATUS	VOL / PROP
Chacra A	1682	1752	1 per 4"	1	FRAC'D	50K GAL & 40K LBS

CEMENT	sx	cu ft	Type	BOTTOM	TOP
Surface	85		Class B w/3% CaCl2	125	0
				circulated 5 bbls to surf	
Production					
Tail	165		65 35 Pozzolan w/2% gel	1931	0
				circulated 6 bbls to surf	
				Temp survey cmt top 800'	

OPERATOR:	ENDURING RESOURCES	CNTY: Sandoval	FTG: 1680' FNL & 1710' FWL
WELL:	Natani 002	STATE: NM	Q-Q: SENW
FIELD:	Lybrook	SPUD: 10/06/79	SEC.: 12
API #	30-043-20434	COMP: 11/07/79	TWS: 21N
ER WELL #:	0	STATUS: WSI	RGE: 6W
WI/NRI:	0.00% / 0.0000%	WBD DATE: 08/24/22	BY: GAO

PROPOSED P&A WELLBORE DIAGRAM

KBE: 7065 '
KB: 12 '
GLE: 7053 '
TOC @ 0' 10/11/1979

12-1/4" Hole
8-5/8" 24.0# csg @ 125 '
85 sx Class B Cmt w/3%CaCl Cmt to surf

CASING RECORD

HOLE (in)	SIZE (in)	WT (lb/ft)	GRADE	TOP (ft)	BTM (ft)	ID (in)
12 1/4	8 5/8	24.00	K55	0	125	8.097
6 3/4	2 7/8	6.40	J55	0	1931	2.441

PERFORATION RECORD

ZONE	TOP (ft)	BTM (ft)	SPF
Chacra	1692	1752	1 per 4'

PLUG #1: CHACRA, PICTURED CLIFFS, OJO ALAMO, NACIMIENTO, SURFACE CASING SHOE, SURFACE

BALANCED PLUG	50 #		
	0		
CEMENT	0.0 ' -	1855 '	1905 ' interval (including 50' excess)
PLUG VOLUME	45 sx		100% excess required (outside casing)
			50 feet of excess required (inside casing)

FORMATION TOPS

Nacimiento @	0
Ojo Alamo @	787
Kirtland @	0
Fruitland @	1581
Pictured Cliffs @	1276
Lewis @	0
Chacra @	1668
Cliff House @	0
Menefee	0
Point Lookout @	0
Mancos @	0
Gallup @	0
0	0
0	0
0	0
0	0

ORIG PBTD @ 1805 '

2-7/8" 6.4# Csg @ 1931 '
TD @ 1950 '

PROPOSED CEMENT PLUGS ASSUME TOC AS REPORTED BASED ON TS DURING DRILLING.
PLUGS WILL BE ADJUSTED AS REQUIRED BASED ON RESULTS OF CBL AND/OR PRESSURE TESTS

CEMENT & CASING INFORMATION	
- ALL PLUGS ASSUME TYPE III NEAT CEMENT - STABILIZNG WELLBORE FLUID IS 8.3 PPG, SUFFICIENT TO BALANCE ALL WELLBORE PRESSURES, UNLESS NOTED OTHERWISE IN PROCEDURE	
CEMENT DENSITY:	14.60 PPG
CEMENT YIELD:	1.39 CUFT / SX
MIX WATER REQUIRED:	6.69 GAL / SX
2-7/8" CSG CAPACITY:	0.0325 CUFT / FT
2-7/8" CSG x 6-3/4" HOLE CAPACITY:	0.2034 CUFT / FT
2-7/8" CSG x 8-5/8" CSG CAPACITY	0.2674 CUFT / FT

BLM FLUID MINERALS
P&A Geologic Report

Date Completed: 4/27/2023

Well No. Natani #002 (API# 30-043-20434)		Location	1680	FNL	&	1710	FWL
Lease No. NMNM25307		Sec. 12	T21N			R06W	
Operator M & M Production & Operation		County	Sandoval		State	New Mexico	
Total Depth 1950’	PBTD 1805’	Formation Chacra					
Elevation (GL) 7053’		Elevation (KB)					

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose					
Nacimiento			Surface	787	Surface/freshwater sands
Ojo Alamo Ss			787	896	Aquifer (possible freshwater)
Kirtland Shale			896	1072	Possible gas
Fruitland			1072	1276	Coal/Gas/Water
Pictured Cliffs Ss			1276	1443	Probable Gas
Lewis Shale			1443	1668	
Chacra			1668	PBTD	Gas
Cliff House Ss					
Menefee					
Point Lookout Ss					
Mancos Shale					
Gallup					
Greenhorn					
Graneros Shale					
Dakota Ss					
Morrison					

Remarks:
P & A

- Sundry ID: 2727246
- Note: Enduring Resources, LLC is plugging this well as record title owner of the lease.
- Chacra perfs 1682’ – 1752’.

Reference Well:
1) **Formation Tops**
Same

Prepared by: *Chris Wenman*

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

AFMSS 2 Sundry ID 2727246

Attachment to notice of Intention to Abandon

Well: Natani 2

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. 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 05/02/2023

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 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.

SURFACE RECLAMATION PLAN

Natani 002

Oil and Natural Gas Wells Project

APRIL 2023

ENDURING RESOURCES IV, LLC

200 Energy Court

Farmington, New Mexico 87401

Phone: (505) 636-9720

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LIST OF TABLES

1. INTRODUCTION

Enduring Resources IV, LLC (Enduring), is providing this Surface Reclamation Plan to the Bureau of Land Management–Farmington Field Office (BLM-FFO) for their Natani 002 Oil and Natural Gas Wells Project (Natani 002). During interim and final reclamation, Enduring will meet the reclamation standards provided in this Reclamation Plan to reestablish vegetation and control noxious weeds and erosion. The reclamation standards provided in this Reclamation Plan are habitat specific and meet standards established in *The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (*The Gold Book*) (BLM and U.S. Forest Service 2007). Enduring will be responsible for all surface disturbance until they obtain a final abandonment notice (FAN) or relinquishment from the BLM-FFO.

Information associated with the project is provided in Table 1.

Table 1. Information Associated with the Project

Applicant:	Enduring Resources IV, LLC
Project Name:	Natani 002 Oil and Natural Gas Wells Project
Project Features:	One well pad and production facilities
Lease Number(s):	NMNM-25307
Land Manager(s):	BLM-FFO
Mineral Manager(s):	BLM-FFO
Associated Authorization Applications, Pending:	Not applicable

Enduring may submit a request to the BLM-FFO to revise this Reclamation Plan at any time during the life of the project in accordance with *The Gold Book* (BLM and U.S. Forest Service 2007). Enduring will include justification for the revision request.

The Enduring contact person for this reclamation plan is:

Theresa Ancell
Regulatory Manager
Enduring Resources IV, LLC
200 Energy Court
Farmington, New Mexico 87401
(505) 636-9720

2. PROJECT DESCRIPTION

2.1. Project Infrastructure

Infrastructure to be fully reclaimed includes one existing well pad. The well accesses federal minerals on lease.

2.2. Location

The project area is in Sandoval County, New Mexico, approximately 60 miles southeast of Bloomfield, New Mexico (Figure A-1 in Appendix A). The project area can be accessed as follows:

- From Bloomfield (intersection of U.S. Route 550 and U.S. Route 64), travel south on U.S. Route 550 for approximately 54.4 miles.
- Turn right on Indian Service Road 474 and continue for 4.6 miles.
- Turn left to stay on Indian Service Road 474 and continue for 6.0 miles.
- Indian Service Road 474 becomes Indian Service Road 471. Continue for 1.7 miles, then turn right.
- In 0.9 mile, turn right again, and in approximately 0.5 mile, the project access road branches off to the right.

The project area is on BLM-FFO–managed surface. The legal location is provided below.

2.2.1. Well Pad

BLM-FFO–managed surface

Township 21 North, Range 06 West, New Mexico Principal Meridian
Section 12: SE¼NW¼.

2.3. Estimated Total Area of Disturbance

The Natani 002 pad encompasses a total of 0.71 acre of existing surface disturbance. Disturbance is described below and presented in Table 2.

Table 2. Surface Disturbance Associated with the Project

Project Feature	Summarized Description	Landowner/Land Manager	Surface Disturbance/ Reclamation Area (acres)
Well pad	The well pad measures approximately 50 × 50 feet.	BLM	0.71
Total			**0.71**

2.4. Well Pad

The well pad measures approximately 50 × 50 feet.

3. SITE CONDITIONS

The project area topography is fairly level with gently rolling hills. The elevation of the project area ranges from approximately 7,050 to 7,055 feet above mean sea level. There is one soil type mapped within the project area: Doakum-Beltonnie fine sandy loams, 0 to 8 percent slopes (Natural Resources Conservation Service 2023). Based on the climatic records for Lybrook, New Mexico (Station No. 295290), this area has an average annual maximum temperature of 61.1 degrees Fahrenheit and an average annual minimum

temperature of 34.9 degrees Fahrenheit. The average annual rainfall is 10.8 inches, with the majority occurring between July and October. The average annual total snowfall is 25.3 inches, which largely occurs between October and April (Western Regional Climate Center 2023).

3.1. Vegetation Community

SWCA Environmental Consultants (SWCA) conducted a site visit of the project area on March 29, 2023. Biologists identified the sagebrush shrubland vegetation community within the project area and immediate vicinity. Livestock grazing is present within the project area. Disturbances associated with existing two-track and county roads are within or in close proximity to the project area.

Reclamation standards are based on eight BLM-FFO–designated vegetation communities that are outlined in the *Farmington Field Office Bare Soil Reclamation Procedures* (*Bare Soil Reclamation Procedures*) (BLM 2013).

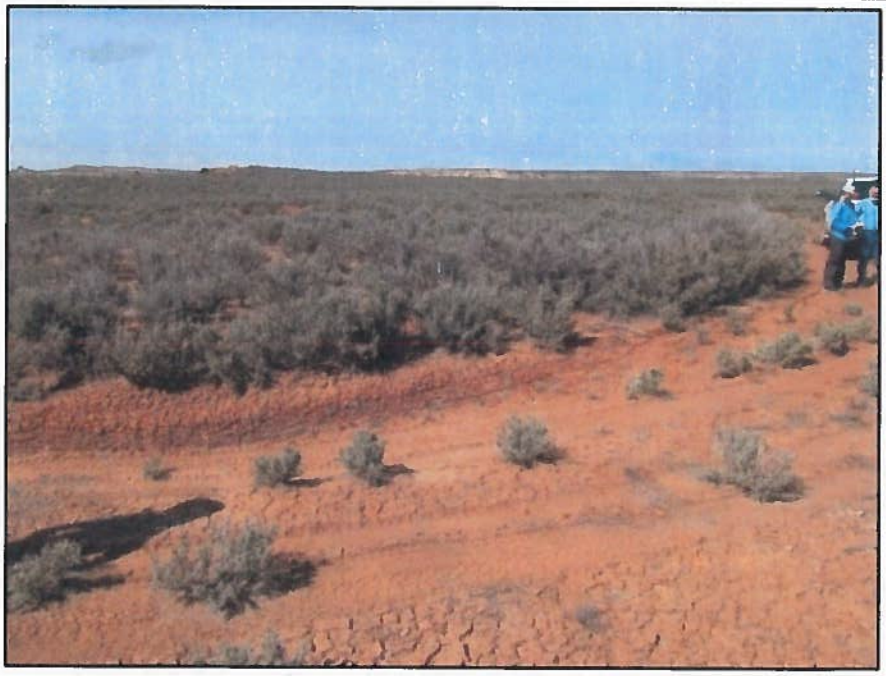
3.2. Noxious Weeds

During SWCA's site visit, no New Mexico Department of Agriculture (NMDA)–listed Class A or Class B noxious weeds were observed in the project area.

3.3. Project Area Photographs

Photographs of the project area to be reclaimed are provided in Table 3.

Table 3. Project Area Photographs

Photograph Description	Photograph
View of the proposed project area, facing north.	

Photograph Description	Photograph
View of the proposed project area, facing east.	
View of the proposed project area, facing south.	

Photograph Description	Photograph
View of the proposed project area, facing west.	

4. RECLAMATION

4.1. On-Site Meeting

An on-site meeting may be conducted prior to reclamation activities, if requested by the BLM.

4.2. Vegetation Reclamation Standards

The Natani 002 pad is on lease on BLM-FFO–managed land. Requirements for determining reclamation and its successful completion of the selected vegetation community on BLM-FFO public lands is determined by the reclamation percent cover standards for the community, as outlined in Table 4. These standards must be met on BLM-managed lands during post-disturbance monitoring procedures in order for the BLM-FFO to sign off on the attainment of vegetation reclamation standards.

Table 4. Reclamation Goal for Sagebrush Community

Functional Group	Percent (%) Foliar Cover	Common Species
Trees/shrubs/grasses/forbs	≥ 35	Utah juniper, piñon pine, big sagebrush, fourwing saltbush, antelope bitterbrush, alkali sacaton, Western wheatgrass, Indian ricegrass, galleta, sand dropseed, scarlet globemallow, wooly Indian wheat, fleabane, beardtongue, buckwheat, and threadleaf groundsel.
Invasive/undesirables 10% allowed toward meeting standard of 35%.	≤ 10	Plants that have the potential to become dominant species on a site where their presence is detrimental to revegetation efforts or the native plant community. Examples of invasive species include cheatgrass, Russian thistle, and kochia.

4.3. Project Area Weed Survey

During the field visit, the proposed project area was surveyed for noxious weeds listed on the NMDA's Class A and Class B noxious weeds list. No NMDA Class A–listed species were identified. One NMDA-listed Class B noxious weed species, saltlover, also known as halogeton (*Halogeton glomeratus*), was identified within the project area.

4.4. Project Area Soil Evaluation

Soil testing may be conducted prior to reclamation activities, if requested by the BLM.

5. RECLAMATION TECHNIQUES FOR SUCCESSFUL REVEGETATION

All activities associated with abandonment or termination of the Natani 002 pad will be limited to areas shown in Figure A-2 (Appendix A).

5.1. Vegetation and Site Clearing

If present, trees and brush 3 inches in diameter or greater at ground level will be cut and stacked for wood gatherers. All other trees and brush will be mowed or mulched at ground level. Stumps and root balls will be hauled to an approved disposal site or stockpiled at the edge of the well pad and buried in the cut slopes of the well pad during interim reclamation. Any slash and brush will be chipped, shredded, or mulched, and incorporated into the topsoil for later use in interim reclamation. Vegetation that has reestablished within the interim reclaimed portions of the disturbance area will be mulched and incorporated into the topsoil as additional organic matter.

5.2. Topsoil Stripping, Storage, and Replacement

The upper 6 inches of topsoil (if available) will be stripped following vegetation mulching. Topsoil will not be mixed with the underlying subsoil horizons and will be stockpiled as a berm/windrow along the interior perimeter of the construction buffer zone. Soils will be replaced in the proper order, and topsoil will be spread evenly over subsoils upon completion of recontouring operations (see Section 5.3 below) and prior to final seedbed preparation. Redistribution of topsoil shall not be done when the ground or topsoil is wet. Vehicle/equipment traffic will not be allowed to cross topsoil stockpiles. If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments will be added to the topsoil as advised by the Enduring environmental scientist or appropriate agent/contractor.

5.3. Recontouring

All disturbed areas related to the Natani 002 pad will be recontoured to blend with the surrounding landscape, emphasizing restoration of the existing drainage patterns and land forms to pre-construction condition to the extent practicable.

The well pad will be contoured to blend with the surrounding land forms, removing signs of cut/fill slopes. Natural rolling contours will be implemented to break up the surface and aid in removing signs of the well pad once vegetation establishes.

5.4. Water Management/Erosion Control Features

A formal on-site visit will be required to determine the water and erosion control management appropriate for the project. The BLM-FFO representative and the Enduring representative will work in collaboration to develop site-specific erosion control or water management features and to identify installation locations. Potential erosion control or water management features that may be used include water bars or rolling dips for roads, sediment basins or sediment traps, check dams, silt fencing, bellholes upstream of culverts, outlet protection for culverts, erosion control blankets, straw bales, and straw wattles.

As will be determined during the on-site visit, the following water management/erosion control features could be implemented during construction of the project:

- Multiple silt traps may be incorporated into the reclamation. The exact location and size of silt traps would be determined during reclamation to best fit the recontoured terrain. These silt traps would help slow the velocity of stormwater through the location, allow settling of suspended materials, and minimize erosion. The exact location and size of these silt traps would be determined during reclamation to best fit the recontoured terrain.
- Diversions may be via rolling berms as opposed to cut diversion ditches.
- Excelsior wattles or other biodegradable material may be used to prevent cutting and sediment transportation if needed within diversions and spillways.
- Ripping and disking may be conducted perpendicular to the recontoured slopes to promote water retention and provide terracing to prevent erosion and rills.

During interim reclamation, areas of the project that are not needed for long-term well operations and maintenance will be recontoured to reestablish disturbed terrain and blend into the surrounding landscape. The natural drainage network will be reestablished as practicable with necessary diversions and silt traps around the long-term project footprint.

5.5. Seedbed Preparation

For cut-and-fill slopes, initial seedbed preparation will consist of pushing (bulldozer), excavating (excavator), or hauling (belly scraper) the unneeded fill slope material and placing it within the cut slopes. Natural rolling contours will be implemented to break up the surface and aid in removing signs of the sharp well pad corners once vegetation establishes. Emphasis will be placed on restoration of the existing drainage patterns and landforms to preconstruction conditions, to the extent practicable.

Within areas that will be reseeded, stockpiled topsoil will be evenly redistributed prior to final seedbed preparation. Seedbed preparation within compacted areas will include ripping to a minimum depth of 18 inches and spacing furrows 2 feet apart. Ripping will be conducted perpendicularly in two phases, where practicable. If large clumps/clods result from the ripping process, disking will be conducted perpendicular to slopes in order to provide terracing and minimize runoff and erosion. Final seedbed preparation will consist of raking or harrowing the spread topsoil prior to seeding to promote a firm (but not compacted)

seedbed without surface crusting. Seedbed preparation may not be necessary for topsoil storage piles or other areas of temporary seeding.

5.6. Soil Amendments

Soil amendments will be added to the topsoil, if needed, as advised by the Enduring environmental scientist or appropriate surface managing agency.

5.7. Seeding

The seed mix chosen for this project area is listed in Table 5. Seeding will occur immediately following recontouring and seedbed preparation. A disk-type seed drill with two boxes for various seed sizes will be utilized for seeding the disturbed areas of the site. Enduring or its reclamation subcontractor will ensure that perennial grasses and shrubs are planted at the appropriate depths. Small seeds (such as sand dropseed) will be planted at a depth of 0.25 inch; intermediate size seeds (such as wheatgrasses and shrubs) will be planted at a depth of 0.5 inch; and larger seeds (such as Indian ricegrass) will be planted at a depth of 1 to 2 inches. In situations where differing planting depths are not practicable with the equipment being used, the entire mix will be planted no deeper than 0.25 inch. A drag, packer, or roller will follow the seeder to ensure uniform seed coverage and adequate compaction. Seeding will be run perpendicular to slopes in order to minimize runoff and erosion.

Drill seeding may be used on well-packed and stable soils that occur on gentler slopes and where tractors and drills can safely operate. Where drill seeding is not practical, the contractor will broadcast seed using a "cyclone" hand seeder or similar broadcast seeder. Galleta seed may also be broadcast; due to the light fluffy nature of this seed, it does not seed well through a drill seeder. Broadcast application of seed requires a doubling of the drill seeding rate. The seed will then be raked into the ground so that the seed is planted no deeper than 0.25 inch below the surface.

Upon completion of seeding, straw mulch will be spread across the reclaimed area and crimped into the soil. This will promote site stabilization and slightly increase moisture retention.

Table 5. BLM-FFO Sagebrush Community Seed Mix

Common Name	Scientific Name	Variety	Season	Form	Pure Live Seed pounds per acre*
Fourwing saltbush	*Atriplex canescens*	Variety not stated (VNS)	Cool	Shrub	2.0
Winterfat	*Krascheninnikovia lanata*	VNS	Cool	Shrub	2.0
Sand dropseed	*Sporobolus cryptandrus*	VNS	Warm	Bunch	0.5
Western wheatgrass	*Pascopyrum smithii*	Arriba	Cool	Sod-forming	4.0
Indian ricegrass	*Achnatherum hymenoides*	Paloma or Rimrock	Cool	Bunch	4.0
Blue grama	*Bouteloua gracilis*	Alma or Hachita	Warm	Sod-forming	2.5
Bottlebrush squirreltail	*Elymus elymoides*	Tusas or VNS	Cool	Bunch	3.0

Common Name	Scientific Name	Variety	Season	Form	Pure Live Seed pounds per acre*
Blue flax	*Linum lewisii*	Apar	Cool	Forb	0.25
Rocky Mountain beeplant	*Cleome serrulata*	Local or VNS	Cool	Forb	0.25

* Based on 60 pure live seed pounds per square foot, drill seeded; double this rate (120 pure live seed pounds per square foot) if broadcast seeded or hydroseeded.

5.8. Noxious and Invasive Weed Control

Should any noxious or invasive weeds be documented on any portions of the action area after earthwork and seeding activities, Enduring will work with the surface managing agency to treat the weeds with approved herbicides along with any other site-specific instructions agreed upon.

6. MONITORING REQUIREMENTS

Monitoring for the project on BLM-managed lands will be completed according to Procedure B of the BLM's *Bare Soil Reclamation Procedures* (BLM 2013). Monitoring activities will be initiated after the project is completed (interim monitoring), during the post-disturbance earthwork, and during the seeding inspection process. Additionally, a sundry notice will be submitted to BLM-FFO notifying reclamation work has been completed. A joint inspection of the reclamation area may be conducted if requested by any party. Once a self-sustaining, vigorous, diverse, native (or otherwise accepted) plant community is established and erosion has been controlled as described in Section 5.7 above, Enduring will submit a sundry notice (FAN) requesting approval of the remediated project as described in this plan. Enduring will include photographs with the sundry notice as supporting documentation.

6.1. Initiation

During a post-disturbance site inspection at the project site on BLM lands, the BLM-FFO representative (in collaboration with the Enduring representative) will determine site-specific monitoring locations for photo-point monitoring and vegetation line point intercept transects. The BLM-FFO will record the monitoring locations with GPS, take the initial monitoring photographs, and complete the initial monitoring report within 60 days of post-disturbance earthwork and seeding approval. The initial report will be available from the BLM-FFO. Photograph location requirements are found in the BLM's *Bare Soil Reclamation Procedures*.

6.2. Annual Monitoring and Reporting

The operator will be responsible for annual monitoring of the photo points and the vegetation line point intercept transects starting 2 years after the completion and approval of the earthwork and seeding. Monitoring may occur during any time of the year. Vegetation line point intercept transects will be monitored annually by the operator until attainment of vegetation reclamation standards is met. Enduring will submit the monitoring report to the BLM by December 31 of the year monitored.

6.3. Attainment of Vegetation Reclamation Standards

When vegetation within BLM-managed lands appears to meet the required percent revegetation standard (approximately 80% background community vegetation), Enduring may request BLM-FFO concurrence that vegetation percent cover standards have been attained any time after 2 calendar years of completion of earthwork and seeding. Enduring will submit a written report identifying that revegetation standards have been attained. The BLM-FFO will reply to the operator to confirm concurrence (or not) with a rationale for the determination within 60 days of receiving the request.

If the revegetation standards are not being attained, Enduring and the BLM-FFO will analyze the issues that may have contributed to vegetation reclamation failure or lack of meaningful progress. Remedial actions will be developed collaboratively if vegetation percent cover standards are not being attained.

6.4. Long-Term Monitoring

After the required percent revegetation standard has been attained, Enduring will begin long-term monitoring. Every fifth year after attainment, Enduring will monitor the site at all established photo points to ensure the site remains productive and stable. Enduring will submit the monitoring report to the BLM by December 31 of the year monitored.

6.5. Final Abandonment

If 1 acre or more of bare soil results from earthwork required in preparation for final abandonment, Enduring will follow this Surface Reclamation Plan in accordance with Procedure B of the BLM's *Bare Soil Reclamation Procedures* (BLM 2013).

If final abandonment or relinquishment earthwork results in less than 1 acre, but more than 0.1 acre of bare soil, Enduring will initiate this Surface Reclamation Plan in accordance with Procedure A of the *BLM's Bare Soil Reclamation Procedures* (BLM 2013). Disturbed areas less than 0.1 acre are expected to revegetate naturally from seed sources adjacent to the disturbance.

Revegetation percent cover standards will be attained, documented, and submitted to the BLM-FFO by Enduring or an exception granted before the BLM-FFO will approve a FAN or relinquishment.

6.6. Cessation of Monitoring

Monitoring requirements will remain in effect as long as the permit, grant, or authorization remains in force and until all infrastructure or associated facilities are abandoned by established BLM procedure and a FAN or relinquishment is issued by the BLM-FFO. Enduring will document that percent cover standards have been obtained when submitting a request for a FAN or a relinquishment.

7. LITERATURE CITED

Bureau of Land Management (BLM). 2013. *Farmington Field Office Bare Soil Reclamation Procedures*. Available at: https://www.emnrd.nm.gov/wp-content/uploads/sites/5/FFOBareSoilReclamationProcedures2-1-13.pdf. Accessed September 2023

Bureau of Land Management (BLM) and U.S. Forest Service. 2007. *The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (4th ed., revised 2007). Available at: https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/operations-and-production/the-gold-book. Accessed January 2023.

Natural Resources Conservation Service. 2023. Web Soil Survey. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed April 2023.

Western Regional Climate Center. 2023. Climate Summary for Lybrook, New Mexico (295290). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm5290. Accessed April 2023.

APPENDIX A. MAPS

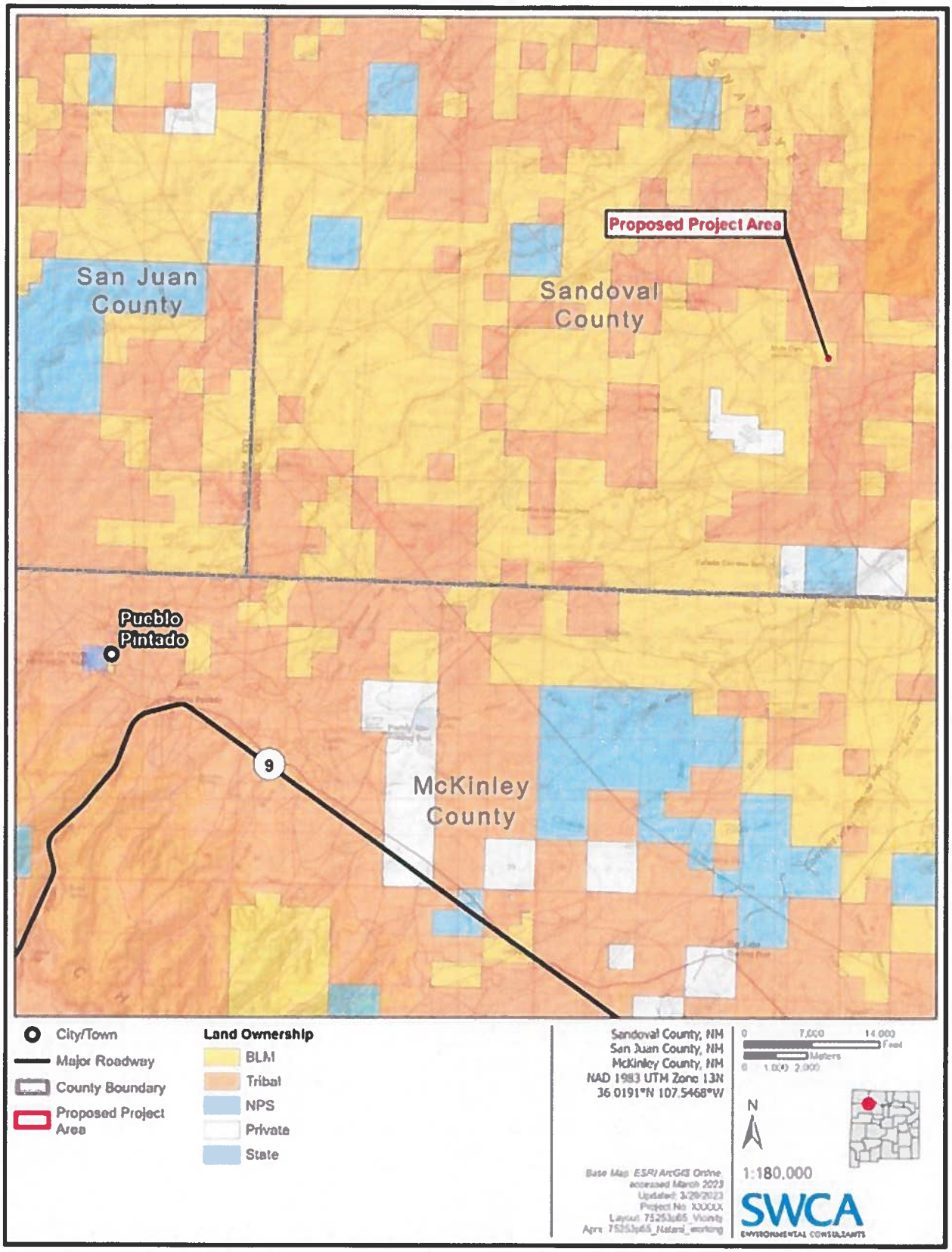


Figure A.1. Project vicinity.

Figure A.2. Project location.

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

COMMENTS

Action 213581

COMMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 213581
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

COMMENTS

Created By	Comment	Comment Date
john.harrison	Accepted for record - NMOCD JRH 5/17/23 BLM approved P&A 5/2/23	5/17/2023

District I
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District IV
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CONDITIONS

Created By	Condition	Condition Date
john.harrison	None	5/17/2023