

Well Name: ANDERSON	Well Location: T24N / R8W / SEC 22 / SESW / 36.295242 / -107.669693	County or Parish/State: SAN JUAN / NM
Well Number: 2	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM54366	Unit or CA Name:	Unit or CA Number:
US Well Number: 300452749800S1	Well Status: Oil Well Shut In	Operator: M & M PRODUCTION & OPERATION

Notice of Intent

Sundry ID: 2727251

Type of Submission: Notice of Intent

Type of Action: Plug and Abandonment

Date Sundry Submitted: 04/21/2023

Time Sundry Submitted: 02:28

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

NMNM54366_Andrsn_2_3004527498_NOIA_04212023_20230421142712.pdf

Well Name: ANDERSON

Well Location: T24N / R8W / SEC 22 /
SESW / 36.295242 / -107.669693

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Unit or CA Name:

Unit or CA Number:

US Well Number: 300452749800S1

Well Status: Oil Well Shut In

Operator: M & M PRODUCTION
& OPERATION

Conditions of Approval

Additional

24N08W22NKg_Anderson_002_20230427164127.pdf

Authorized

2727251_NOIA_COA_2_3004527498_KR_05022023_20230502174432.pdf

General_Requirement_PxA_20230502174425.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

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
*Farmington Field Office
Bureau of Land Management*

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

5. Lease Serial No. NMNM54366

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.*

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well
 Oil Well Gas Well Other

8. Well Name and No. ANDERSON 002

2. Name of Operator M & M PRODUCTION & OPERATION

9. API Well No. 30-045-27498

3a. Address PO BOX 175
COUNSELOR, NM 87018

3b. Phone No. (include area code)

10. Field and Pool or Exploratory Area
LYBROOK GALLUP

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)
990 FSL & 2310 FWL SEC 22-T24N-R08W 36.2952614 -107.6702423

11. Country or Parish, State
SAN JUAN COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomplate 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 22KR0105W 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

PERMITTING TECHNICIAN
Title

Signature 

Date 4-21-23

THE SPACE FOR FEDERAL OR STATE OFFICE 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: Anderson 002

API: 30-045-27498

ER WELL: 0

LOCATION: 990' FSL & 2310' FWL, Sec.22, 24N, 8W

COUNTY: San Juan

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) MU 3-7/8" bit on 2-3/8" work-string. TIH to top of perforations @ 5,326' . POH
 - 5) PU and TIH with 4-1/2" cast iron cement retainer (CICR) on 2-3/8" work-string to 5,280'. Set CICR, sting out, load annulus and press test to 550 psi. Sting in and establish injection rate minimum of 2 bpm
 - 6) **PLUG #1: GALLUP PERFORATIONS**
 TIH with 4-1/2" CR on 2-3/8" work-string. Pump cement. TOOH.
 Perf holes: 5298 to 5521'

4-1/2" CR:
 Plug Coverage: 5,250 to 5,521
 Cement Volume: 21 sx *below CR* 4 sx

25 sx **TOTAL**

7) PLUG #2: MANCOS TOP

Spot balanced plug down work-string. TOO H.
 Plug Coverage: 4,407' to 4,507'
 Cement Volume: 10 sx

10 sx **TOTAL**

8) PLUG #3: CLIFFHOUSE, CHACRA, PICTURED CLIFFS, FRUITLAND, KIRTLAND, OJO ALAMO TO

Spot balanced plug down work-string. TOO H.
 Plug Coverage: 1,115' to 3,119'
 Cement Volume: 133 sx

133 sx **TOTAL**

9) PLUG #4: NACIMIENTO TOP, SURFACE CASING SHOE, SURFACE

TIH with 4-1/2" CR on 2-3/8" work-string. Pump cement. TOO H.
 Plug Coverage: 0' to 270'
 Cement Volume: 21 sx 0
 sx 0

21 sx **TOTAL**

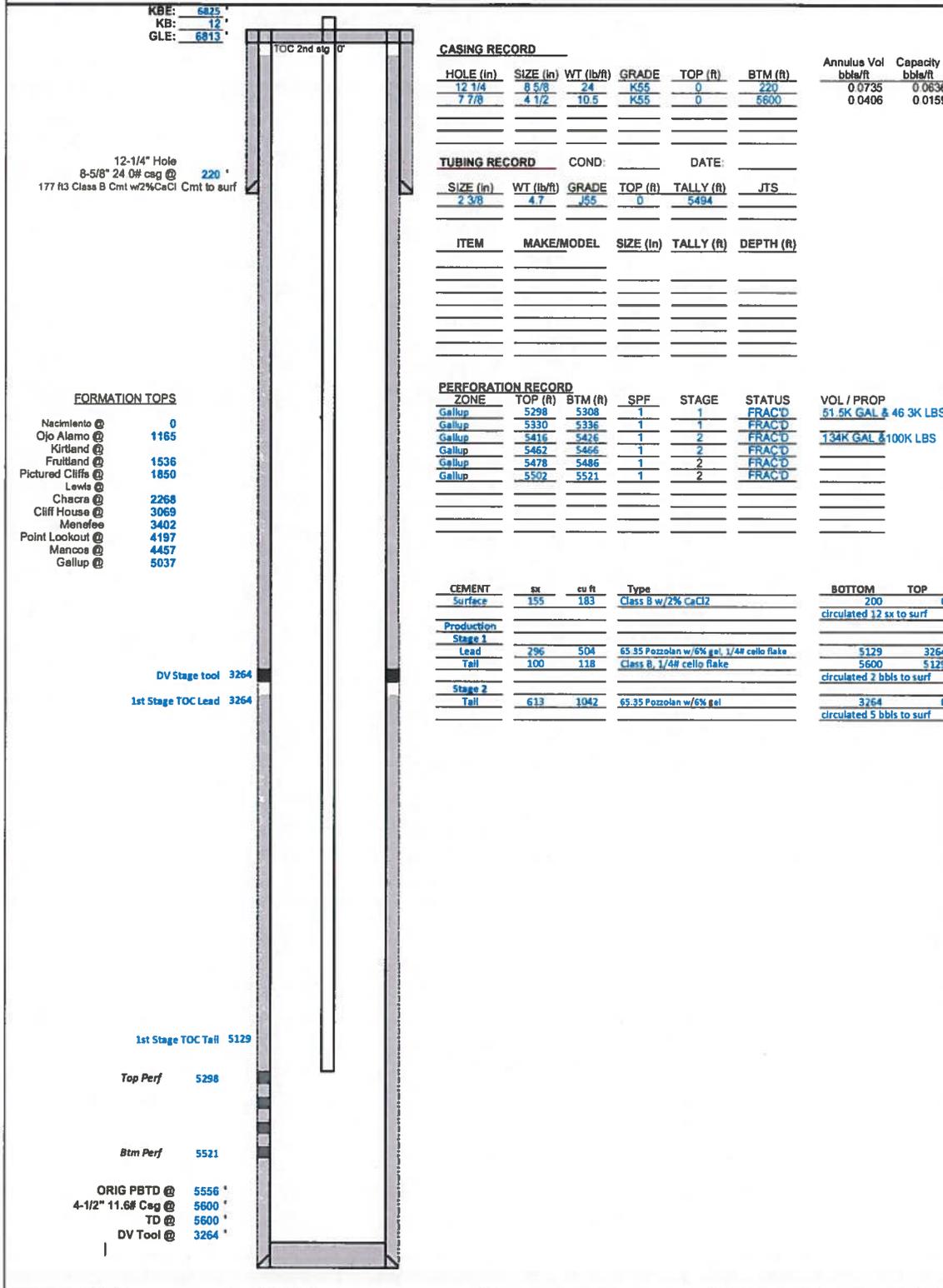
- 10) ND BOPE. Cut off casing and wellhead (minimum of 3' below finished grade). Top off annulus and casing with cement, if required. RDMO cement equipment. Install P&A marker to comply with BLM and NMOCD regulations. RDMO.
- 11) Complete surface reclamation as per approved reclamation plan.

Created by: G Olson 1/25/2023

OPERATOR: **M & M Production & Operation**
 WELL: **Anderson 002**
 FIELD: **Lybrook**
 API #: **30-045-27498**
 ER WELL #:
 WIN/R: **0.0000%** / **0.0000%**

CNTY: **San Juan** FTG: **990' FSL & 2310' FWL**
 STATE: **NM** Q-Q: **SESW**
 SPUD: **10/19/89** SEC.: **22**
 COMP: **12/07/89** TWS: **24N**
 STATUS: **WSI** RGE: **8W**
 WBD DATE: **01/25/23** BY: **GAO**

CURRENT WELLBORE DIAGRAM (TA STATUS)



**BLM FLUID MINERALS
P&A Geologic Report**

Date Completed: 4/27/2023

Well No. Anderson #002 (API# 30-045-27498)	Location	990	FSL	&	2310	FWL
Lease No. NMNM54366	Sec. 22	T24N			R08W	
Operator M & M Production & Operation	County	San Juan		State	New Mexico	
Total Depth 5600'	PBTD 5556'	Formation Gallup (Mancos)				
Elevation (GL)		Elevation (KB) 6825'				

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose					
Nacimiento			Surface	1165	Surface/freshwater sands
Ojo Alamo Ss			1165	1307	Aquifer (possible freshwater)
Kirtland Shale			1307	1554	Possible gas
Fruitland			1554	1850	Coal/Gas/Water
Pictured Cliffs Ss			1850	1910	Probable Gas
Lewis Shale			1910	2268	
Chacra			2268	3069	Probable gas
Cliff House Ss			3069	3402	Probable gas
Menefee			3402	4197	Probable gas
Point Lookout Ss			4197	4457	Probable gas
Mancos Shale			4457	5037	O&G
Gallup			5037	PBTD	O&G
Greenhorn					
Graneros Shale					
Dakota Ss					
Morrison					

Remarks:

P & A

- Sundry ID: 2727251
- Note: Enduring Resources, LLC is plugging this well as record title owner of the lease.
- Gallup perms 5298' – 5521'.

Reference Well:

1) **Formation Tops**
Same

Prepared by: Chris Wenman

**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.

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

AFMSS 2 Sundry ID 2727251

Attachment to notice of Intention to Abandon

Well: Anderson 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.

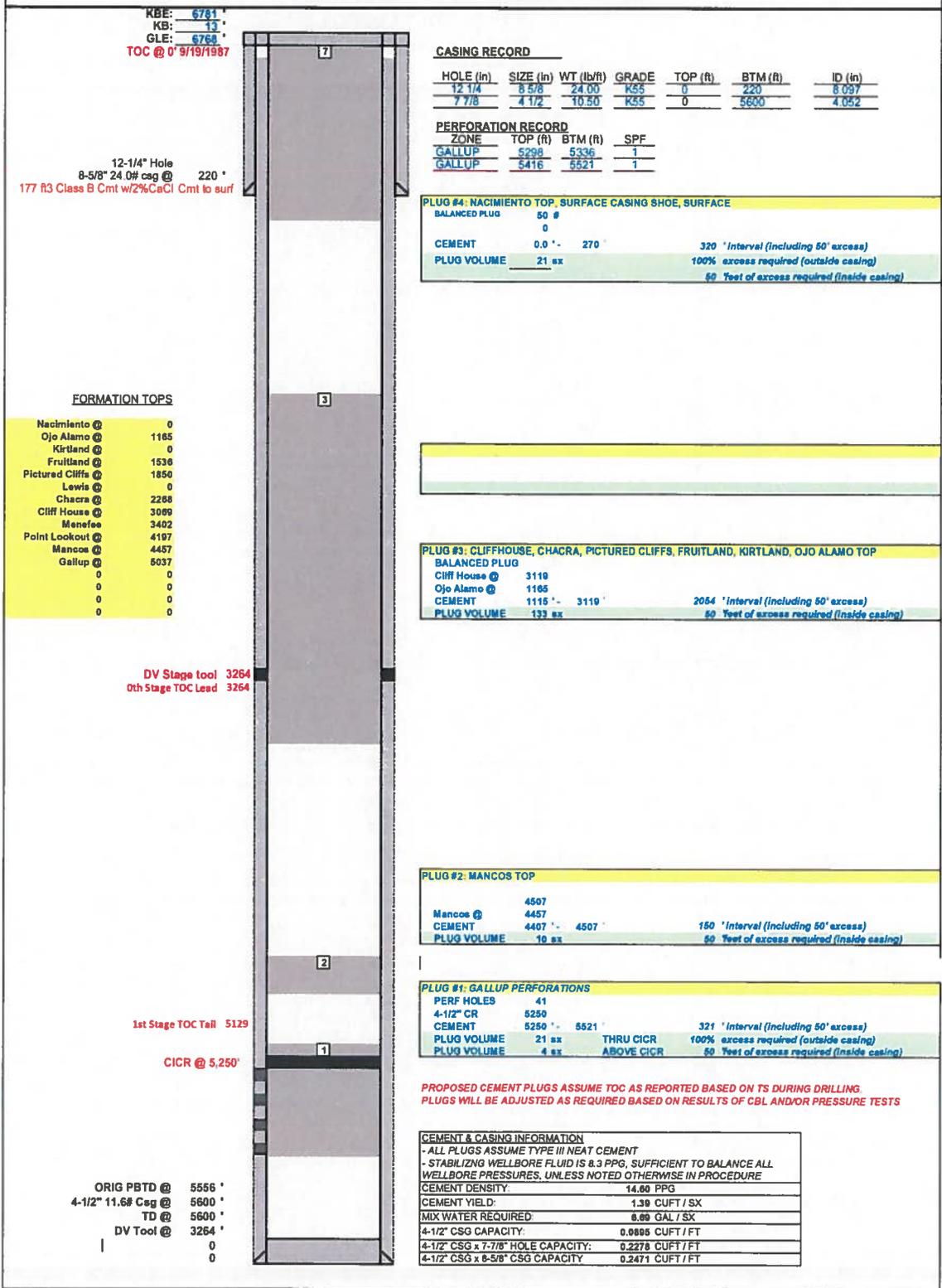
Office Hours: 7:45 a.m. to 4:30 p.m.

K. Rennick 05/02/2023

OPERATOR: **ENDURING RESOURCES**
 WELL: **Anderson 002**
 FIELD: **Lybrook**
 API # **30-045-27498**
 ER WELL #: **0**
 W/NRI: **0.00% / 0.0000%**

CNTY: **San Juan** FTG: **990' FSL & 2310' FWL**
 STATE: **NM** Q-Q: **SESW**
 SPUD: **10/19/89** SEC.: **22**
 COMP: **12/07/89** TWS: **24N**
 STATUS: **WSI** RGE: **8W**
 WBD DATE: **08/24/22** BY: **GAO**

PROPOSED P&A WELLBORE DIAGRAM

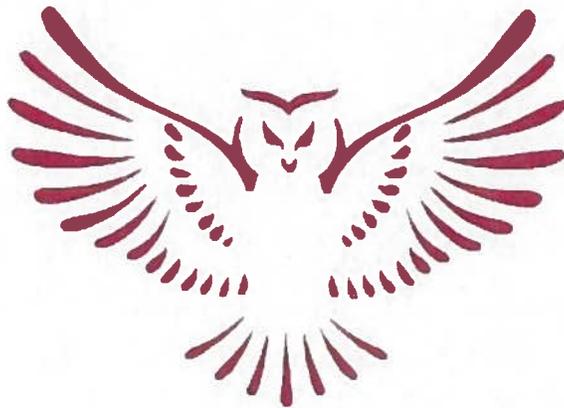


SURFACE RECLAMATION PLAN

Anderson 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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1. INTRODUCTION

Enduring Resources IV, LLC (Enduring) is providing this Surface Reclamation Plan (Reclamation Plan) to the Bureau of Land Management–Farmington Field Office (BLM-FFO) for their Anderson 002 Oil and Natural Gas Wells Project. 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. Project Information

Applicant:	Enduring Resources IV, LLC
Project Name:	Anderson 002 Oil and Natural Gas Wells Project
Project Features:	One well pad with one well and production facilities
Lease Number(s):	NMNM-054366
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 50 miles south-southwest 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 48 miles.
- Turn left on Road 7997 and continue for 3 miles.
- Turn right on an unnamed access road and continue for 0.5 miles.
- The access road is staked on the left side of the road and continues for 0.2 mile to the well pad.

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

2.2.1. Well Pad

BLM-FFO–managed surface

Township 24 North, Range 8 West, New Mexico Principal Meridian

Section 22: SE¼NW¼.

2.3. Estimated Total Area of Disturbance

The Anderson 002 well pad encompasses a total of 1.27 acres of existing surface disturbance. Disturbance is summarized in Table 2 and described below.

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 175 × 300 feet.	BLM-FFO	1.27
Total			1.27

2.4. Well Pad

The well pad occupies approximately 170 × 300 feet. The surface disturbance/reclamation area of the well comprises 1.27 acres.

3. SITE CONDITIONS

The project area topography is fairly level. The elevation of the project area ranges from approximately 6,800 to 6,805 feet above mean sea level. There is one soil type mapped within the project area: Blancot-Notal association (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 September.

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 31, 2023. Biologists identified the sagebrush shrubland vegetation community within the project area and immediate vicinity. The project area or areas in close proximity have been disturbed by activity associated with existing two-track and county roads and livestock grazing.

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

On March 31, 2023, SWCA and Enduring personnel conducted a noxious weed survey during the biological survey for New Mexico Department of Agriculture (NMDA)–listed Class A and Class B noxious weeds in the project area. No NMDA-listed Class A noxious weed species were identified within the project area. One NMDA-listed Class B noxious weed species, saltlover, also known as halogeton (*Halogeton glomeratus*), was identified within 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 from the center of the well pad, facing north.	

Photograph Description	Photograph
<p>View from the center of the well pad, facing south.</p>	
<p>View from the center of the well pad, facing east.</p>	

Photograph Description	Photograph
<p>View from the center of the well pad, facing west.</p>	

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 Anderson 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 lands are 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, woolly Indian wheat, fleabane, beardtongue, buckwheat, threadleaf groundsel.
Invasive/undesirables 10% allowed toward meeting standard of 35%	≤ 10	Plants that have the potential to become a dominant species on a site where its presence is a detriment to revegetation efforts or the native plant community. Examples of invasive species include cheatgrass, Russian thistle, halogeton.

4.3. Project Area Weed Survey

During the field visit, the 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 Class B-listed species, halogeton, was observed in small quantities.

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 Anderson 002 well 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. Topsoil and subsurface soils will be replaced in the proper order, prior to final seedbed preparation. Topsoil will be spread evenly over subsurface soils 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 Anderson 002 well pad will be recontoured to blend with the surrounding landscape, emphasizing restoration of the existing drainage patterns and landforms to pre-construction condition to the extent practicable.

The well pad will be contoured to blend with the surrounding landforms, 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 (dozer), 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 pre-construction 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 management agency.

5.7. Seeding

Table 5 lists the seed mixes chosen for this project area. 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 depth. 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 on gentler slopes and where tractors and drills can safely operate. Where drill seeding is not practical, the contractor will hand 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	<i>Atriplex canescens</i>	Variety not stated (VNS)	Cool	Shrub	2.0
Winterfat	<i>Krascheninnikovia lanata</i>	VNS	Cool	Shrub	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.5
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba	Cool	Sod-forming	4.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	4.0
Blue grama	<i>Bouteloua gracilis</i>	Alma or Hachita	Warm	Sod-forming	2.5

Common Name	Scientific Name	Variety	Season	Form	Pure Live Seed pounds per acre*
Bottle brush squirreltail	<i>Elymus elymoides</i>	Tusas or VNS	Cool	Bunch	3.0
Blue flax	<i>Linum lewisii</i>	Apar	Cool	Forb	0.25
Rocky Mountain beplant	<i>Cleome serrulata</i>	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 project area after earthwork and seeding activities, Enduring will work with the surface managing agency to treat the weeds with approved herbicides and to follow up on any other site-specific instructions agreed upon.

6. MONITORING REQUIREMENTS

Monitoring for project areas on BLM-managed lands will be completed according to 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 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 the 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 document 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* (BLM 2013).

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 standards listed in Table 4 and as required by the *Bare Soil Reclamation Procedures* (BLM 2013), 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 Reclamation Plan in accordance with 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 Reclamation Plan in accordance with 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 attained 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 April 2023

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APPENDIX A. MAPS

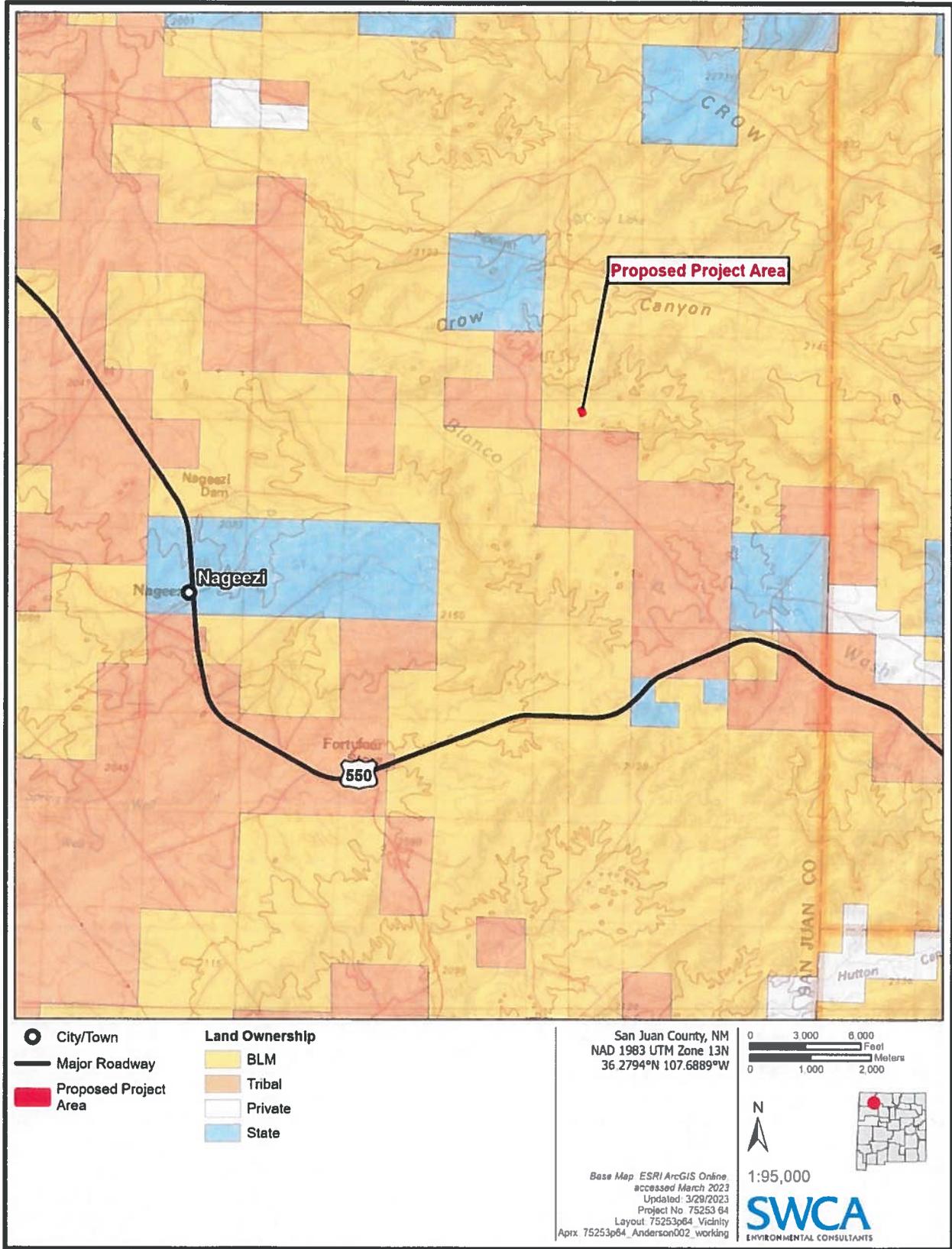


Figure A-1. Project vicinity.

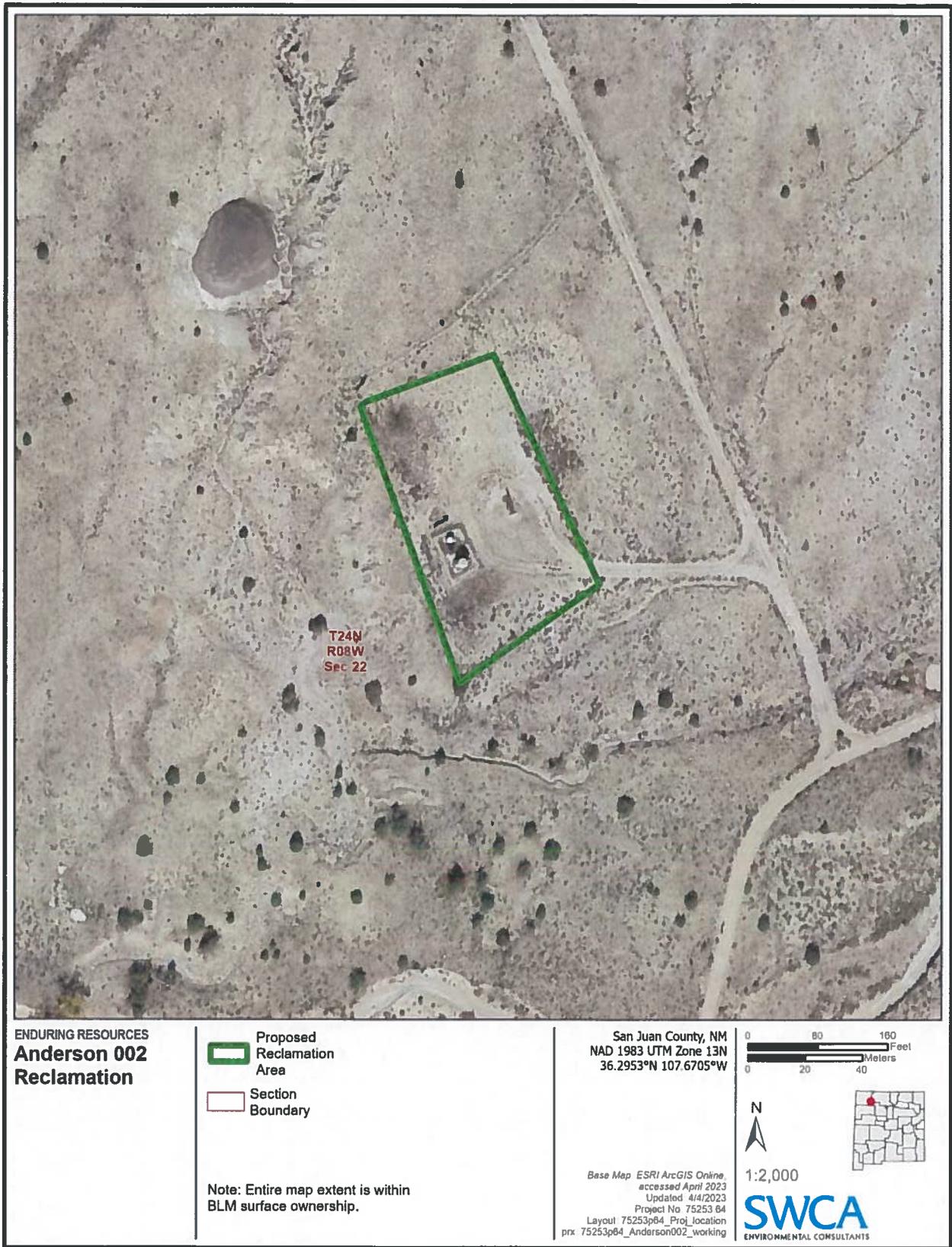


Figure A-2. Project area.

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 213573

COMMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 213573
	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 5/02/23	5/17/2023

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CONDITIONS

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