Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

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.

Carlsbad Field Office
OCD Artesia

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM104730

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
SUNDANCE FEDERAL 9

2. Name of Operator
OXY USA INCORPORATED
Contact: RYAN NEWPORT
E-Mail: ryan_newport@oxy.com

9. API Well No.
30-015-27492-00-S1

3a. Address
5 GREENWAY PLAZA SUITE 110
HOUSTON, TX 77046-0521

3b. Phone No. (include area code)
Ph: 713-366-5154

10. Field and Pool or Exploratory Area
SAND DUNES

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 5 T24S R31E SWNE 1980FNL 1980FEL

11. County or Parish, State
EDDY 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
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Right of Way
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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 performed 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 determined that the site is ready for final inspection.

Accepted For Record
NMOCD
12-18-18

We need to install a compressor station and electric line to service this site in our Sand Dunes area, located on BLM lands in the NW/4 of Section 5, T24S-R31E, Eddy county, New Mexico.

The proposed Compressor Station will be for a total of 7.16 acres, which will be around and adjacent to an approved Enterprise site(NM-138302), as seen on the attached survey plat. You can see the approved Enterprise site as marked by dotted lines on said plat.

The proposed electric line will be running along the east side of the proposed compressor station. This electric line will be 30.0 feet in width, 1,370.0 feet in length, as seen on the attached survey plat.

Upon approval this additional 7.16 acre site & electric line will be assigned to Enterprise. At that time Enterprise will submit an SF-299.

ENTERED 12/6/18

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #444401 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 11/29/2018 (19PP0409SE)

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 12 2018

Name *(Printed/Typed)* RYAN NEWPORT — Title LANDMAN

Signature (Electronic Submission) — Date 11/16/2018

RECEIVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

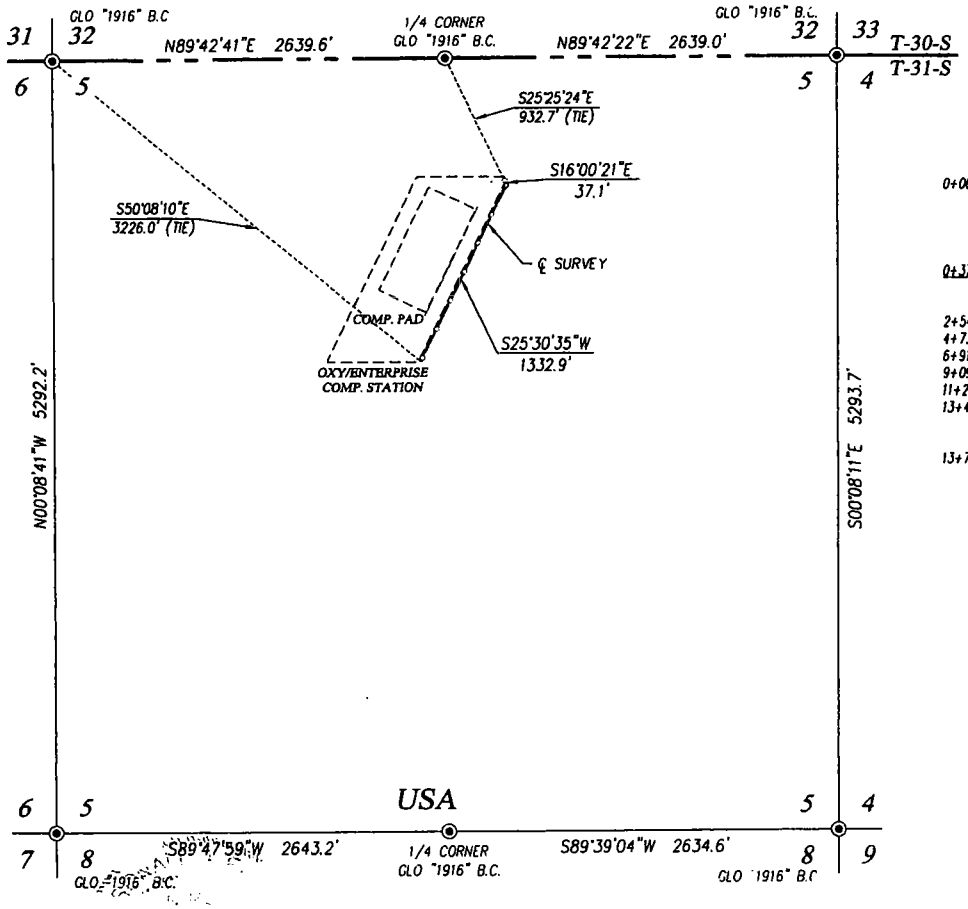
Approved By Cody R. Layton — Title AFM-L&R — Date 12/4/2018

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 CFO

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****



0+00	BEGIN SURVEY AT EXISTING POLE E-W OXY 4W LAT.= 32.251339° N LONG.= 103.798526° W
0+37.1	P.I. 41°30'56" RT. LAT.= 32.251240° N LONG.= 103.798494° W
2+54	PROP. POLE
4+73	PROP. POLE
6+91	PROP. POLE
9+09	PROP. POLE
11+26	PROP. POLE
13+43.0	END POLE LAT.= 32.248009° N LONG.= 103.800331° W
13+70.0	END SURVEY AT ANCHOR

DESCRIPTION

SURVEY FOR A STRIP OF LAND 30.0 FEET WIDE AND 1370.0 FEET OR 0.259 MILES IN LENGTH CROSSING USA LAND IN SECTION 5, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

LEGEND

◉ DENOTES FOUND CORNER AS NOTED

1000 0 1000 2000 Feet

Scale: 1"=1000'

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON Ronald J Eidson

DATE: 04/09/2018

NOTE

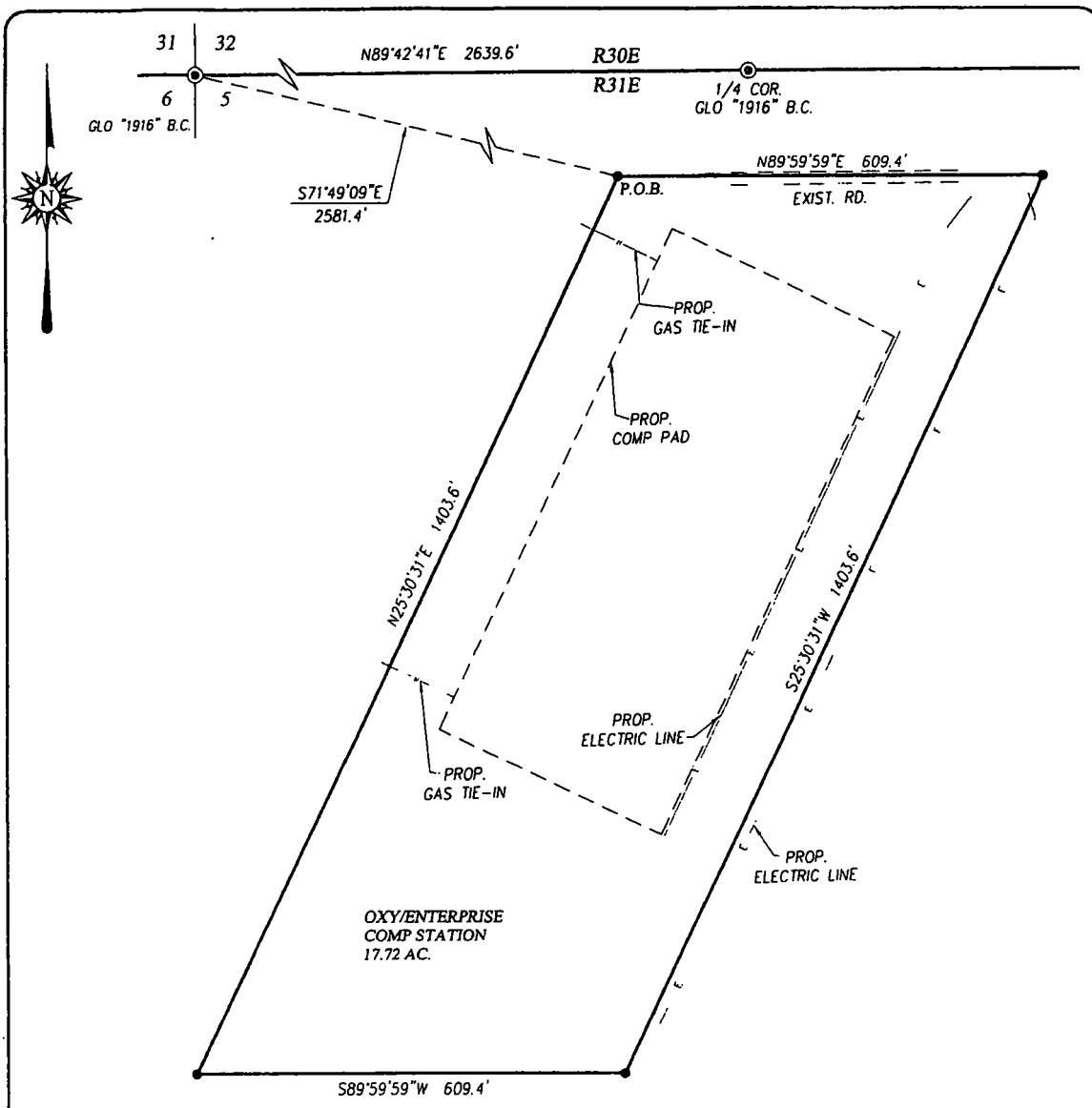
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

OXY U.S.A. INC.

SURVEY FOR AN ELECTRIC LINE TO OXY/ENTERPRISE COMP STATION CROSSING SECTION 5, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

Survey Date: 03/21/18	CAD Date: 04/06/18	Drawn By: LSL	
W.O. No.: 18110331	Rev:	Rel. W.O.:	Sheet 1 of 1



DESCRIPTION:

OXY/ENTERPRISE COMP STATION SITUATED IN THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER WHICH LIES S71°49'09"E 2581.4 FEET FROM THE NORTHWEST CORNER OF THE SECTION; THEN N89°59'59"E 609.4 FEET; THEN S25°30'31"W 1403.6 FEET; THEN S89°59'59"W 609.4 FEET; THEN N25°30'31"E 1403.6 FEET TO THE POINT OF BEGINNING AND CONTAINING 17.72 ACRES MORE OR LESS.

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON Ronald J. Eidson

DATE: 04/09/2018

LEGEND

◉ DENOTES FOUND CORNER AS NOTED

100 0 100 200 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240

(575) 393-3117 www.jwsc.biz

TBPLS# 10021000

OXY U.S.A. INC.

SURVEY FOR OXY/ENTERPRISE COMP STATION SITUATED IN THE NW/4 OF SECTION 5, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

Survey Date: 03/21/18	CAD Date: 04/06/18	Drawn By: LSL
W.O. No.: 18110329	Rev:	Rel. W.O.:	Sheet 1 of 1

EXHIBIT A

NM-138302
Oxy Sand Dunes Central Site

STANDARD STIPULATIONS FOR OIL AND GAS WELL SITES
IN THE CARLSBAD FIELD OFFICE, BLM

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

See Special Stipulations Page 3

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 *et. seq.*, from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 *et. seq.*, and from other applicable environmental statues.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, *etc.*) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting there from, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. All trash, debris and other waste materials shall be contained in trash cages or bins to prevent scattering. Burial on site is not permitted. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earthwork will require prior approval by the Authorized Officer.

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color, which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Shale Green, Munsell Soil Color Chart Number 5Y 4/2.

8. The holder shall post a sign with the following information;
Operator's Name Enterprise Field Services LLC Well Name & No. Oxy Sand Dunes Central Site sec. 05 T.24 S, R. 31 E. Right-of-Way No.138302, County Eddy State New Mexico
The sign will be posted in a conspicuous location on the site where the sign will be visible from the entry to the site. This sign will be maintained in a legible condition for the term of the right-of-way.

9. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the Authorized Officer will make any decision as to the proper mitigation measures after consulting with the holder.

10. The area will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle, and saltcedar.

Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

1. The Authorized Officer will be contacted at the Bureau of Land Management/Carlsbad Field Office (#575-234-5972) for reclamation procedures at the time the infrastructure is removed from the site or no longer being used. At this time full restoration of the site will be addressed.

Exhibit A-1
BLM Serial #: NM-138302
Company Reference: Enterprise Field Services LLC

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-P020-2018-0668-EA
IT4RM-P020-2018-0818-EA

Enterprise Field Services, LLC's Sand Dunes Central Site Project in Eddy County, New Mexico

BLM Serial No. NM-138302

Department of the Interior
Bureau of Land Management
Pecos District
Carlsbad Field Office
620 E Greene Street
Carlsbad, NM 88220
Phone: (575) 887-6544
FAX: (575) 885-9264

May 2018

Confidentiality Policy
Any comments, including names and street addresses of respondents, you submit may be made available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

CONTENTS

Figures

Tables

LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AES	Applied EnviroSolutions
AMS	Analysis of the Management Situation
amsl	above mean sea level
BLM	Bureau of Land Management
CAA	Clean Air Act
CCA	Candidate Conservation Agreement
CEHMM	Center of Excellence for Hazardous Material Management
CFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CH_4	Methane
CO	carbon monoxide
CO_2	carbon dioxide
COA	condition of approval
CWA	Clean Water Act
EA	environmental assessment
Enterprise	Enterprise Field Services, LLC
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
GHG	greenhouse gas
GIS	geographic information system
HAP	hazardous air pollutant
HUC	Hydrologic Unit Code
IM	Instruction Memorandum
IPA	Isolated Population Area
IPCC	Intergovernmental Panel on Climate Change
LPC	lesser-prairie chicken
MBTA	Migratory Bird Treaty Act
MLA	Mineral Leasing Act of 1920
MOU	Memorandum of Understanding
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act of 1969
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NMCRIS	New Mexico Cultural Resource Information System
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMOSE	New Mexico Office of the State Engineer
NMPM	New Mexico Prime Meridian
NO_2	nitrogen dioxide
NO_x	nitrogen oxide(s)
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OHV	Off-Highway Vehicle
OHWM	ordinary high-water mark
Pb	Lead

PBPA	Permian Basin Programmatic Agreement
PFYC	Potential Fossil Yield Classification
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
PM_{10}	particulate matter equal to or less than 10 microns in diameter
POD	Plan of Development
project	Oxy Sand Dunes Central Site Project
RMP	Carlsbad Resource Management Plan
RMPA	Carlsbad Approved Resource Management Plan Amendment
ROD	Record of Decision
ROW	right-of-way
SF-299	Standard Form 299
SO_2	sulfur dioxide
SWCA	SWCA Environmental Consultants
TCP	traditional cultural property
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1 PURPOSE AND NEED FOR ACTION

1.1 Background

Enterprise Field Services, LLC (Enterprise) submitted a Standard Form 299 (SF-299) Application for the Transportation and Utility Systems and Facilities on Federal Lands to the Bureau of Land Management (BLM) Carlsbad Field Office (CFO) for the Oxy Sand Dunes Central Site Project (Proposed Action, or project). The purpose of the project is to construct, operate, and maintain a compressor station containing compressors and related appurtenances, inbound and outbound pipeline connections, and power poles to access existing power lines that will overlap and connect two 20-inch buried steel natural gas pipeline with appurtenances. The proposed project would be approximately 1,072.05 feet in length and a width of 443.19 feet, totaling 9.84 acres, on BLM CFO–managed lands. The proposed project would support safe transport of natural gas as part of the existing South Eddy gathering system in New Mexico and Texas.

The BLM CFO assigned case file number for the proposed project is **NM-138302**.

Total Permanent ROW Acreage on BLM Lands

- **Compressor Station: 1,072.05 feet × 443.19 feet (9.84 acres)**

The BLM CFO would serve as the lead federal agency for the undertaking. The proposed project would be located in Eddy County, New Mexico, approximately 17.5 miles east of the city of Loving (Figure 1.1).

The legal land description (New Mexico Principal Meridian) for the permanent compressor site is provided below.

1.1.1 Permanent Compressor Station

BLM Lands

Compressor Station

Township 24 South, Range 31 East, New Mexico Prime Meridian (NMPM)
Section (sec.) 5: L3, L2, SE¼ NW¼, SW¼ NE¼

SWCA Environmental Consultants (SWCA) performed a general biological survey of the proposed surface disturbance area on April 18, 2018. The purpose of the biological surveys was to evaluate the potential for special status species to occur and identify habitat communities for special status species regulated by the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act of 1973 (ESA) and migratory bird nests protected by the Migratory Bird Treaty Act (MBTA). The project is within the Permian Basin Programmatic Agreement (PBPA) area for cultural resources; therefore, a cultural resources survey was not conducted.

This environmental assessment (EA) complies with the requirements of the National Environmental Policy Act of 1969 (NEPA) and federal regulations found in 40 Code of Federal Regulations (CFR) Chapter V. This EA analyzes the site-specific impacts associated with the Proposed Action and its alternative, identifies mitigation measures to potentially reduce or eliminate those impacts, and provides agency decision makers with detailed information with which to approve or deny the Proposed Action or an alternative. This EA analysis assumes the BLM CFO's standard conditions of approval (COAs) would apply (BLM 1997: Appendix 2).

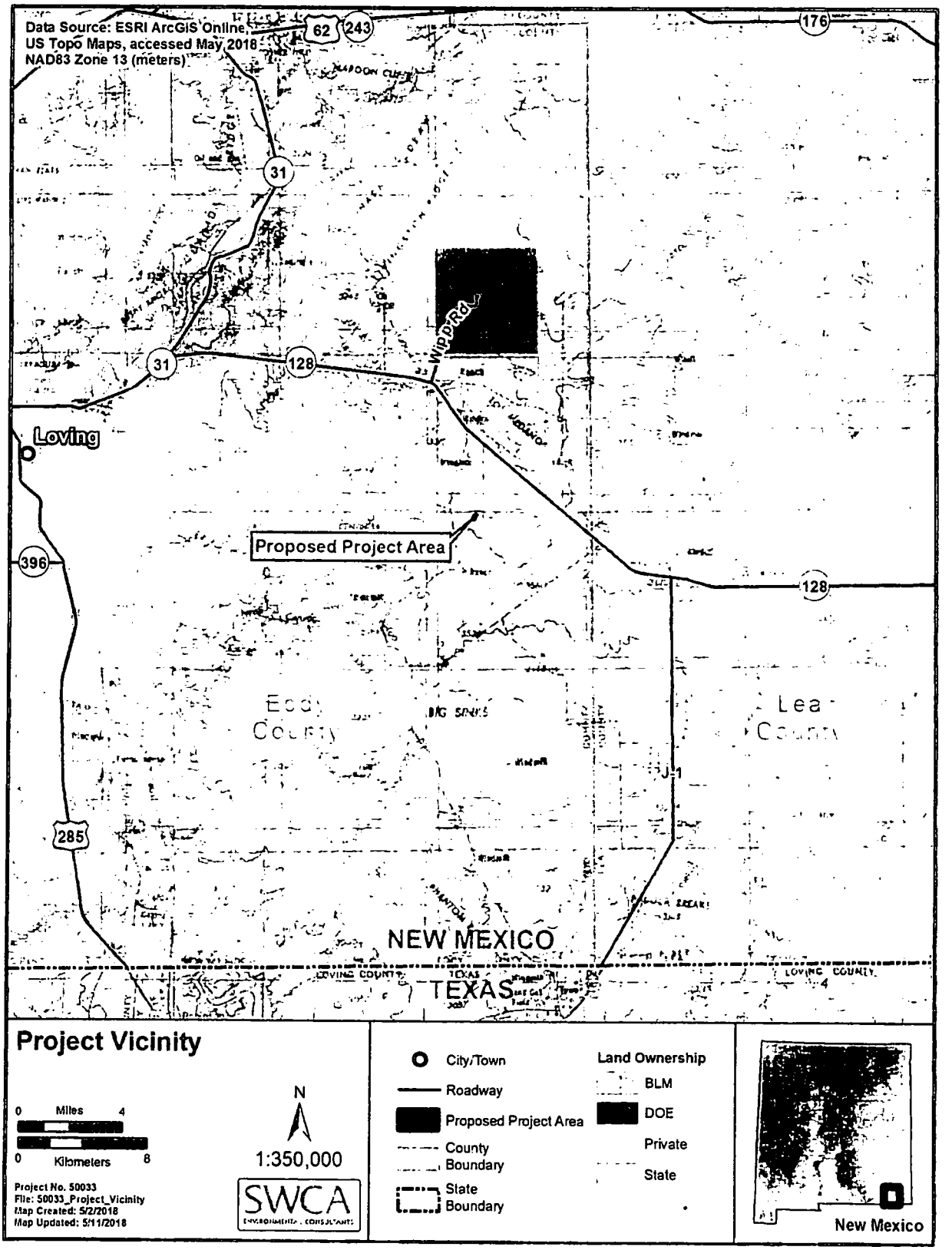


Figure 1.1. Proposed project vicinity map.

1.2 Purpose and Need for Action

The BLM's purpose is to respond to Oxy's request for legal use of, and access across, public lands managed by the BLM by granting the requested right-of-way (ROW). The BLM's mandate for multiple uses of public lands includes development of energy resources in a manner that conserves the multitude of other resources found on public lands. The need for the Proposed Action is established by the BLM's responsibility under the Mineral Leasing Act of 1920 (MLA), as amended (30 United States Code [USC] 181 et seq.). The MLA (Section 28 [e]) further gives federal agencies authority to allow temporary uses of federal lands for construction, operation, and maintenance of pipelines. The BLM implementing regulations for this portion of the MLA are found at 43 CFR 2800/2880 and 36 CFR 251. The MLA authorizes the BLM to lease public lands for the development of mineral deposits (including oil, gas, and other hydrocarbons) and permit the development of those leases.

1.3 Decision to Be Made

The BLM will decide whether to issue the subject a ROW grant and, if so, under what terms and conditions.

1.4 Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the 1988 BLM Carlsbad Resource Management Plan (RMP) (BLM 1988), as amended by the 1997 Carlsbad Approved Resource Management Plan Amendment (RMPA) (BLM 1997) and the 2008 Special Status Species Approved RMPA (BLM 2008a). The 1988 RMP, as amended, provides for the integrated multiple use and sustained yield of resources for the planning area. After review, the BLM has determined that the Proposed Action conforms to the land use plan terms and conditions as required by 43 CFR 1610.5.

Name of Plan: 1988 Carlsbad Resource Management Plan
Date Approved: September 1988
Decision: "BLM will encourage and facilitate the development by private industry of public land mineral resources so that national and local needs are met, and environmentally sound exploration, extraction, and reclamation practices are used" (BLM 1988:13).

Name of Plan: 1997 Carlsbad Approved Resource Management Plan Amendment
Date Approved: October 1997
Decision: "Approximately 3,907,700 acres (95 percent of the oil and gas mineral estate) will be open to leasing and development under the BLM's standard terms and conditions, the Surface Use and Occupancy Requirements (Appendix 1), the Roswell District Conditions of Approval (Appendix 2), and the Practices for Oil and Gas Drilling and Operations in Cave and Karst Areas (Appendix 3)" (BLM 1997:4). The proposed pipeline is within the 95% of oil and gas mineral estate open to development and complies with the Surface Use and Occupancy Requirements. Therefore, the Proposed Action is in conformance with the RMP, as amended (BLM 1997:4).

Name of Plan: 2008 Special Status Species Record of Decision and Resource Management Plan Amendment—to address management of the lesser prairie-chicken (*Tympanuchus pallidicinctus*; LPC) and the dunes sagebrush lizard (*Sceloporus arenicolus*).
Date Approved: April 2008
Decision: "This ROD [Record of Decision] approves the Special Status Species Resource Management Plan Amendment (RMPA). The plan amendment provides guidance for managing approximately 850,000 acres of public land and 300,000 acres of federal minerals in portions of Chaves, Eddy, Lea and Roosevelt Counties. The overall Planning Area encompasses 1,853,000 acres. The ROD approves new decisions concerning oil and gas leasing and development, Off-Highway Vehicle (OHV) designations, land ownership adjustments, and wildlife habitat management. These decisions are intended to replace goals, objectives, management actions and conditions of use described in the 1988 Carlsbad RMP, the 1997 Carlsbad RMPA, and the 1997 Roswell RMP in the Planning Area" (BLM 2008a). The proposed project is not located within dunes sagebrush lizard designated areas identified in the 2008 RMPA. The proposed project is located within the LPC Isolated Population Area (IPA), as identified in the 2008 RMPA. A ROW would be granted

only after site-specific analysis (BLM 2008a:6). Site-specific impacts associated with the proposed ROW are analyzed and disclosed in this EA; specifically, impacts on special status species are discussed in this EA (see Section 3.5.2). The Proposed Action is not located in a ROW avoidance area. Therefore, the Proposed Action is in conformance with the RMP, as amended.

1.5 Relationship to Statutes, Regulations, or Other Plans

Various federal and state agencies regulate different aspects of oil and gas infrastructure development. Table 1.1 lists the environmental permits and approvals that could be required for the proposed project.

Table 1.1. Potential Permits, Approvals, and Clearances Needed for Construction, Operation, and Maintenance of the Proposed Project

Permit/Notification	Lead Agency	Status
Federal Permit, Approval, or Clearance		
Application for Transportation and Utility Systems and Facilities on Federal Lands (ROW Grant)	BLM	Subject of this EA.
Clearance under Section 7 of the ESA	USFWS	The general biological survey was conducted in April 2018. Findings are described in Chapter 3. No further consultation with the USFWS is required.
MBTA of 1918 (16 USC 703–712)	BLM	The BLM has not identified any requirements for MBTA compliance other than the biological surveys to document nests and activity. No nests were observed during the April 2018 biological survey of the proposed project area.
Clean Water Act (CWA) Section 404 Permitting Discharges of Dredge or Fill Material into Waters of the U.S. (including wetlands)	U.S. Army Corps of Engineers (USACE)	The biological survey was conducted in April 2018, no potential jurisdictional surface water features were identified within the proposed project area. Therefore, Nationwide Permits or Individual Permits under Section 404 of the CWA are not required.
State Permit, Approval, or Clearance		
CWA Section 401 Water Quality Permit	New Mexico Environment Department (NMED)	The biological survey was conducted in April 2018, no potential jurisdictional surface water features were identified within the proposed project area. Therefore, no water quality permit under Section 401 of the CWA is required.
Clean Air Act (CAA) New Mexico Air Quality Control Act	NMED	Impacts on air quality are described in Section 3.1. No NMED new source permit is required.
Section 106 of the National Historic Preservation Act (NHPA)	New Mexico State Historic Preservation Office	The PBPA was implemented for the proposed project, therefore, cultural resources surveys were not conducted. Any consultation with the State Historic Preservation Office would be managed by the BLM.
Tribal communications: consultation to determine if the proposed project would impact receptors of cultural importance	Native American tribes	Any consultation with Native American tribes would be managed by the BLM.

1.6 Scoping, Public Involvement, and Issues

Appropriate scoping helps identify issues, resources, and resource uses that could be impacted, reducing the chances of overlooking a potentially significant issue or reasonable alternative. Scoping takes place internally within the BLM via meetings with resource specialists. Resource issues identified for the proposed project are listed in Table 1.2. No formal public scoping has occurred for the proposed project.

Table 1.2. Resource Issues Identified for the Proposed Project

Resource/Issue	Issue for Detailed Analysis
Air Resources	How would the proposed project impact air quality, especially during construction of the proposed project?
Watershed Drainages and Groundwater	How would the proposed project affect surface water resources, including drainages and playas? How would the proposed project affect groundwater resources?
Soils	How would the surface disturbance associated with the proposed project affect soils?
Vegetation and Invasive Non-native Species	How would the proposed project affect vegetation? How would the proposed project minimize the spread of invasive non-native species?
Wildlife and Special Status Species	How would the proposed project and associated noise impacts affect habitat for wildlife and migratory birds? How would the proposed project and associated noise impacts affect special status species, including LPC, with the potential to occur in the proposed project area?
Potash minerals	How would the proposed project affect potash reserves, given that the project is located within the Secretary's Potash Area?
Cultural Resources and Native American Religious Concerns	How would surface-disturbing activities affect cultural resources? Are any traditional cultural properties affected by the proposed project?
Paleontological Resources	How would the proposed project impact paleontological resources, such as fossils?
Livestock Grazing	How would the proposed project impact livestock grazing in the vicinity of the proposed project?
Public Health and Safety	How would proposed project construction and ongoing activities impact public health and safety?

Resource issues considered by the BLM for potential impacts from the proposed project and then dismissed from further analysis in this EA are listed in Table 1.3 with rationale for the dismissal.

Table 1.3. Resource Issues Considered but Not Analyzed in Detail for the Proposed Project

Resource Issue	Rationale for Dismissal from Detailed Analysis
Karst Resources	The proposed project is in low karst potential with high karst potential approximately 4.9 miles northwest of the proposed project area. No surface karst features are known within the proposed project area. The standard COAs regarding any discovery of karst voids during construction would apply (BLM 1997: Appendix 3). No additional detailed analysis is warranted.
Special Designations and Recreation	The proposed project does not affect any special designation areas or areas managed for recreation. The nearest Special Management Area, Gnome Site, is approximately 3.5 miles west of the proposed project area. There is also a proposed Area of Critical Environmental Concern, Salt Playa, 7 miles northwest.
Visual Resources	The proposed project is within Visual Resource Management Class IV, which allows for major modifications to the landscape. Minimal impacts on the landscape would occur since all disturbance would be revegetated during reclamation.
Socioeconomic Conditions	The small number of jobs created and the temporary status of those jobs does not warrant detailed analysis in this EA.
Environmental Justice	No environmental justice population, as defined by Executive Order 12898 (U.S. Environmental Protection Agency [EPA] 2015) would be affected by the proposed project.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

Enterprise has submitted an application for a ROW grant to construct, operate, and maintain a 9.84-acre, surface site containing compressors and other related appurtenances, inbound and outbound pipeline connections, and power poles to connect to existing power lines that overlaps and connects two 20-inch buried steel natural gas pipelines in Eddy County, New Mexico. The proposed surface site would be located entirely on BLM land (Figure 2.1). Table 2.1 shows the footages and acreages of surface disturbance. Photographs of the proposed project area are provided in Appendix A.

Table 2.1. Acreages of New Surface Disturbance of the Proposed Project

Project Element	Land Ownership	Short-term Disturbance (acres)	Long-term Disturbance (acres)	Total Disturbance (acres)
Compressor Station	BLM	0.0	9.84	9.84

2.1.1 Proposed Project Phases

Construction of the proposed project is scheduled to begin after applicable required federal, state, and local permits and approvals are obtained. Construction of the proposed project would begin as soon as the ROW grant is issued and would take approximately 3 to 6 months to complete. In general, implementing the Proposed Action would consist of four phases: 1) construction, 2) post-construction reclamation, 3) operation and maintenance, and 4) final reclamation and abandonment. These phases are described below. For a detailed description of construction practices associated with the Proposed Action, refer to the Plan of Development (POD) on file at the BLM CFO. Oxy would follow the stipulations attached to the approved ROW grant during applicable project phases.

During the proposed project phases, vehicles would use developed BLM roads, county roads, and highways. Traffic would include light and heavy vehicles.

Construction

Standard construction techniques used across the proposed project area typically include the following: pre-construction survey and staking, equipment mobilization, clearing vegetation, topsoil removal and storage, trenching, standard practice implementation for erosion control, and cleanup. During the construction phase, both heavy- and light-duty equipment would be needed. For a detailed description of construction practices associated with the Proposed Action, refer to the POD on file at the BLM CFO.

Construction staking would be completed prior to this phase in order to designate proposed construction boundaries and approved access roads. Limits of disturbance would be clearly marked or staked prior to construction. Utility lines would be located and marked to prevent accidental damage during construction.

During construction of the proposed surface site, the area would be cleared of vegetation, graded, and leveled to provide for safe and efficient operation of construction equipment and vehicles. Trees and brush generally would be pushed by a bulldozer with the topsoil creating a spoil pile adjacent to the staked construction ROW area for respreading during restoration. Then, the proposed project area would be graded and leveled. Consideration would be given to natural runoff patterns, ensuring that natural water flow remains unaltered throughout the proposed project area. If alteration occurs, drainage considerations would be required.

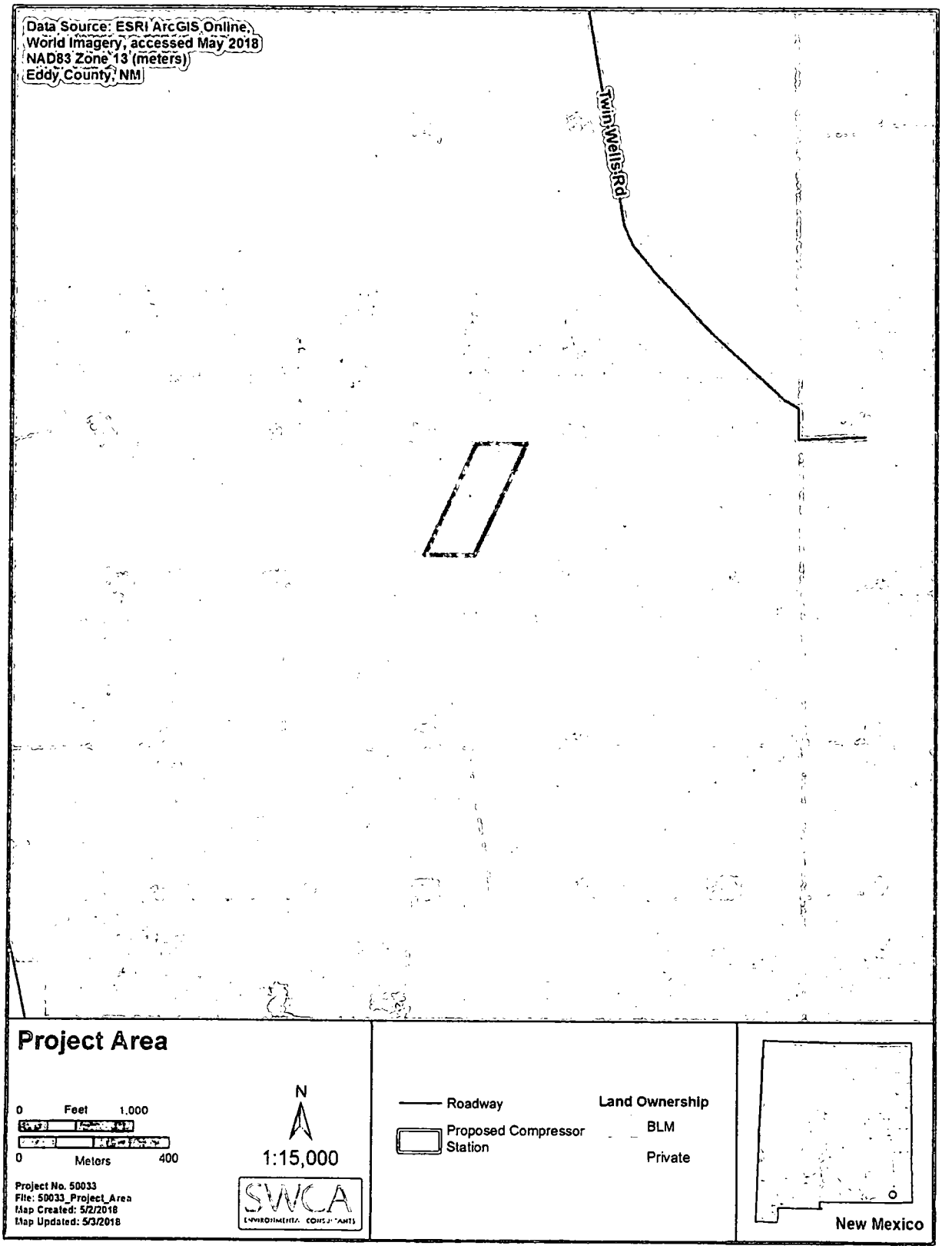


Figure 2.1. Proposed project area map.

Post-Construction Reclamation

After construction, all disturbed areas not needed for permanent project elements, such as aboveground facilities, roads, and tie-in sites, would be returned to pre-construction conditions and a stable vegetative cover would be maintained on the ROW. Vegetation, soil, and rocks left as a result of construction would be randomly scattered over the project area and would not be left in rows, piles, or berms unless requested by the BLM. In areas where erosion control structures are required to stabilize soil conditions, the structures would be installed for the specific soil conditions encountered in the field and in accordance with standard practices and mitigation measures.

Operation and Maintenance

The proposed compressor station would be operated in a manner designed to protect the public and to prevent facility accidents and failures. The proposed surface site would be routinely patrolled and inspected to check for situations that may result in a safety hazard or require preventative maintenance. If damage should occur to the proposed project from external sources, repair or replacement of the damaged area would be completed.

The proposed surface site would be monitored 24 hours a day, 7 days a week, 365 days a year. In the event of an emergency, staff from other nearby plants could be called upon to provide additional support and direct safety operations, as necessary.

Final Reclamation Abandonment

Once the proposed project is no longer needed, final reclamation and abandonment would be in accordance with BLM policies and standards. Equipment and concrete would be removed from the proposed surface site and disposed of at approved disposal facilities. Recontouring and revegetation of disturbed areas would be completed according to BLM standards and the abandoned areas would revert to the BLM. Final abandonment would be complete when successful reclamation of all disturbed areas is achieved per BLM standards.

2.2 No Action

BLM NEPA Handbook H-1790-1 states that for EAs on externally generated applications, the No Action alternative generally means the request for the proposed activity would be denied (BLM 2008b:52). This option is provided in 43 CFR 3162.3-1(h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No mitigation measures would be required.

2.3 Alternatives Considered but Eliminated from Detailed Study

Alternatives to the Proposed Action are developed to explore different ways to accomplish the purpose and need while minimizing environmental impacts and resource conflicts and meeting other objectives of the Carlsbad RMP. Consistent with BLM NEPA Handbook H-1790-1, the agency "need only analyze alternatives that would have a lesser effect than the proposed action" (BLM 2008b:80). Those with greater adverse resource impacts or those that are not feasible because of existing physical constraints or infrastructure are not brought forward for detailed analysis in this EA.

Prior to identifying the proposed route, the BLM and Enterprise reviewed resource data for previously recorded cultural resource sites and existing disturbance within the vicinity of the proposed project area, and any known issues were avoided. Once the preliminary route was identified and staked, biological and wetland resource investigations were conducted. No resource conflicts were identified that would require additional route adjustments.

The proposed project design would meet the BLM's purpose and need while minimizing environmental impacts to the greatest extent possible. Any other project design would likely result in greater surface and environmental impacts. Internal scoping did not identify an additional unforeseen alternative; therefore, only the No Action and Proposed Action alternatives were brought forward for detailed analysis in this EA.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter is organized by relevant major resources or issues/concerns as presented in Section 1.6. On the basis of Council on Environmental Quality guidance and BLM NEPA Handbook H-1790-1, the following discussion is limited to those resources or resource uses that could be impacted to a degree that warrants detailed analysis (40 CFR 1502.15) (BLM 2008b:96) as determined by the BLM CFO interdisciplinary team. This analysis assumes that the standard COAs BLM implements typically for pipelines and facilities would apply (BLM 1997: Appendix 2).

Projects requiring approval from the BLM, such as ROWs, can be denied when the BLM determines that adverse effects on resources (direct or indirect) cannot be mitigated to reach a Finding of No Significant Impact. Under the No Action Alternative, the proposed project would not be constructed and there would be no new impacts on any elements of the human environment from approval of the proposed project. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of environmental effects of the Proposed Action.

3.1 Air Resources

3.1.1 Affected Environment

Air quality and climate are components of air resources that may be affected by the Proposed Action. Therefore, the BLM must consider potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision-making process.

Technical information related to air resources and climate change associated with oil and gas development, and the methodology and assumptions used for analysis, are summarized in the *Air Resources Technical Report for Oil and Gas Development: New Mexico, Oklahoma, Texas and Kansas* (herein referred to as the Air Quality Technical Report) (BLM 2016). The Air Quality Technical Report lists the National Ambient Air Quality Standards (NAAQS) (BLM 2016:4–5) and describes the types of data used for description of the existing conditions (BLM 2016:6) and how the pollutants are related to the activities involved in oil and gas development (BLM 2016:7–14). A qualitative overview of air quality and climate is provided in this section.

Air Quality

The BLM and BLM-authorized actions are required to comply with the CAA and consider impacts of these actions on air quality on BLM-managed lands.

National Ambient Air Quality Standards

Criteria Pollutants

Under the CAA, the EPA has the authority to regulate emissions from both stationary and mobile sources. The CAA requires the EPA to establish NAAQS for pollutants considered harmful to public health and the environment. Per the requirement, the EPA has created national standards for six common air pollutants, also known as criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), lead (Pb), particulate matter equal to or less than 10 microns in diameter (PM_{10}), and particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$).

The NAAQS include primary standards that provide for the protection of human health and secondary standards that provide for the protection of public welfare (e.g., visibility, the health of vegetation and animals). The NAAQS are defined in terms of threshold ambient concentrations measured as an average for specified periods of time. Pollutants with acute health effects are assigned short-term standards and those with chronic health effects are assigned long-term standards. The NAAQS undergo periodic revisions to ensure that emerging science and technology result in the most up-to-date and protective standards achievable (see EPA [2016] for current standards).

Attainment

In accordance with the CAA, the EPA must review air quality conditions reported by states to determine whether states are meeting the national standards for air quality. Areas with ambient concentrations of criteria pollutants within the NAAQS are deemed to be "attainment" areas;[1] conversely, those that do not meet the standards are referred to as "nonattainment" areas.[2] Geographic areas previously designated as nonattainment and subsequently redesignated as attainment due to achieving the NAAQS (for a probationary period) are categorized as "maintenance" areas. Areas that cannot be classified on the basis of insufficient data are designated as "unclassifiable." The designation "attainment/unclassifiable" may be assigned to areas that are lacking sufficient monitoring data but meet the standard or will soon meet the standard.

The General Conformity Rule

The General Conformity Rule, established under Section 176(c)(4) of the CAA, ensures that federal actions comply with the NAAQS, achieving attainment of these standards. Conforming activities or actions should not, through additional air pollutant emissions, cause or contribute to new violations, increase the frequency or severity of existing violations, or delay timely attainment or interim emission reductions (BLM 2014a). Essentially, air conformity ensures that air pollution emissions associated with federal actions do not contribute to air quality degradation, thereby preventing the achievement of state and federal air quality goals.

The General Conformity Rule requires federal agencies to identify, analyze, and quantify emission impacts of a federal action where the total direct and indirect emissions for criteria pollutants in a nonattainment or maintenance area exceed the NAAQS. If the location of the action is in an attainment area, the General Conformity Rule does not apply (BLM 2014a).

Hazardous Air Pollutants

Hazardous air pollutants (HAPs), also known as air toxins, are pollutants that are produced primarily by human-made sources. These pollutants are known or suspected to cause adverse human health effects, including cancer, as well as negative effects on ecosystems. Humans can come into contact with these toxins through several exposure pathways including inhalation; ingestion of contaminated food, water, or soil; and dermal contact.

The Air Quality Technical Report discusses the relevance of HAPs to oil and gas development and infrastructure, as well as the particular HAPs that are regulated in relation to these activities (BLM 2016:14–15). The EPA conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP impacts by county in the United States. The purpose of the NATA is to identify areas where HAP emissions result in high health risks and further emissions reduction strategies are necessary. A review of the results of the 2005 NATA shows that cancer, neurological, and respiratory risks in Chaves, Eddy, and Lea Counties are generally lower than statewide and national levels (EPA 2011).

Existing Air Quality

EPA's Green Book webpage reports that Chaves, Eddy, and Lea Counties are in attainment for all NAAQS as defined by the CAA (EPA 2016). In 2011, the CFO contracted with Applied EnviroSolutions (AES) to provide an emissions inventory for the CFO planning area, including Chaves, Eddy, and Lea Counties (AES 2011). This information is more up to date than that available from the EPA's most recent emissions inventory and is specific to the CFO planning area. Monitored values for criteria pollutants (except CO)[3] from the 2011 emissions inventory also show that the CFO planning area is in attainment with the NAAQS.

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[1] Note: An area may meet the established NAAQS for one or more criteria pollutants but have unacceptable levels for another/others. Therefore, an area could be in attainment for one criteria pollutant and simultaneously in nonattainment for another (BLM 2014a).

[2] The EPA has set time limits for nonattainment areas to conform to the NAAQS and may further designate nonattainment areas as marginal, moderate, serious, severe, or extreme (BLM 2014a).

[3] No monitors for CO are in the CFO planning area because CO levels are currently not an issue.

The Analysis of the Management Situation (AMS) for the CFO (BLM 2014a) discusses the sources of and the human health and safety concerns associated with criteria pollutants. Based on air quality analysis documented in the AMS, the criteria pollutant of most concern in the planning area is O_3. One county in the planning area, Eddy County, exceeded the 8-hour O_3 standard once in 2002 and once in 2006; however, it did not violate the 3-year rolling average.[4] No other violations of air quality standards have occurred within the planning area. At present, O_3 levels are close to the regulatory limit (BLM 2014a). Other criteria pollutants of concern include nitrogen oxides (NO_x) (including NO_2), SO_2, and particulate matter (PM_{10} and $PM_{2.5}$). CO and Pb emissions are not considered major criteria pollutants in the CFO planning area (BLM 2014a).

Climate

Existing Climate

The planning area is located in a semiarid climate regime typified by dry windy conditions, limited rainfall, hot summers, and mild winters. Summertime maximum temperatures are generally in the region of 90 degrees Fahrenheit (°F) with occasional temperatures over 110°F (Western Regional Climate Center 2017). Winter minimum temperatures are generally between 20°F and 40°F, with extremes remaining above 0°F. Precipitation is mainly in the form of summer thunderstorms associated with the Southwest Monsoon, though occasional Pacific storms drop south into New Mexico during the winter. Table 3.1 presents climate averages for Carlsbad between 1981 and 2010.

Table 3.1. Climate Averages for Carlsbad, 1981–2010

Climate Condition	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°F)	42.6	47.2	54.0	62.4	71.5	79.3	81.2	79.9	73.2	62.9	51.5	42.8
Maximum temperature (°F)	57.5	62.7	70.2	78.5	86.9	94.4	94.6	93.1	87.0	78.1	67.1	57.5
Minimum temperature (°F)	27.6	31.7	37.9	46.2	56.0	64.3	67.7	66.6	59.4	47.7	35.8	28.0
Precipitation (inches)	0.47	0.54	0.51	0.64	1.17	1.53	2.01	1.83	2.11	1.16	0.81	0.63

Source: National Oceanic and Atmospheric Administration (2011).

Global Climate Change

Climate change is defined as a non-random change in climate that is measured over a period of decades or longer (National Weather Service 2009). Changes may result from natural or human causes, and the most useful indicators of climate change are greenhouse gas (GHG) emissions, which include long-lived emissions such as CO, carbon dioxide (CO_2), nitrous oxide (N_2O), and methane (CH_4), as well as water vapor and other trace gases (BLM 2014a). The 2013 Intergovernmental Panel on Climate Change (IPCC) fifth assessment report states that the atmospheric concentrations of well-mixed, long-lived GHGs have increased to levels unprecedented in at least the last 800,000 years. Further, human influence has been detected in warming of the atmosphere and the ocean, changes in the global water cycle, reductions in snow and ice, global mean sea level rise, and changes in some climate extremes. It is extremely likely (95%–100% probability) that human influence has been the dominant cause of the observed warming since the mid-twentieth century (IPCC 2013).[5]

BLM-authorized activities that produce GHGs include oil and gas production, construction activities, vehicle use, and prescribed fire. These activities generate both CO_2 and CH_4 contributing largely through carbon emissions. The primary source of GHG emissions on BLM-managed land in the planning area is oil and gas production. Some BLM-authorized activities may assist in isolating carbon emissions, such as

[4] When assessing annual emissions for criteria pollutants, a 3-year rolling average accounts much of the year-to-year fluctuations in order to assess yearly trends.

[5] The IPCC is currently in its sixth assessment cycle, of which the synthesis report should be finalized in 2022.

vegetation maintenance, which may help build organic carbon in soils and absorb CO_2 (i.e., a carbon sink) from the atmosphere (BLM 2014a).

3.1.2 Impacts from the Proposed Action

Direct and Indirect Impacts

Air Quality

In 2014, the BLM released an Instruction Memorandum (IM) providing national guidance for the BLM on quantifying air emissions and on the use of air emissions estimating tools (BLM 2014b). The IM stipulates that this may be a useful step, under some circumstances, to estimate air emissions from resource management activities for analysis. However, the IM does not require air emissions to be quantified when preparing NEPA documents for a project in an attainment area, where the emissions would not be estimated to exceed the NAAQS (BLM 2014b).

Criteria for assessing air quality impacts are based on existing regulatory requirements across all applicable jurisdictions. Chaves, Eddy, and Lea Counties satisfy all NAAQS for monitored pollutants and are classified as attainment areas for those pollutants. These counties are unclassified with regard to those pollutants that are not monitored in those counties (BLM 2014b).[6]

In 2011, the U.S. Department of Agriculture (USDA), the U.S. Department of the Interior, and the EPA signed a Memorandum of Understanding (MOU) regarding air quality analyses and mitigation for federal oil and gas decisions made through the NEPA process (USDA et al. 2011). The MOU focuses on analyzing and addressing air quality impacts (direct, indirect, and cumulative) associated with federal actions related to onshore oil and gas planning, leasing, or field development (including exploration, development, and production). The MOU directs air quality modeling to be conducted if specific criteria are met, such as whether the action would result in a substantial increase in emissions (i.e., emissions resulting from the action may cause or contribute to exceedances of the NAAQS) (see Section V.E.3 of the MOU [USDA et al. 2011]). The Proposed Action is not anticipated to cause a substantial increase in emissions as defined by the MOU. See the cumulative analysis for more information about contribution of emissions (Section 3.11.1).

Generally, potential impacts on air resources as a result of the Proposed Action include construction emissions (those emissions that are expected to be temporary) and operational emissions (those emissions that are expected to occur annually during operation of the Proposed Action). Typical construction-related emissions likely to be produced by the Proposed Action are GHGs, PM_{10}, NO_x, and CO. These emissions are anticipated to result from exhaust from construction vehicles, material movement, and equipment; exhaust from construction worker commuting; fugitive dust from general construction activities and earthmoving; and pipeline sandblasting and coating. Construction emissions would be short-term, lasting only the duration of construction, and would not result in a substantial increase in emissions. These temporary impacts would be negligible and would not cause or contribute to exceedances of the NAAQS.

Operational-related emissions likely to be produced as a result of the Proposed Action include GHGs, CO, volatile organic compounds, and NO_x. These emissions are attributable to aboveground fugitive emissions from operational equipment and emissions from inspection and maintenance of the equipment (including exhaust from inspection vehicles and aerial inspections, and fugitive dust from vehicular use of unpaved roads). Fugitive dust emissions may also result from annual maintenance or repair of access roads. Periodic inspection and maintenance activities would occur during the operation phase of the proposed project. Emissions from operation and maintenance of the Proposed Action would be minimal and would not result in significant impacts on air resources.

[6] Because the Proposed Action is not located in a nonattainment or management area, the General Conformity Rule does not apply and a conformity determination, through the identification, analysis, and quantification of emission impacts of the Proposed Action, is not required.

Mitigation Measures

Measures to minimize or eliminate impacts on air quality are described in COAs (BLM 1997: Appendix 2). No further mitigation measures have been recommended.

3.2 Watershed Drainages and Groundwater

3.2.1 Affected Environment

Surface Hydrology

The surface water supply in southwestern Eddy County is transitory and limited to quantities of runoff impounded in short drainageways, shallow lakes, and small depressions, including various playas and lagunas (New Mexico Office of the State Engineer [NMOSE] 2016). The proposed project area is contained within the Salt Lake watershed as defined by the 10-digit Hydrologic Unit Code (HUC) (Table 3.2). The watershed is contained within the Carlsbad Groundwater Basin (NMOSE 2016). No New Mexico Outstanding National Resources Waters are within the Salt Lake watershed.

Table 3.2. Watersheds Crossed by the Proposed Project

Watershed Name	HUC-10 ID	Portion of the Proposed Project Area within the Watershed (acres)	Total Watershed Size (acres)
Salt Lake	1306001117	9.84	233,485

SWCA conducted biological surveys of the proposed project area in April 2018, to determine the presence of potential waters of the U.S., including wetlands and special aquatic sites. Potential waters of the U.S. were identified by the presence of an ordinary high-water mark (OHWM), defined bed and bank, or the three mandatory USACE wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. Biologists used a Trimble XT GPS unit to record data for the OHWMs. The presence of playas and vegetated depressions was also investigated according to the BLM CFO's guidance.

According to the U.S. Geological Survey's (USGS) National Hydrography Dataset (NHD) and the USFWS's National Wetlands Inventory (NWI), there are no previously mapped potentially jurisdictional surface water features, within the proposed project area. One ephemeral drainage was previously recorded 0.5 mile west of the proposed project area (USFWS 2018a; USGS 2013). During the biological surveys the absence of potentially jurisdictional surface water features was confirmed.

The presence/absence of wetlands was identified in the field using routine on-site delineation methods according to the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). Determination of wetland habitat type was based on the classification system developed by Cowardin et al. (1979). Other sources used to identify the presence/absence of wetlands include the *Pocket Guide to Hydric Soil Field Indicators, Version 7.0* (Wetland Training Institute, Inc. 2013). The presence/absence of lotic systems (e.g., creeks, rivers, arroyos, human-made ditches; collectively streams) was identified in the field using the methods outlined in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008b). No special aquatic sites, streams, ponds, playas, or vegetated depressions were identified within the proposed project area during the 2018 biological survey.

Groundwater Hydrology

The Carlsbad Groundwater Basin is primarily fed by the Capitan Aquifer, which covers approximately 1,008,890 acres and stretches in an arch that begins northeast of Carlsbad and continues east into Lea County and south to the Texas border. It is part of the Delaware Basin. Groundwater in this basin is derived from several geological formations, including the Rustler Formation, Santa Rosa Sandstone, Ogallala Formation, and Cenozoic alluvium. The city of Jal, Monument, and Eunice water users' associations, as

well as some rural homes in the area, derive water supplies from the Capitan Basin. The groundwater quality within the Capitan Basin is very poor. The major constituent affecting water quality is a high level of total dissolved solids (NMOSE 2016).

3.2.2 Impacts from the Proposed Action

Direct and Indirect Impacts

No potential waters of the U.S. were identified during the biological surveys of the proposed project area. Therefore, no direct impacts on waters of the U.S. would occur from the proposed project. Furthermore, no playas or vegetated depressions, as defined by the BLM CFO, were identified during the biological surveys; therefore, no direct impacts on these features would occur from the proposed project.

The potential to impact water resources primarily lies with the indirect impacts that could occur due to stormwater runoff from compressor station construction activities into downstream playas and other aquatic resources. Although indirect impacts from stormwater movement of contaminants or sediment due to ground disturbance could be a possibility, the mitigation measures described below would likely limit movement of contaminants or sediment and limit indirect impacts. The proposed project would have no indirect impact on the Pecos River because no direct tributaries to the river are present within or adjacent to the proposed project area. Standard practices that minimize impacts on the watershed and water quality include minimizing access road total surface disturbance, minimizing vehicular use, surfacing parking and staging areas with caliche, reclaiming the areas not necessary for production, and quickly re-establishing vegetation on the reclaimed areas.

Similar to potential impacts on surface water, impacts on groundwater could occur if spills or leaks occurred during operation of the compressor station. Standard practices that minimize potential risk to groundwater include implementation of a spill response plan.

Mitigation Measures

Measures to minimize or eliminate impacts on water resources are described below and in the standard COAs (BLM 1997: Appendix 2). No special mitigation has been identified by the BLM.

- Any water erosion that may occur due to the construction of the surface site would be quickly corrected and proper measures would be taken to prevent future erosion.
- Stockpiling of topsoil would be required. The topsoil would be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and would not be used for erosion control.

3.3 Soils

3.3.1 Affected Environment

According to the Natural Resources Conservation Service (NRCS 2018a), two soil units are mapped within the 9.84-acre proposed project area (Table 3.3).

Table 3.3. Soils in the Proposed Project Area

Soil Map Unit	Soil Type Symbol	Acres in Proposed Project Footprint	Percent of Proposed Project Area (%)
Berino complex, 0 to 3 percent slopes, eroded	BB	5.62	57.11
Tonuco loamy fine sand, 0 to 3 percent slopes	TF	4.22	42.89
Total		**9.84**	**100.0**

Source: NRCS (2018a).

These soil units are similar in that they are classified as well drained to excessively drained and none are considered hydric soils or farmland of statewide importance. (NRCS 2018a).

Biological soil crusts are important components of the loamy and sandy soils of southeastern New Mexico. These crusts bind soil particles, thereby stabilizing surfaces and reducing erosion. Biological soil crusts in sandy soils are most commonly dominated by early succession cyanobacteria, which are adapted to disturbed conditions or very erodible soils. Loamy soils contain cyanobacteria but may also be colonized by algae, fungi, mosses, and squamulose, crustose, and gelatinous lichens. All soil crust organisms enhance soil stability, capture nutrient-rich dust, impact nutrient cycling, contribute organic matter, and influence soil moisture dynamics. In addition, cyanobacteria and cyano-lichens fix atmospheric nitrogen, potentially making this nutrient more available for vascular plants. All of these functions are utilized by and important for sustaining grasses, forbs, and other vascular plants in the project area. These crusts have the potential to exist in most areas where soils are exposed (i.e., not covered by rocks or vegetation). During the 2018 biological survey, no biological soil crusts were observed; however, an in-depth soil inventory of the entire proposed project area was not conducted.

3.3.2 Impacts from the Proposed Action

Direct and Indirect Impacts

As described in Chapter 2 (see Table 2.1), construction activities associated with the proposed project would impact 9.84 acres of soils. During construction, direct impacts on soils would mostly include soil compaction from heavy equipment, increased soil erosion from the removal of vegetative cover, and potential contamination from accidental spills or leaks. These direct impacts could result in the loss of soil structure and porosity. Once the proposed project has been constructed, the portions of the disturbed area not needed for operation or maintenance would be stabilized and reclaimed. Stabilization of soils would be partly dependent upon re-establishing vegetation cover. With sufficient rainfall and proper seeding techniques, vegetation cover by faster-growing plants is expected within 2 years after construction. The growth of mature native plant communities could require decades to become fully re-established (Monsen et al. 2004).

Though no biological soil crusts were observed during the 2018 biological survey, the proposed project could impact subsurface biological soil crusts.

Indirect impacts on soil resources could include a change in soil productivity due to mixing of topsoil with subsoil during trenching and grading. Another indirect impact could be the colonization of noxious weeds on disturbed soils.

Mitigation Measures

Measures to minimize or eliminate impacts on soils are described below and in the standard COAs (BLM 1997: Appendix 2). No special mitigation has been identified by the BLM.

- Interim reclamation would be conducted on all disturbed areas not needed for active support of production operations, and if caliche is used as a surfacing material it would be removed at time of reclamation to mitigate impacts on soil resources.
- Topsoil would be stockpiled to enhance reclamation.

3.4 Vegetation and Noxious Weeds

3.4.1 Affected Environment

The proposed project area is located within the Chihuahuan Deserts: Chihuahuan Desert Grasslands EPA Level II and IV ecoregion (Griffith et al. 2006). During the biological survey, biologists identified one vegetation communities within the proposed project area: Chihuahuan Desert mixed with interspersed honey mesquite *(Prosopis glandulosa)*. Dominant species include honey mesquite, and broom snakeweed (*Gutierrezia sarothrae*). Vegetative cover within the proposed project area is approximately 25-30%. The

overall proposed project area and surrounding landscape have been disturbed by oil and gas development activities (i.e., access roads, pipeline, and well pads), and utility line corridors. Plant species recorded during the biological surveys are listed in Table 3.4.

Table 3.4. Plant Species Observed during the Biological Surveys of the Proposed Project Area

Common Name	Scientific Name
Broom snakeweed*	*Gutierrezia sarothrae*
Catclaw acacia	*Senegalia greggii*
Grassland croton	*Croton dioicus*
Shinnery oak	*Quercus havardii*
Honey mesquite*	*Prosopis glandulosa*
Indigo bush	*Amorpha fruticose*
Javelina bush	*Condalia ericoides*
Plains yucca	*Yucca glauca*

Note: Nomenclature follows the PLANTS Database (NRCS 2018b).

* Refers to dominant species within corresponding vegetative community.

Invasive, Non-native Species

During the biological survey, no State of New Mexico or federally listed noxious weeds were identified within the proposed project area (New Mexico Department of Agriculture 2017, USDA 2018). Based on review of the BLM CFO's noxious weed treatment geographic information system (GIS) shapefile, there is a previously treated noxious weed area for African rue (*Peganum harmala*), a New Mexico Department of Agriculture Class B species, approximately 0.81 mile east; this area was treated in 2006.

3.4.2 Impacts from the Proposed Action

Direct and Indirect Effects

Impacts on plant communities and habitats from the construction of the proposed project would include 9.84 acres of long-term direct impacts from vegetation removal. Short-term impacts could occur during site preparation and would not continue until revegetation of the proposed project area is achieved. Faster-growing plants are estimated to establish approximately 2 years after construction, depending on timely rainfall. Long-term impacts on vegetation would occur on the entire 9.84 acres for the long-term operation of the surface sites.

Impacts on vegetation are reduced by the following standard practices, which include using existing surface disturbance, minimizing surface disturbance to the greatest extent possible, minimizing vehicular use, placing parking and staging areas on caliche-surfaced areas, reclaiming the areas not necessary for production, and quickly establishing vegetation on the reclaimed areas.

Any surface disturbance can increase the possibility of establishment of new populations of invasive, non-native species. Noxious weed seed could be carried to and from the proposed project area by construction equipment and transport vehicles.

Mitigation Measures

Measures to minimize or eliminate impacts on vegetation and noxious weeds are described below and in the standard COAs (BLM 1997: Appendix 2). No special mitigation has been identified by the BLM.

- Interim reclamation would be conducted on all disturbed areas not needed for active support of production operations, and if caliche is used as a surfacing material it would be removed at time of reclamation to enhance re-establishment of vegetation.
- Topsoil would be stockpiled to enhance reclamation.
- The operator would be held responsible if noxious weeds become established within the areas of operations. Weed control would be required on the disturbed land where noxious weeds exist and on adjacent land affected by the establishment of weeds due to this action. The operator would consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

3.5 Wildlife and Special Status Species

3.5.1 Affected Environment

The Chihuahuan Deserts: Chihuahuan Desert Grasslands ecoregion (Griffith et al. 2006) provides habitat for a variety of wildlife species. SWCA biologists detected five bird species and four mammal species during the 2018 biological surveys of the proposed project area (Table 3.5; see Figures A.1 and A.2 and photographs in Appendix A).

Table 3.5. Wildlife Detected during the Biological Surveys of the Proposed Project Area

Common Name	Scientific Name
Birds	
Chihuahuan raven	*Corvus cryptoleucus*
Desert cardinal	*Cardinalis sinuatus*
Greater roadrunner	*Geococcyx californianus*
Scaled quail	*Callipepla squamata*
Western kingbird	*Tyrannus verticalis*
Mammals	
Black-tailed jackrabbit	*Lepus californicus*
Desert cottontail	*Canis latrans*
Domestic cow (scat)	*Bos taurus*
Packrat (midden)	*Neotoma albigula*

Most bird species are protected by the MBTA, which implements various treaties and conventions between the United States and other countries for the protection of migratory birds. During the biological surveys, five bird species were observed or heard, no bird nests were identified.

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the MBTA and the Bald and Golden Eagle Protection Act. Bald eagles are unlikely to occur in the proposed project area due to lack of trees and preferred prey. Golden eagles could forage in the proposed project area, especially outside the breeding season when they can perch on utility poles far from cliffs and other rugged terrain.

Special Status Species

The special status species evaluated in this EA consist of 1) all federally protected (i.e., endangered and threatened) species, 2) additional species listed by the USFWS as candidate and proposed and species under review (USFWS 2018b), 3) state-listed endangered and threatened species (Biota Information System of New Mexico 2018; New Mexico Energy, Minerals and Natural Resources Department 2018), and 4) BLM sensitive species, some of which are also listed as candidates or are under the review by the USFWS and/or are state-listed. The BLM manages certain sensitive species that are not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. The authority for this policy and guidance is established by the ESA, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act; and Department of the Interior Manual 235.1.1A.

Based on the results of the April 2018 biological survey of the proposed project area, three special status species have the potential to occur in the proposed project area (Table 3.6). All special status species analyzed for the proposed project area are included in the full special status species table (Appendix B).

Table 3.6. Special Status Species with the Potential to Occur in the Proposed Project Area.

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Potential for Occurrence in Proposed Project Area
Birds			
Lesser prairie-chicken (*Tympanuchus pallidicinctus*)	BLM Sensitive	This species occurs in southeastern New Mexico primarily in shinnery oak (*Quercus havardii*) or sand sagebrush grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem (*Andropogon hallii*), little bluestem (*Schizachyrium scoparium*), sand dropseed (*Sporobolus cryptandrus*), threeawn (*Aristida* sp.), and blue grama (*Bouteloua gracilis*).	May occur in project area. The entire proposed project area is within the BLM management area for LPC: the LPC IPA (BLM 2008a). This species was not observed during the 2018 biological survey of the proposed project area.
Loggerhead shrike (*Lanius ludovicianus*)	BLM Sensitive	The loggerhead shrike is a year-round resident in New Mexico and is found throughout the state, primarily in open country including grasslands, improved pastures, hayfields, shrub steppe, and desert scrub, as well as piñon-juniper woodland and woodland edges.	May occur in the proposed project area due to suitable Chihuahuan Desert mixed scrubland with interspersed honey mesquite habitat. This species was not observed during the 2018 biological survey of the proposed project area.
Reptiles			
Texas horned lizard (*Phrynosoma cornutum*)	BLM Sensitive	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. These areas often consist of grasses interspersed with cacti, yucca (*Yucca* sp.), mesquite (*Prosopis* sp.), and other assorted woody shrubs and trees. In New Mexico, the species is associated with *Yucca-Prosopis-Ephedra* and *Larrea-Acacia-Fouquieria* habitat associations, often in playas or on bajadas and mountain foothills.	May occur in the proposed project area due to presence of Chihuahuan Desert mixed scrubland habitat, interspersed with mesquite and yucca; however, this species was not observed during the 2018 biological surveys.

3.5.2 Impacts from the Proposed Action

Direct and Indirect Impacts

General Wildlife

Impacts on wildlife would result from actions that alter wildlife habitats, including changes to habitat and disturbance. Altering wildlife habitat in ways that would be considered adverse may occur directly (through habitat loss from surface disturbance) or indirectly (through the reduction in habitat quality caused by increased noise levels and increased human activity). The proposed project would result in 9.84 acres of new surface disturbance.

Short-term impacts on wildlife and special status species would include the removal or crushing of existing vegetation, risk of direct mortality of species during construction, loss or degradation of native habitat, and displacement of wildlife species from habitat due to development. Additional potential short-term indirect impacts could include disruption or displacement of species from nesting/birthing and foraging areas, changes in activity patterns due to construction, increased human activity, and noise disturbance. Noise disturbance could impact wildlife by interfering with animals' abilities to detect important sounds or by posing an artificial threat to animals (Clinton and Barber 2013). Construction equipment associated with the proposed project would contribute the highest noise levels. Currently, the noise profile of the surrounding area is influenced by existing oil and gas infrastructure in the immediate vicinity, which would not change as a result of the proposed project.

Long-term, direct impacts on wildlife would result from the proposed project incrementally contributing to overall habitat fragmentation and isolation of connected habitats, including reduced habitat patch size, reduced distance between areas of disturbance, and the potential displacement of wildlife. The proposed project would not contribute to overall habitat fragmentation, as the majority of the proposed project is located immediately adjacent to or within existing oil and gas-related disturbance areas (see Figure 1.1).

After construction, areas not needed for long-term production would be reclaimed with a BLM-prescribed, weed-free seed mixture. Reclamation of disturbed areas is expected to return the affected area to herbaceous production within 2 years after construction, depending on drought conditions. However, the establishment of mature native plant communities may require decades (Monsen et al. 2004). As a result, the change in vegetative species composition could modify cover and foraging opportunities for wildlife, thereby having a long-term impact on wildlife and special status species.

Special Status Species

Special status species with the potential to occur in the proposed project area were evaluated for possible impacts from the proposed project. Three special status species—LPC, loggerhead shrike, and Texas horned lizard—have the potential to occur within the proposed project area.

Lesser Prairie-chicken (*Tympanuchus pallidicinctus*)

The LPC is a BLM-sensitive species and is protected under the MBTA. LPCs are known to occupy native mixed-grass prairies, shinnery oak, sand bluestem (*Andropogon hallii*), and sand sagebrush–bluestem plant communities of the southern Great Plains. In New Mexico, LPC habitat occurs in sand shinnery communities dominated by shinnery oak and several species of bluestem, grama (*Bouteloua* sp.), and dropseed (*Sporobolus* sp.) grasses. In general, nesting habitat typically consists of low shrub cover and high grass and forb cover, interspersed with patches of short vegetation. Successful nests in nearby Chaves County, New Mexico, were located in patches where vegetation was roughly 65% grasses and 30% shinnery oak (New Mexico Avian Conservation Partners 2017). LPCs avoid nesting in mesquite and shortgrass-dominated areas where sand bluestem is absent (Davis et al. 1979; Davis et al. 2008; Riley et al. 1992).

The Proposed Action area is located within the LPC IPA managed by the BLM CFO (BLM 2008a) (Figure A.1), although, not within the LPC timing restriction zone and therefore, would not be subject to construction timing restrictions. Conservation measures have been developed for activities within 3.0 miles of the IPA and other RMPA zoning areas, which include following COAs (e.g., stipulations) for construction, revegetation, and operations and maintenance (BLM 2008a). The Proposed Action is not located

Neither LPCs nor signs of this species (e.g., feathers, scat, or tracks) were observed in the proposed project area during the biological survey. There is suitable habitat for this species due to the presence of sand dropseed (*Sporobolus cryptandrus)*, purple threeawn (*Aristida purpurea)*, and shinnery oak; however, the proposed project area has been highly disturbed from livestock grazing and also contains oil and gas infrastructure components (i.e., access roads, pipelines, and well pads) that are not conducive to LPC nesting requirements. Based on the amount of existing disturbance surrounding the proposed project area, the proposed project is not likely to contribute to a trend toward federal listing or cause a loss of viability for LPCs.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is designated as a BLM sensitive species and is also protected under the MBTA. This species was not observed during the 2018 biological survey of the proposed project area; however, the project area is within desert scrub habitat. If vegetation removal is scheduled to occur during the migratory bird breeding season (March 1–August 31), a nest survey is recommended to be conducted up to 2 weeks prior to vegetation removal and avoidance buffers around any occupied nests would be established (distances to be specified by the BLM CFO). Adult birds would likely not be directly harmed by the proposed project because of their mobility and ability to avoid areas of human activity. The proposed project could impact individuals but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Texas Horned Lizard (Phrynosoma cornutum)

The Texas horned lizard is a BLM sensitive species. No Texas horned lizards were observed during the 2018 biological survey; however, suitable habitat is present within the proposed project area. If Texas horned lizards are present during construction, they could avoid disturbance by moving to adjacent habitat.

The New Mexico Department of Game and Fish (NMDGF) pipeline trenching guidelines (NMDGF 2003; see Appendix C) and BLM Open Trench Wildlife Removal Workshop materials (BLM 2013) would be followed to avoid impacts on Texas horned lizards. In addition, all personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals. The proposed project could impact individuals but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Mitigation Measures

Measures to minimize or eliminate impacts on wildlife are described in COAs (BLM 1997: Appendix 2) for compressor stations and buried pipelines. Special mitigation includes the following:

- Enterprise would instruct personnel working on the construction of the proposed project to avoid intentionally harassing all animals.
- For portions of the project being constructed during the nesting season (March 1–August 31), the operator could conduct pre-construction nest surveys up to 2 weeks prior to vegetation removal, and avoidance buffers around any occupied nest could be established (distances to be specified by the BLM) to ensure compliance with the MBTA.
- Vegetation and abandoned passerine nest removal would occur outside the migratory bird breeding season (March–August), to the extent possible.
- Similarly, unoccupied raptor nests would be removed by Enterprise, in consultation with a biologist, outside the breeding season.

- Mitigation measures for activities in LPC management areas outlined in the 2008 RMPA include the following:
    - If new LPC leks are discovered in the future within the LPC management area, a 1.5-mile radius around the lek would be considered occupied habitat and the prescriptions of this alternative would apply to proposed actions in and around that habitat.
- NMDGF (2003) trenching guidelines would be followed.

3.6 Cultural and Historical Resources

3.6.1 Affected Environment

The proposed project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 11,500–7000 B.C.), Archaic (ca. 6000 B.C.–A.D. 500), Ceramic (ca. A.D. 500–1400), Post-Formative Native American (ca. A.D. 1400–present), and Historic Euro-American (ca. A.D. 1865–present). Sites representing any or all of these periods are known to occur within the region. A more complete discussion of the periods and site types is provided in the *Permian Basin Research Design 2016-2026 Volume I: Native American Archaeology and Cultural Resources* (Railey 2016).

Native American Religious Concerns

The BLM conducts Native American consultation regarding traditional cultural properties (TCPs) and sacred sites during land use planning and its associated environmental impact review. In addition, during the oil and gas lease sale process, Native American consultation is conducted to identify TCPs and sacred sites whose management, preservation, or use would be incompatible with oil and gas or other land use authorizations. With regard to TCPs, the BLM has very little knowledge of tribal sacred or traditional use sites, and these sites may not be apparent to archaeologists performing surveys in advance of construction activities.

3.6.2 Impacts from the Proposed Action

Direct and Indirect Impacts

The project falls within the area covered by the PBPA. The PBPA is an optional method of compliance with Section 106 of the NHPA for energy-related projects in a 28-quadrangle area of the CFO planning area. The PBPA is a form of off-site mitigation that allows industry to design projects to avoid known National Register of Historic Places (NRHP)–eligible cultural resources and to contribute to a mitigation fund in lieu of paying for additional archaeological inventory in this area that has received adequate previous survey. Funds received from the PBPA will be used to conduct archaeological research and outreach in southeastern New Mexico. Research will include archaeological excavation of significant sites, predictive modeling, and targeted research activities, as well as professional and public presentations on the results of the investigations.

The proponent chose to participate in the PBPA by planning to avoid all known NRHP-eligible and potentially eligible cultural resources. The proponent has contributed funds commensurate to the undertaking into an account for off-site mitigation. Participation in the PBPA serves as mitigation for the effects of this project on cultural resources. If any skeletal remains that might be human or funerary objects are discovered by any activities, the project proponent would cease activities in the area of discovery and notify the BLM within 24 hours as required by the PBPA.

Mitigation Measures

Measures to minimize or eliminate impacts to cultural resources are described in the standard COAs (BLM 1997: Appendix 2) No special mitigation or requirements have been identified by the BLM.

3.7 Potash Minerals

3.7.1 Affected Environment

Potash resources in southeastern New Mexico are located in an area governed by the rules of the Secretary of the Interior's 2012 Order dated December 4, 2012. This area is commonly called the Secretary's Potash Area. The Secretary's 2012 Order was written to establish rules for concurrent operations in prospecting for and development and production of oil and gas and potash deposits owned by the United States within the designated Potash Area. The Potash Area completely encompasses the Known Potash Leasing Area, which was established for the administration of potassium leasing. The Secretary's Potash Area is composed of four classifications respective to the density of core holes or geophysical inference: measured ore (potash enclave), indicated ore, inferred ore, and barren of potash ore.

The proposed location is an area barren of potash mineralization, barren and/or minor potash mineralization areas are composed of sub-economic resources that would require a substantially higher market value or major cost-reducing technology for economical production. Sub-economic resources also include other minerals not presently being recovered.

3.7.2 Impacts from the Proposed Action

Potential impacts of drilling operations to potash resources could include migration of hydrocarbons through impermeable formations or fractures within the formations that might provide a conduit to mine workings from improperly cased wells. Any potential impacts created by drilling these oil wells will be evaluated before future mining operations in this area are approved by the BLM.

Due to the proposed project being located in an area that is barren of potash reserves; it would not affect economical potash reserves or resources. The proposed project is at approximately 4.4 miles southeast of the nearest mine works, Saunders' Mosaic mine. The proposed project is not located in an area that indicates potash reserves.

Mitigation Measures

Measures to minimize impacts on potash resources are described in the standard COAs (BLM 1997: Appendix 2). No special mitigation or requirements have been identified by the BLM.

3.8 Paleontological Resources

3.8.1 Affected Environment

Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Fossil remains may include bones, teeth, tracks, shells, leaves, imprints, and wood. Paleontological resources include not only the actual fossils but also the geological deposits that contain them and are recognized as non-renewable scientific resources protected by federal statutes and policies.

The primary federal legislation for the protection and conservation of paleontological resources occurring on federally administered lands are the Paleontological Resources Preservation Act of 2009, the Federal Land Policy and Management Act of 1976, and NEPA. The BLM has also developed policy guidelines for addressing potential impacts on paleontological resources (BLM 1998a, 1998b, 2008c). In addition, paleontological resources on state trust lands are protected by state policy from unauthorized appropriation, damage, removal, or use.

The Potential Fossil Yield Classification (PFYC) is a tool that allows the BLM to predict the likelihood of a geologic unit to contain paleontological resources. The PFYC is based on a numeric system of 1 to 5, with PFYC 1 having little likelihood of containing paleontological resources, whereas a PFYC 5 value is a geologic unit that is known to contain abundant scientifically significant paleontological resources. The fossil resources of concern in this area are the remains of vertebrates, which include species of fish, amphibians, and mammals.

3.8.2 Impacts from the Proposed Action

Direct and Indirect Impacts

Direct impacts would result in the immediate physical loss of scientifically significant fossils and their contextual data. Impacts indirectly associated with ground disturbance could subject fossils to damage or destruction from erosion, as well as creating improved access to the public and increased visibility, potentially resulting in unauthorized collection or vandalism. However, not all impacts of construction are detrimental to paleontology. Ground disturbance can reveal significant fossils that would otherwise remain buried and unavailable for scientific study. In this manner, ground disturbance can result in beneficial impacts. Such fossils can be collected properly and curated into the museum collection of a qualified repository making them available for scientific study and education.

The location of the proposed project is within one geologic unit: Piedmont alluvial deposits (Qp). The geologic unit is within PFYC 2, where management concern is generally low. A survey for paleontological resources was not necessary and no impacts on paleontological resources are expected.

Mitigation Measures

Measures to eliminate or minimize impacts on paleontological resources are described in the standard COAs (BLM 1997: Appendix 2) for compressor stations and buried pipelines. No special mitigation or requirements have been identified by the BLM.

3.9 Livestock Grazing

3.9.1 Affected Environment

Almost all livestock grazing within the BLM CFO planning area is permitted for year-round use. Permitted livestock numbers for each allotment are set at levels that provide for plant recovery to enhance rangeland health. These levels have been determined by quantitative measurements of forage present. Prolonged drought and rangeland wildfire continues to threaten rangeland health and forage availability within and near the proposed project area.

Livestock grazing is common within the proposed project area and could include grazing of domestic cattle, sheep, goats, and horses. The most common livestock operations in the proposed project area are cattle and calf operations. The proposed project area coincides with one BLM allotment within the CFO planning area, summarized in Table 3.7.

Table 3.7. BLM CFO Allotments and Range Improvements in the Proposed Project Area

Allotment Name	Allotment Number	Size of Project Area within Allotment (acres)	Total Size of Allotment (acres)	No. of Fences Crossed by Project Area	No. of Water Lines Crossed by Project Area	No. of Water Troughs within 200 meters of Project Area
Twin Wells	77042	9.84	48,365	0	0	0

3.9.2 Impacts from the Proposed Action

Direct and Indirect Impacts

Impact criteria for assessing livestock grazing impacts are based on applicable laws, statutes, standards, or guidelines. Direct and indirect impacts from the Proposed Action can be assessed by calculating the number of acres and grazing allotments that would incur surface disturbance and the resulting loss of vegetation for forage from the Proposed Action.

Forage removal from the grazing allotments crossed by the proposed project would be the primary impact to grazing resources. Construction of the Proposed Action would remove approximately 9.84 acres of vegetation from the active grazing allotment, which represents less than 1%, a negligible difference, of the total allotment acreages intersected by the Proposed Action. The resulting loss of vegetation would not affect the animal unit months authorized for livestock use in this area.

Range improvements would be impacted by the proposed project. Four pasture fences would be crossed by the proposed project. No water lines are crossed by the proposed project area and no water troughs are located within the proposed ROW or within 200 meters (656 feet) of the proposed project area; however, the proposed project does cross one water line.

The proposed project has the potential to temporarily create barriers to livestock movement during construction activities. Restricted access to range improvements such as watering troughs or water delivery systems (ditches/pipelines) on BLM-administered lands could occur. However, the standard COAs (BLM 1997: Appendix 2) identify measures to prevent these types of impacts on grazing livestock after construction is complete.

Short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Movement of livestock also may be temporarily impeded in areas of active construction. There is the possibility of injuries to livestock or deaths due to collisions with vehicles and considering the area is open range, livestock may be found on roads in the area. As a result, vehicle traffic associated with the Proposed Action could pose impacts on livestock. After construction, livestock should become acclimated to the minimal activity associated with operation of the proposed compressor station.

Mitigation Measures

Measures to eliminate or minimize impacts on livestock grazing are described in the standard COAs (BLM 1997: Appendix 2). No special mitigation or requirements have been identified by the BLM.

3.10 Public Health and Safety

3.10.1 Affected Environment

The proposed project is located in an area with established oil and gas exploration, development, transportation, and processing operations with the accompanying pipelines, drilling rigs, pumpjacks, traffic, and other related activities. During construction of the proposed surface site, physical hazards such as heavy machinery would be present.

A small number of seasonal recreation users (e.g., hunters and off-highway vehicle riders) may occasionally be in the vicinity of the proposed project area. However, these users are warned about possible hazardous conditions in the project area through posted signs and would have limited access to the project area during construction.

3.10.2 Impacts from the Proposed Action

Direct and Indirect Impacts

Some potential risk is inherent in any construction project, and this could include the potential risk of contamination to soil through improper disposal of waste, leaks from equipment, or accidental releases. There is also potential for releases of hazardous materials from the proposed compressor station during operation.

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the Emergency Planning and Community Right-to-Know Act. The notification of hazardous substance releases outside the facility site is required under the Comprehensive Environmental Response, Compensation, and Liability Act and New Mexico Administrative Code 19.15.29. All facilities must have informational signs, as directed under 43 CFR 3160.

The increase in traffic to area roads during construction could pose a hazard to other vehicles and road users. However, area roads are already used by oil and gas traffic and users would be accustomed to the types of vehicles necessary for construction. The increase in vehicles would be spread across the project area and drivers would be warned of possible hazards by appropriate signage and would be expected to follow all rules of the road. This impact on area roads would be short-term for construction of the proposed project and would lessen considerably during the operations phase.

Mitigation Measures

Measures to minimize or eliminate impacts from spills or leaks are described in the standard COAs (BLM 1997: Appendix 2) for compressor stations buried pipelines. No special mitigation or requirements have been identified by the BLM.

3.11 Cumulative Impacts

A cumulative impact, as defined in 40 CFR 1508.7, is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of which agency (federal or non-federal) or person undertakes such other action. The time frame for the cumulative impact analysis is 30 years, i.e., the projected life of the compressor station.

3.11.1 Cumulative Impact Analysis for Air Resources

The following analysis of cumulative impacts of the Proposed Action on air resources is limited to the BLM CFO planning area. The Air Quality Technical Report provides a list of major sources[7] for air pollutants in New Mexico, any of which may contribute to cumulative impacts on air quality within the planning area (see BLM 2016: Appendix D). The report also evaluates the cumulative impacts of GHGs emissions and their relationship to climate change at national and global levels (BLM 2016:54–60).

Activities that cumulatively contribute to levels of air pollutants and GHG emissions in southeast New Mexico result from a variety of sources, including fossil fuel industries, transportation, industrial construction, mining, and others. For the CFO planning area, activities that have the greatest impact on air resources are fossil fuel production (e.g., oil and gas exploration and production, crude oil refining, and gas processing) and vehicular travel (BLM 2016:46). The Air Quality Technical Report summarizes the past, present, and reasonably foreseeable impacts on air resources resulting from these activities (BLM 2016:38–51).

The CFO manages federal oil and gas exploration and production on its mineral estate in Eddy and Lea Counties and part of Chaves County. These activities result in cumulative impacts on air resources in the CFO planning area through air pollutant and GHG emissions. There are currently 40,924 oil and gas wells within these counties categorized as active, new, or temporarily abandoned, with 18,436 of these located on federal lands (Petroleum Recovery Research Center 2017). Quantifying emissions of an oil and gas well in the CFO planning area is difficult due to various factors (geology, variation in drilling technique and time, uncertainty of production); however, the BLM has determined that well production typically declines over time, depending on well life and the price of oil and gas. Therefore, it is assumed that declining production would also result in reduced emissions over time (BLM 2016:31).

Factors involving vehicular travel, including number and types of vehicles, miles traveled, and road condition, all influence emissions in the CFO planning area. These emissions result from both on-road and off-road vehicular travel. Although increased vehicle fuel efficiency is expected to reduce emissions associated with vehicular travel, any reduction in emissions may eventually be offset by an increase in the number of vehicles used due to population growth in the area (BLM 2016:51).

[7] Sources emitting more than 100 tons/year of CO, volatile organic compounds, NO_x, SO_2, $PM_{2.5}$, or PM_{10} (BLM 2016:38).

Air Quality

The Proposed Action would result in a very small increase in emissions and would not cause or contribute to an exceedance of the NAAQS for any criteria pollutants in the CFO planning area. Additionally, emissions from the Proposed Action, together with all other emissions, are not expected to impact the 8-hour average O_3 standard. The applicable regulatory thresholds for HAPs associated with the oil and gas industry are established under the National Emissions Standards for Hazardous Air Pollutants, which are currently under review by the EPA.

Climate Change

The Air Quality Technical Report discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting global and regional impacts related to emissions (BLM 2016:51–53). In general, the Proposed Action together with all other current and foreseeable emission-producing actions would not have a measurable impact on climate. Although the Proposed Action may contribute to climate change, the specific impacts on global or regional climate are not quantifiable and the Proposed Action's contribution, in a localized area, to impacts on global climate change cannot be determined (BLM 2016:53).

3.11.2 Cumulative Impacts for Watershed Drainages, Soils, Vegetation and Invasive Species, Wildlife Including Special Status Species, Potash, and Livestock Grazing

Impacts on watershed drainages, soils, vegetation and invasive species, wildlife and special status species, potash, and livestock grazing would depend on the placement and type of surface disturbance, the type of soils and plant species present, and the hydrologic conditions within the proposed project area. Generally, soil erosion and sedimentation of local drainages would be expected to occur, especially when storm events occur during construction of the future actions.

Generally, native vegetation loss and the spread of noxious weeds would be expected to occur, especially during construction of the future actions. Further development in the area would potentially result in the loss of vegetation and thereby a loss of forage available to livestock within the grazing allotments. The resulting loss of forage could reduce the animal unit months authorized for livestock use in the area. Reclamation of some disturbed areas and use of standard practices and mitigation measures, such as reseeding construction areas, has reduced impacts on vegetation and livestock grazing conditions. In time, the reclaimed and seeded areas would result in stable plant communities with densities that are similar to the pre-disturbance plant densities.

Surface-disturbing activities affect wildlife, migratory birds, and special status species through decreasing available forage and habitat and causing habitat alteration and fragmentation. Fragmentation results in indirect habitat loss and degradation. Wildlife species would have to expend an increased amount of energy to avoid disturbed areas or when experiencing alarm due to human presence, traffic, and associated noise.

Watkins et al. (2007) describe quantitative thresholds of fragmentation impact as moderate, high, or extreme, based on the density of well pads per section and cumulative surface disturbance. Moderate impact is defined as one to four wells and less than 20 acres of disturbance per section. High impact is defined as five to 16 wells and 20 to 80 acres of disturbance per section. Extreme impact is defined as more than 16 wells and greater than 80 acres of disturbance per section. Based on these definitions, the density of current oil and gas development is high within the proposed project area. This indicates that impacts on wildlife are increasingly difficult to mitigate and may not be completely offset by management or habitat treatments (Watkins et al. 2007).

3.11.3 Cumulative Impact Analysis for Cultural and Historic Resources and Paleontological Resources

No cumulative effects on cultural or historic resource sites or paleontological resources would occur because no cultural or historic sites or known paleontological remains would be impacted by the Proposed Action.

4 SUPPORTING INFORMATION

4.1 List of Preparers

This EA was prepared by a third-party contractor, SWCA, according to the direction of the BLM CFO. The following BLM staff contributed to or reviewed this EA.

- Brianne Willis, Realty Specialist, BLM CFO
- Bruce Boeke, Archaeologist, BLM CFO

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Appendix A. NATURAL RESOURCE MAP AND PROJECT PHOTOGRAPHS

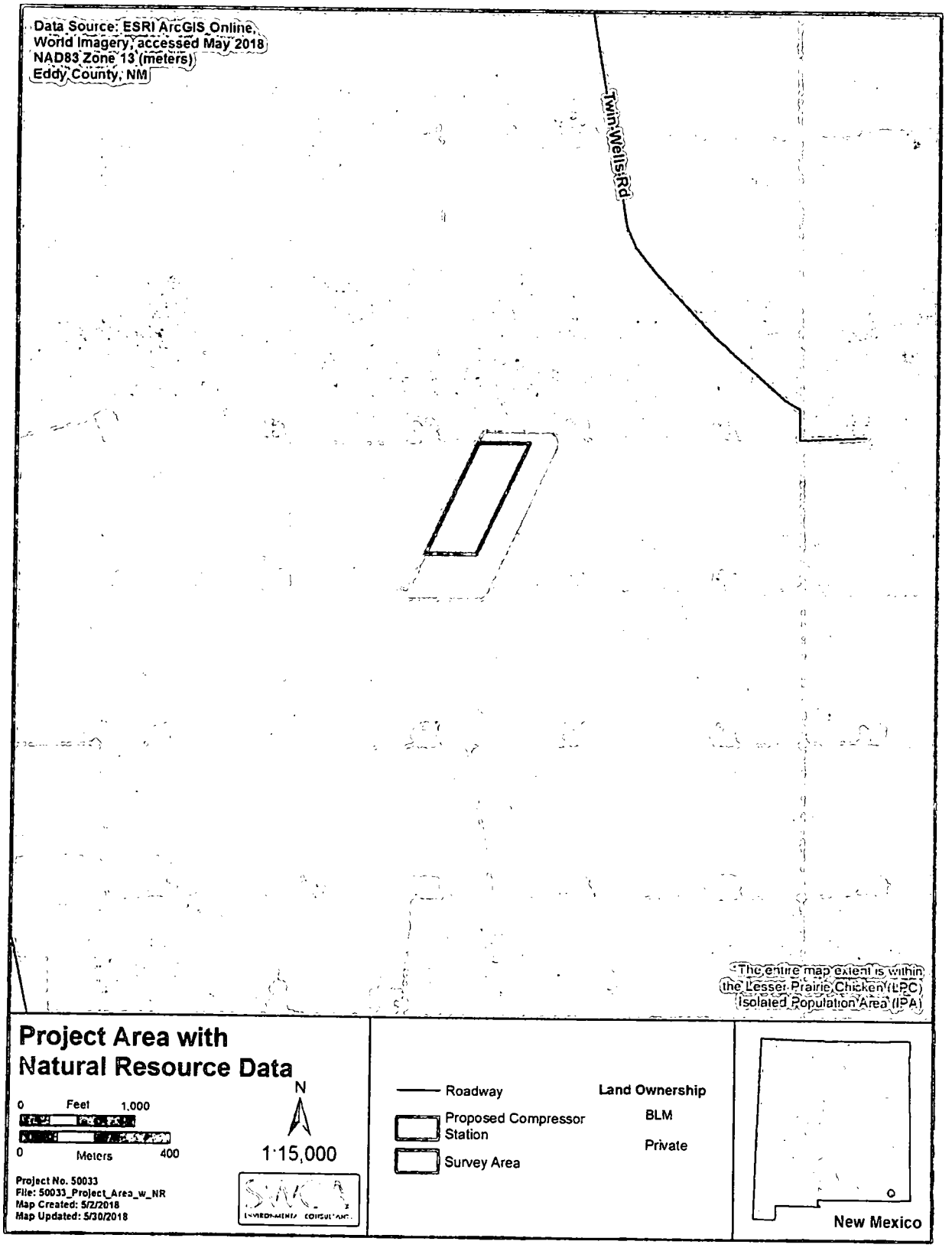
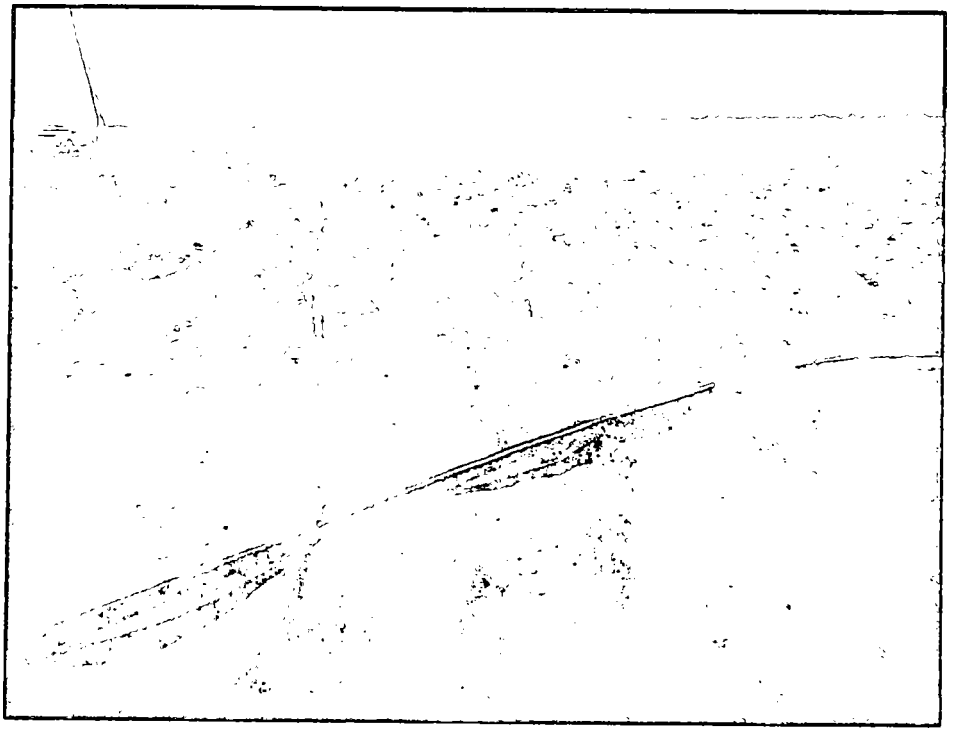
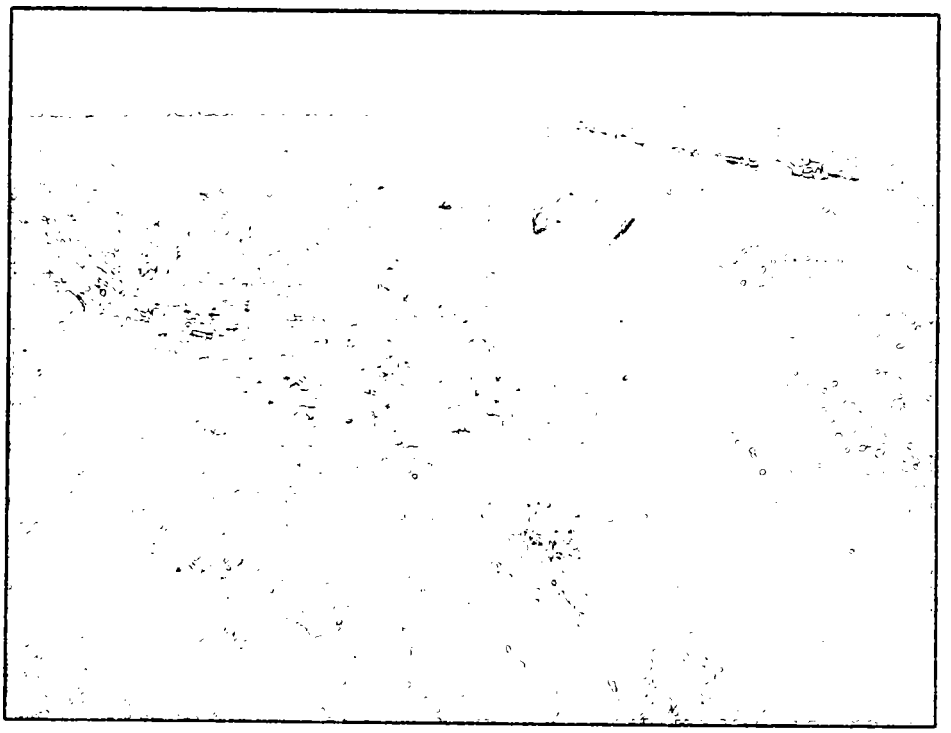


Figure A.1. Project area with natural resource data map.

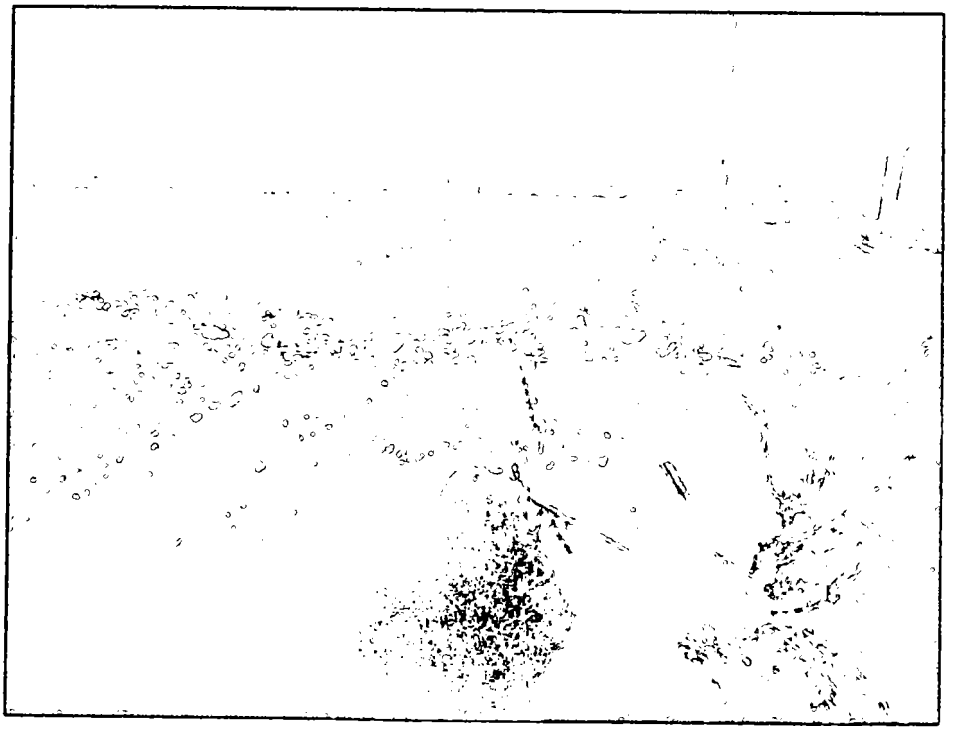
Photograph 1. View of the proposed surface site ROW and existing disturbance, facing north.



Photograph 2. View of the proposed surface site ROW and the Chihuahuan Desert mixed shrubland with interspersed honey mesquite vegetation community, facing east.



Photograph 3. View of the proposed surface site ROW, facing south.



Photograph 4. View of the proposed surface site ROW corridor and disturbance, facing west.

Appendix B. SPECIAL STATUS SPECIES LIST

Table B.1. Special Status Species for Eddy County, New Mexico

Common Name (*Species Name*)	Status[1]	Range or Habitat Requirements	Potential to [illegible]
Plants			
Gypsum wild-buckwheat (*Eriogonum gypsophilum*)	USFWS T NM E	Restricted to almost pure gypsum soil that is sparsely vegetated with other gypsophilous plants such as hairy crinklemat (*Coldenia hispidissima*), gypsum blazingstar (*Mentzelia humilis*), and southwestern ringstem (*Anulocaulis leiosolenus*); elevation 3,280–3,600 feet above mean sea level (amsl). The three known locations are north of Carlsbad at Seven River Hills, south of Black River Village, and in the drainages of Ben Slaughter Draw and Hay Hollow.	Unlikely to occur in the proposed project area due to lack of gypsum soils and sparsely vegetated areas with gypsophilous plants. Additionally, the proposed project area is not in the known distribution area.
Kuenzler's hedgehog cactus (*Echinocereus fendleri* var. *kuenzleri*)	USFWS E NM E	Primarily on gentle, gravelly to rocky slopes and benches on limestone or limy sandstone, in Great Plains grassland, oak woodland, or piñon-juniper woodland. Elevation 2,000–6,600 feet amsl.	Unlikely to occur in the proposed project area due to lack of rocky slopes, benches, and preferred vegetation communities.
Lee pincushion cactus (*Coryphantha sneedii* var. *leei*)	USFWS T NM E	Primarily cracks in limestone in areas of broken terrain and steep slopes of Chihuahuan desert scrub; elevation 4,000–5,000 feet amsl.	Unlikely to occur in the proposed project area due to lack of limestone outcrops. Additionally, the highest elevation in the proposed project area is 3,431 feet amsl.
Scheer's pincushion cactus (*Coryphantha robustispina* var. *scheeri*)	BLM Sensitive	Typically associated with gravelly or silty soil in desert grassland and Chihuahuan desert scrub. May also be found on rocky benches or bajadas on limestone or gypsum; the elevation range of this cactus is 3,300–3,600 feet amsl.	Unlikely to occur in the proposed project area due to lack of suitable desert grassland habitat and limestone or gypsum soils.
Shining coralroot (*Hexalectris nitida*)	NM E	Found in deep canyons of oak thicket habitat in the Cornudas Mountains; elevation 4,300 feet amsl.	Unlikely to occur in the proposed project area due to lack of deep canyons. Additionally, the proposed project is not located in the Cornudas Mountains, and the highest elevation in the proposed project area is 3,431 feet amsl.
Sneed pincushion cactus (*Coryphantha sneedii* var. *sneedii*)	USFWS E	Primarily cracks in limestone in areas of broken terrain and steep slopes. This subspecies is known to occur in Doña Ana County, New Mexico, and El Paso County, Texas. The elevation range of this cactus is 3,900 to 7,700 feet amsl.	Unlikely to occur in the proposed project area due to lack of limestone outcrops and steep slopes. Additionally, this species is not known to occur in Eddy County, and the highest elevation in the proposed project area is 3,431 feet amsl.

Common Name (*Species Name*)	Status[1]	Range or Habitat Requirements	Potential for [illegible]
Tharp's blue-star (*Amsonia tharpii*)	BLM Sensitive	Known from three distinct populations near Artesia and Carlsbad (Red Lake, Cedar Canyon, Ben Slaughter/Yeso Hills). Grows in soils with a limestone or gypsum component in rolling hills of Chihuahuan desert scrub communities; 3,100–3,500 feet amsl.	Unlikely to occur in the proposed project area due to lack of limestone and gypsum components. Additionally, the proposed project area is not in the known distribution area.
Wright's marsh thistle (*Cirsium wrightii*)	USFWS C	Wet, alkaline soils in spring seeps and marshy edges of streams and ponds from 3,450–8,500 feet amsl.	Unlikely to occur in the proposed project area due to lack of spring seeps and marshes along streams. Additionally, the highest elevation in the proposed project area is 3,431 feet amsl.
Invertebrates			
Ovate vertigo snail (*Vertigo ovata*)	NM T	The only known population in New Mexico is found at and near Blue Spring south of Carlsbad in Eddy County. It occurs within a few meters of the brook issuing from Blue Spring, on damp soil under the shelter of dead tree branches. The species typically occurs within close proximity of ponds, streams, and spring outflows; on living and dead vegetation, organic debris, and damp or muddy soils.	Unlikely to occur in the proposed project area due to lack of ponds, streams and spring outflows. Additionally, the proposed project is outside of the known distribution area. Additionally, the proposed project is not located in the known distribution area.
Pecos springsnail (*Pyrgulopsis pecosensis*)	BLM Sensitive NM T[2]	This species is endemic to southeastern New Mexico, known historically to occur in Blue and Castle Springs in Eddy County. This species has since been extirpated from Castle Springs. This species is part of the Candidate Conservation Agreement (CCA) implemented by the USFWS, the BLM, and Center of Excellence for Hazardous Material Management (CEHMM). It occurs on a mud and pebble substrate in its spring habitat, mainly along the edges of the water. Found on pebbles, gypsum silt, and to a lesser extent mud and submerged vegetation in a high-volume spring and spring run and associated marsh. The water is gypsum rich.	Unlikely to occur in the proposed project area because of lack of spring habitat. Also, the proposed project is not located in the known distribution area.
Texas hornshell (*Popenaias popeii*)	USFWS E NM E	Historically this species occurred in the Pecos-Rio Grande drainage. Currently, this species is found in four distinct locations, including the Black River and Delaware River in New Mexico and the lower Rio Grande and the Devil's River in Texas. This species is part of the CCA. Associated with larger streams and a variety of substrates. Imbeds itself in softer bottoms, but lodges itself in cracks and crevices, where it is probably immobile.	Unlikely to occur in the proposed project area. Construction associated with the proposed project is not anticipated to directly impact the river. Additionally, Also, the proposed project is not located in the known distribution area.

Common Name (*Species Name*)	Status [1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Fish			
Bigscale logperch (*Percina macrolepida*)	BLM Sensitive NM T [2]	Native to the Pecos River drainage, occurring mainly in and below Sumner Lake in De Baca County and between Lake McMillan (Eddy County) and the Texas state line. Smaller populations are found also near Santa Rosa, the Black River, and Willow Lake in Eddy County. Also introduced in Ute Lake in Quay County. The species' preferred habitat consists of strong, non-turbulent flows, but the species is also found in impoundments. Preferred substrate varies from silt to rubble on which the species spends much of its time resting.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Blue sucker (*Cycleptus elongatus*)	BLM Sensitive NM E [2]	Historically, this species occurred in the Pecos River, from which it has likely been extirpated. It is absent in the Rio Grande where it occurred historically. Its primary habitat consists of deep river channels with runs and riffles. Also found in pools with moderate currents and in deep lakes. This species is part of the CCA.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Headwater catfish (*Ictalurus lupus*)	BLM Sensitive	Occurs in Texas, New Mexico, and Mexico. It is native to the Pecos drainage downstream of Sumner Reservoir and also occurs in the Middle Rio Grande Basin. Its habitat consists of clear temperate waters generally with a moderate gradient. Despite competition with the channel catfish (*Ictalurus punctatus*), this species has persisted in headwater streams and in fluctuating tailwaters of dams in the Pecos River.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Gray redhorse (*Moxostoma congestum*)	BLM Sensitive NM E [2]	Formerly occurred in the Pecos River and the Rio Grande but now restricted to the lower Black River from Blue Springs to the Pecos River Confluence. This species has been reintroduced into the Delaware River by NMDGF. This species is part of the CCA. Typical habitat consists of low-gradient streams with warm, usually clear waters. Adults most often occupy medium to large pools with cobble, gravel, silt, or sand bottoms. The young and juveniles tend to seek riffles and gravely runs and avoid densely vegetated areas.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Greenthroat darter (*Etheostoma lepidum*)	BLM Sensitive NM T [2]	Native to the Pecos River drainage of Chaves and Eddy Counties. Known to occur in particular at Blue Spring and its outflow stream, in the Pecos River between Lake McMillan and Avalon Reservoir, in the Rio Peñasco and Cottonwood Creek, and at Bitter Lake National Wildlife Refuge. Found in swift-flowing streams and springs, especially vegetated riffle areas with gravel and rubble substrates. Also occurs in clear ponded-water habitats including sinkholes and littoral areas of other lentic systems with wave action and aquatic vegetation rooted in a gravel substrate.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.

Common Name (Species Name)	Status [1]	Range or Habitat Requirements	Potential for [illegible]
Mexican tetra (*Astyanax mexicanus*)	BLM Sensitive NM T [2]	Species' distribution extends from eastern New Mexico and southern Texas southward along the Atlantic slope drainages of Mexico. In New Mexico restricted largely to Blue Spring and the Delaware River in Eddy County. Also found occasionally in the Pecos River below Lake McMillan. Occupies a variety of habitats but tends to school in pools and below swift areas in eddies. Found primarily in habitats with stenothermal flows (i.e., springs). Young-of-year present in shallow water near overhanging bank vegetation.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies
Pecos bluntnose shiner (*Notropis simus pecosensis*)	USFWS T NM E	Still extant in the Pecos River from Fort Sumner to Artesia, although it has declined considerably in numbers since about 1950. Most common in main channel areas, with low-velocity water, depths of 7–12 inches, and a sandy substrate. Flood inflows from uncontrolled tributaries contribute to favorable river channel conditions.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Pecos gambusia (*Gambusia nobilis*)	USFWS E NM E	Endemic to the Pecos River Basin in southeastern New Mexico and western Texas. Natural populations still occur in New Mexico on the Bitter Lake National Wildlife Refuge and in the Salt Creek Wilderness Area (both in Chaves County), and in Blue Spring in Eddy County. Most common in heads and runs of springs, where it uses aquatic vegetation for refuge. Occupies ponds and gypsum sink holes on Bitter Lake National Wildlife Refuge and in Blue Spring, New Mexico. Associates in loose schools that spend much of the time near the surface. Inhabits shallow areas of alkaline waters with aquatic vegetation for cover.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Pecos pupfish (*Cyprinodon pecosensis*)	BLM Sensitive NM T [2]	Occurs in saline springs and gypsum sinkholes at Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park. Elsewhere, it is present irregularly in the Pecos River south from Bitter Lake and Bottomless Lakes south to the Texas state line and formerly in Laguna Grande in Eddy County. Typical habitat consists of saline springs and gypsum sinkholes; only rare in fresher water habitats including the main channel of the Pecos River. Found in backwater areas and side pools that lack sunfish or other predators. At Bitter Lake National Wildlife Refuge, numerous individuals were taken from waters in interstices of gravel from a pond drain with no surface flow.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.

Common Name (Species Name)	Status[1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Rio Grande shiner (*Notropis jemezanus*)	BLM Sensitive	Occurs in the Rio Grande downstream of the confluence of the Rio Conchos but is extirpated from the Rio Grande in New Mexico. In the Pecos River in New Mexico, it currently persists from Old Fort State Park near Fort Sumner downstream to about Brantley Reservoir, including at Bitter Lake National Wildlife Refuge. Within occupied reaches of the Pecos River, it is generally uncommon to rare. Rio Grande shiners occupy flowing water environment found large open rivers with laminar flows and a minimum of aquatic vegetation and larger streams with gravel, sand, or rubble bottoms.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.
Birds			
Baird's sparrow (*Ammodramus bairdii*)	BLM Sensitive NM T	This species is a winter resident in New Mexico. It has been found on Otero Mesa and in the Animas Valley and may occur in other areas of suitable winter habitat, particularly in the southeast portion of state. Generally prefers dense, extensive grasslands with few shrubs. Avoids heavily grazed areas.	Unlikely to occur in the proposed project area due to lack of dense, extensive grasslands with few shrubs.
Bald eagle (*Haliaeetus leucocephalus alascanus*)	BLM Sensitive NM T	Occurs in New Mexico year-round. Breeding is restricted to a few areas mainly in the northern part of the state along or near lakes. In migration and during winter months the species is found chiefly along or near rivers and streams and in grasslands associated with large prairie dog colonies. Typically perches in trees.	Unlikely to occur in the proposed project area due to the lack of suitable habitat and prairie dog colonies.
Bell's vireo (*Vireo bellii*)	BLM Sensitive NM T	In New Mexico, Bell's vireo occurs in the southern third of the state during the breeding season. The *medius* race is found in the Pecos Valley north to drainages west of Roswell, and in the Black River and Rattlesnake Springs areas south of Carlsbad. In New Mexico this species characteristically occurs in dense shrubland or woodland along lowland stream courses, with willows (*Salix* sp.), mesquite, and seepwillows (*Baccharis glutinosa*). Its distribution during breeding is typically limited to riparian habitats.	Unlikely to occur in the proposed project area due to lack of suitable habitat.
Black tern (*Chlidonias niger surinamensis*)	BLM Sensitive	Found in New Mexico only during migration and in association with wetland areas, lakes, and ponds.	Unlikely to occur in proposed project area due to lack of wetland areas, lakes, and ponds.
Broad-billed hummingbird (*Cynanthus latirostris*)	NM T	Occurs in riparian habitat or dense mesquite in canyons in southwestern New Mexico. Found in Guadalupe Canyon in Hidalgo County and rarely found in the Peloncillo Mountains.	Unlikely to occur in the proposed project area due to lack of dense mesquite associations in canyons.
Brown pelican (*Pelecanus occidentalis carolinensis*)	NM E	Occurs usually in marine habitats and feeds almost exclusively on fish. Associated with water.	Unlikely to occur in the proposed project area due to lack of perennial waterbodies.

Common Name (Species Name)	Status[1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Common black-hawk (*Buteogallus anthracinus*)	NM T[2]	Occurs in New Mexico almost exclusively during the breeding season and in migration. Breeding populations known chiefly from the Gila River valley in the southwestern portion of the state and from along the Mimbres River and the Rio Hondo watershed. Strongly tied to cottonwood (Populus sp.) gallery forests.	Unlikely to occur in the proposed project area due to lack of riparian forest.
Common ground-dove (*Columbina passerina pallescens*)	NM E[2]	Associated with shrubby riparian habitat or riparian woodland edges. Also occurs in desert scrub dominated by mesquite and pricklypear (Opuntia sp.). Feeds exclusively on the ground, in sparsely vegetated areas.	Unlikely to occur in the proposed project area due to lack of riparian woodland habitat and lack of mesquite-prickly pear dominated scrub habitat.
Ferruginous hawk (*Buteo regalis*)	BLM Sensitive	Occurs year-round in New Mexico. During the breeding season it is present in grasslands, badlands, and along the ecotone between grasslands and piñon (Pinus edulis)-juniper (Juniperus sp.) woodlands, especially in the vicinity of prairie dog towns. During the winter, ferruginous hawks are primarily associated with grasslands but may be found in other habitat types such as ponderosa pine (Pinus ponderosa) forest. Prairie dogs are important year-round in the diet of New Mexico's ferruginous hawks.	Unlikely to occur in the proposed project area due to lack of extensive open grasslands, badlands, piñon-juniper woodlands, ponderosa pine forests, or prairie dog colonies.
Grasshopper sparrow (*Ammodramus savannarum*)	BLM Sensitive	Found in grasslands and prairies with open patches of ground. It nests on the ground in a small cup-nest constructed out of grasses. Avoids areas with extensive stands of shrubs.	Unlikely to occur in the proposed project area due to lack of grasslands or prairie vegetation communities.
Gray vireo (*Vireo vicinior*)	NM T[2]	Strongly associated with piñon-juniper and scrub oak habitats. Distributed mainly across the western two-thirds of the state. Prefers gently sloped canyons, rock outcrops, ridge tops, and moderate scrub cover.	Unlikely to occur in the proposed project area due to lack of piñon-juniper and scrub oak habitats.
Interior least tern (*Sterna antillarum athalassos*)	USFWS E[2] NM E	Migratory species occurring in North America during the breeding season, when it is associated with water (e.g., lakes, reservoirs, rivers). In New Mexico, breeding is restricted to the Pecos River basin. It is known to breed primarily at Bitter Lake National Wildlife Refuge in nearby Chaves County.	Unlikely to occur in the proposed project area due to lack of habitat.
Lesser prairie-chicken (*Tympanuchus pallidicinctus*)	BLM Sensitive	This species occurs in southeastern New Mexico primarily in shinnery oak or sand sagebrush grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem, little bluestem, sand dropseed, threeawn, and blue grama.	May occur in the proposed project area. The proposed project area is within the LPC management area (BLM 2008a). This species was not observed during the 2018 biological surveys of the proposed project area.

Common Name (*Species Name*)	Status [1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Loggerhead shrike (*Lanius ludovicianus*)	BLM Sensitive	The loggerhead shrike is a year-round resident in New Mexico and is found throughout the state primarily in open country including grasslands, improved pastures, hayfields, shrub steppe, and desert scrub, as well as piñon-juniper woodland and woodland edges.	May occur in the proposed project area due to suitable Chihuahuan Desert mixed scrubland with interspersed honey mesquite habitat. This species was not observed during the 2018 biological survey of the proposed project area.
Lucifer hummingbird (*Calothorax lucifer*)	NM T	Associated with rocky slopes or hillsides, and Chihuahuan desert vegetation. Nest sites are selected on slopes above rocky or wooded washes.	Although Chihuahuan desert vegetation is present in the proposed project area, this species is unlikely to occur in the proposed project area due to lack of rocky slopes or hill sides and washes.
Mexican spotted owl (*Strix occidentalis lucida*)	USFWS T	Occupies mountainous areas and deep canyons incised within flat plateaus. Habitat consists typically of mixed-conifer, ponderosa pine, or ponderosa pine/Gambel oak (*Quercus gambelii*) forest. Prefers mesic, shaded environments such as canyon bottoms and mountainous riparian areas.	Unlikely to occur in the proposed project area due to lack of mixed-conifer, ponderosa pine, and ponderosa pine/Gambel oak forest.
Neotropic cormorant (*Phalacrocorax brasilianus*)	NM T	Associated with wetlands. Key requirements include areas of deep water for diving and elevated perches in trees, shrubs, and other structures for nesting, roosting, and drying plumage after feeding.	Unlikely to occur in the proposed project area due to lack of suitable wetland habitat.
Northern aplomado falcon (*Falco femoralis septentrionalis*)	USFWS ENEP NM E	Associated with semi-desert grasslands with scattered yuccas, mesquite, and cacti. Naturally occurring populations are essentially restricted to the southern tier of New Mexico. Species has also been reintroduced on the Armendaris Ranch in Socorro and Sierra Counties and on lands administered by the BLM, White Sands Missile Range, and the New Mexico State Land Office beginning in 2006.	According to the BLM CFO, the species' range is not known to exist east of the Pecos River; therefore, this species is unlikely to occur in the proposed project area.
Northern beardless tyrannulet (*Camptostoma imberbe ridgwayi*)	NM E	Northern boundary for the distribution of this species is in southern Arizona and southwestern New Mexico. Species breeds only in riparian areas of Guadalupe Canyon in southern Hidalgo County. Mesquite thickets and smaller trees are favored for feeding. Vulnerable to human disturbance, grazing, fire, and drought.	Unlikely to occur in proposed project area due to lack of riparian habitat and presence of existing oil and gas development and livestock grazing.
Northern goshawk (*Accipiter gentilis atricapillus*)	BLM Sensitive	Strongly associated with montane forests during breeding and in winter. Migrating populations typically follow forested ridges.	Unlikely to occur in the proposed project area due to the lack of montane forests.
Painted bunting (*Passerina ciris*)	BLM Sensitive	Painted buntings breed in dense brush, often adjacent to thick, grassy areas or woodland edges. During migration and winter, they favor dense, weedy habitats, as well as the understory of semi-open forest.	Unlikely to occur in the proposed project area due to the lack of dense brush located adjacent to thick grassland areas or woodland edges.

Common Name (Species Name)	Status[1]	Range or Habitat Requirements	Potential for Occurrence
Peregrine falcon (*Falco peregrinus; F. p. tundrius*)	NM T	Found in New Mexico year-round. All nests in New Mexico are found on cliffs. In migration and during winter months New Mexico's peregrine falcons are typically associated with water and large wetlands.	Unlikely to occur in the proposed project area due to lack of suitable wetland habitat. In addition, the proposed project area lacks large wetlands, and cliffs.
Piping plover (*Charadrius melodus*)	USFWS T NM T	Rare in New Mexico, where it occurs only during the spring and potentially fall migration. Verified at Springer Lake (Colfax County) and reported at Bosque del Apache National Wildlife Refuge (Socorro County); there was also an unsubstantiated report from Lake Avalon (Eddy County). Associated with water at all times of the year; occurs on sandflats or along bare shorelines of rivers, lakes, or coastlines.	Unlikely to occur in the proposed project area due to lack of suitable habitat.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	USFWS E NM E	In New Mexico, this species is known to breed only along the Gila River and Rio Grande. Associated with moist riparian areas throughout the year. Breeding habitat requirements vary by region. In migration, may be associated with willows along ditches, cottonwood woodlands, and saltcedar (*Tamarix* sp.) stands.	Unlikely to occur in the proposed project area due to lack of riparian habitat.
Sprague's pipit (*Anthus spragueii*)	USFWS C BLM Sensitive	Occurs in New Mexico only as a sporadic winter resident. Its distribution in the state is not well known, but includes the lower Pecos River valley, Otero Mesa, and the Animas Valley. It is associated with southern desert grasslands of the state. Species as a whole prefers dry, open grasslands.	Unlikely to occur in the proposed project area due to lack of extensive grassland vegetation community.
Thick-billed kingbird (*Tyrannus crassirostris*)	NM E	Summer resident in extreme southwestern New Mexico, where it occupies riparian canyons with cottonwoods and Arizona sycamores. Nests 30–65 feet high in Arizona sycamore (*Platanus wrightii*), usually in a crotch near the tree trunk.	Unlikely to occur in the proposed project area due to lack of riparian canyons.
Varied bunting (*Passerina versicolor*)	NM T	Characteristic of shrublands, Sonoran desert scrub, Chihuahuan desert scrub, desert riparian deciduous woodlands, and marches, second growth and inhabits a large portion of Mexico. In New Mexico, prefers dense stand of mesquite (*Prosopis* sp.) and associated growths of canyon bottoms.	Unlikely to occur in the proposed project area due to lack of dense stands of mesquite and canyon bottoms.
Western burrowing owl (*Athene cunicularia hypugaea*)	BLM Sensitive	Present mainly during the breeding season in the northern half of the state and present year-round in the southern half. Found in grasslands especially in association with prairie dog colonies, in desert scrub, and in agricultural and semi-urban environments. Depends on prairie dogs, rock squirrels (*Otospermophilus variegatus*), and other fossorial mammals for the availability of nest burrows.	Unlikely to occur in the proposed project area due to lack of prairie dogs, rock squirrels, and other fossorial mammals and associated burrows for potential nesting.

Common Name (Species Name)	Status[1]	Range or Habitat Requirements	Potential for Occurrence[2]
White-faced ibis (*Plegadis chihi*)	BLM Sensitive	Uncommon in New Mexico, where it is found statewide during migration and as a (typically non-breeding) summer resident. Breeding recorded only at Tucumcari and at Stinking Lake in Rio Arriba County. Found in association with water. Generally seen in association with shoreline and marsh habitats adjacent to open water. Nesting colonies are located in shrubs and low trees or in dense standing reeds and tules near or in marshes. Forages along the water's edge or in fields.	Unlikely to occur in proposed project area due to lack of marshes.
Reptiles			
Arid land ribbonsnake (*Thamnophis proximus diabolicus*)	NM T	The arid land ribbonsnake is found in west Texas and southeast New Mexico. This snake is found primarily around water sources such as rivers, ponds, and stock tanks. This snake feeds primarily on small frogs.	Unlikely to occur in the proposed project area due to lack of water sources.
Dunes sagebrush lizard (*Sceloporus arenicolus*)	BLM Sensitive NM E	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Chaves County, Roosevelt County, and through eastern Eddy and southern Lea Counties. This species has an extremely strong affinity for bowl-shaped depressions in active dune complexes referred to as sand dune blowouts, with a preference for relatively large blowouts and select microhabitat within a given blowout. Within their geographic range, the presence of this species is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	Unlikely to occur in the proposed project area due to lack of suitable dune habitat. In addition, the proposed project area is outside the known distribution for the species.
Gray-banded kingsnake (*Lampropeltis alterna*)	NM E	This species is known from Eddy County and may occur in Otero and southwest Chaves Counties. Occurs in typical Chihuahuan Desert habitat with abundant limestone outcroppings between 3,510 and 6,693 feet in elevation. Inhabits a variety of habitats but found primarily in rocky desert hills at medium elevations. Habitat appears to be restricted to steep to precipitous hills and mountains between approximately 3,937–5,741 feet in elevation (below the juniper zone). This species could be expected to occur throughout the limestone broken rock-Lozier association in Otero, Eddy, and southwestern Chaves Counties in New Mexico.	Unlikely to occur in the proposed project area due to lack of limestone outcrops in mid-elevation montane habitats. Additionally, the highest elevation in the proposed project area is 3,431 feet amsl.

Common Name (*Species Name*)	Status [1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Mottled rock rattlesnake (*Crotalus lepidus lepidus*)	NM T	This subspecies of rattlesnake is known only from the southern Guadalupe Mountains in Eddy and possibly Otero Counties. Key habitat areas include Walnut and Gunsight Canyons and Carlsbad Caverns National Park. Rock rattlesnakes usually occur between 3,937 and 8,530 feet in elevation in New Mexico. This snake is found in a variety of habitats, including pine-oak forests, mesquite-grasslands, and rocky desert habitats. This species is primarily a mountain dweller, but also occurs in bordering lowlands in some areas. This species favors areas of boulders and rocks including talus slopes with their abundant hiding places.	Unlikely to occur in the proposed project area due to lack of mountain habitat. Additionally, the highest elevation in the proposed project area is 3,431 feet amsl.
Plain-bellied water snake (*Nerodia erythrogaster transversa*)	NM E	In New Mexico this snake is known only from the lower Pecos Valley area (Eddy County), including along the Black River. The plain-bellied water snake is a highly aquatic species, swimming and diving with ease, and seeking prey in water. Normally confined to areas of permanent water, it may wander short distances inland, especially in wet weather. The preferred habitat is ponds and streams, the latter including fairly large rivers. This snake often hides under rocks or other objects during the day and becomes active at night. The young tend to occupy areas of shallower, more dappled water than the adults, including in inlets of small streams.	Unlikely to occur in the proposed project area due to lack of ponds and streams.
Texas horned lizard (*Phrynosoma cornutum*)	BLM Sensitive	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. These areas often consist of grasses interspersed with cacti, yucca, mesquite, and other assorted woody shrubs and trees. In New Mexico, the species is associated with *Yucca-Prosopis-Ephedra* and *Larrea-Acacia-Fouquieria* habitat associations often in playas or on bajadas and mountain foothills.	May occur in the proposed project area due to presence of marginally suitable habitat, including open mesquite associations. This species was not observed during the 2018 biological surveys of the proposed project area.
Rio Grande River cooter (*Pseudemys gorzugi*)	BLM Sensitive NM T [2]	This turtle is confined to the Pecos River drainage, including the Pecos, Black, and Delaware Rivers below Brantley Dam in Eddy County. This species is part of the CCA. All of the rivers listed above constitute key habitat areas for the species. Primarily a stream species occurring from 2,953–3,610 feet, preferring waters with slow to moderate current, firm bottoms, and abundant aquatic vegetation. Also inhabits stock tanks, ponds, large ditches, and even brackish tidal marshes. In New Mexico, most records are from streams with relatively clear water and rocky or sandy bottoms. Nests of this species are located in sandy soil, usually within 100 feet of the water.	Unlikely to occur in the proposed project area due to lack of suitable habitat.

Common Name (*Species Name*)	Status[1]	Range or Habitat Requirements	Potential for Occurrence in Project Area
Mammals			
Big free-tailed bat (*Nyctinomops macrotis*)	BLM Sensitive	This species is usually associated with high cliffs and rugged rock outcroppings, but it also roosts in buildings, under lava caves and sometimes tree holes. It is found in urban areas, agriculture, barren land, desert scrub, scrub-grassland, swamp and riparian scrub, juniper savannah, oak savannah, shortgrass plains, alkali sacaton (*Sporobolus airoides*) grasslands, montane grassland, montane forest, evergreen forest, and marsh habitat.	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.
Black-tailed prairie dog (*Cynomys ludovicianus arizonensis*)	BLM Sensitive	Native to grasslands including short- and mixed-grass prairie, sagebrush steppe, and desert grasslands. Also known to occur in mesquite-creosote bush, grama-needlegrass (*Hesperostipa comata*), tarbush (*Holocarpha* sp.)-creosote bush, and burrowgrass (*Scleropogon* sp.)-cholla (*Cylindropuntia* sp.) type habitats.	Unlikely to occur in the proposed project area due to lack of suitable grassland habitat.
Cave myotis bat (*Myotis velifer*)	BLM Sensitive	This species is found primarily at lower elevations occurring in shortgrass plains, scrub-grassland, Chihuahuan desert scrub, Sonoran desert scrub, Plains and Great Basin swamp and riparian scrub, pine-oak woodlands, and oak savannah. Inhabits caves in the limestone region of southeastern New Mexico, and it has also roosted in barn swallow (*Hirundo rustica*) nests. It is never more than a few miles from a water source, such as canals, tanks, or creeks.	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.
Fringed myotis bat (*Myotis thysanodes thysanodes*)	BLM Sensitive	A mid-elevation woodland bat that occurs in montane forest and woodland, mountain meadow, interior chaparral, scrub-grassland, alkali sacaton grassland, Chihuahuan desert scrub, swamp and riparian forests and scrub, Mohave desert scrub, upland Sonoran desert scrub, and occasionally in tundra.	Unlikely to occur in the proposed project area due to lack of water source within proposed project area and lack of typical mid-elevation habitat within the project area.
Gray-footed chipmunk (*Neotamias canipes canipes*)	BLM Sensitive	Mostly found in forested habitats such as piñon-juniper woodlands, but may also occur shrublands, and desert communities. It may occur in down and dead trees, dense stands of mixed timber, and on brushy hillsides, particularly in rock crevices.	Unlikely to occur in the proposed project area due to lack of forested/woodland habitat, dead/downed trees, brushy hillsides, and rock crevices.
Guadalupe pocket gopher (*Thomomys bottae guadalupensis*)	BLM Sensitive	Found in sycamore (Platanus sp.), cottonwood (Populus sp.), and rabbitbrush (Chrysothamnus sp.) riparian communities in the Guadalupe Mountains of southeastern New Mexico and western Texas.	Unlikely to occur in the proposed project area due to lack of riparian habitat. The proposed project area is outside the known range of the species.

Common Name (*Species Name*)	Status [1]	Range or Habitat Requirements	Potential Occurrence in Project Area
Long-legged myotis bat (*Myotis volans interior*)	BLM Sensitive	Primarily a forest species occurring in chaparral, alpine and subalpine grassland, coniferous forest, scrub-grassland, Chihuahuan desert scrub, swamp and riparian forests and scrub, saxicoline brush, oak savannah, and woodland, Mojave desert scrub, and upland Sonoran desert scrub. Also occurs along watercourses and in deserts.	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.
Pecos River muskrat (*Ondatra zibethicus ripensia*)	BLM Sensitive	This species inhabits waterways that have a constant and fairly stable source of water with dense aquatic and emergent vegetation surrounded by terrestrial herbaceous vegetation. Common muskrats prefer sloughs, marshes, oxbow lakes, streams, levees, dikes, and small lakes and ponds. Common muskrats build lodges in or near water using marsh vegetation.	Unlikely to occur in the proposed project area due to lack of freshwater habitat.
Spotted bat (*Euderma maculatum*)	BLM Sensitive NM T [2]	In New Mexico, spotted bats have been taken in areas near cliffs, including piñon-juniper woodlands and from streams or water holes within ponderosa pine or mixed coniferous forest. It has also taken over cattle tanks in a meadow surrounded by mixed coniferous forest and near a ridge with cliffs and limestone outcroppings. The spotted bat is usually captured around a water source including desert pools or cattle tanks. It also may use rivers or desert washes as travel corridors.	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.
Townsend's pale big-eared bat (*Corynorhinus townsendii pallescens*)	BLM Sensitive	Found in a variety of xeric to mesic habitats: scrub-grassland, desert scrub, semi-desert shrublands, chaparral, saxicoline brush, tundra, open montane forests, spruce-fir, mixed hardwood-conifer, and oak woodlands and forests. This species is strongly correlated to the availability of caves or cave-like habitat, but it also uses abandoned buildings and rock crevices on cliffs for roosting.	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.
Western small-footed myotis bat (*Myotis ciliolabrum melanorhinus*)	BLM Sensitive	This species is widely distributed in the western United States and found in many habitat types. Occurs in riparian wooded areas, bare rock/talus/cliffs, grassland and shrublands, and coniferous or mixed woodland areas. Generally inhabits desert, badland, chaparral, western coniferous forests and semi-arid habitats, more mesic habitats in southern part of range. In New Mexico, the distribution of this species seems to be in the ponderosa pine zone, although they occur as low as desert and as high as the lower edges of the spruce-fir zone.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of coniferous habitat, riparian woodlands, bare rock, and cliff areas within the proposed project area.

Common Name (*Species Name*)	Status [1]	Range or Habitat Requirements	Potential for [illegible]
Yuma myotis bat (*Myotis yumanensis yumanensis*)	BLM Sensitive	Occurs in riparian communities, grasslands, semi-desert shrublands, mountain brush, woodlands, and desert habitats. It also occurs in arid canyon lands and Sonoran desert scrub. The species is associated with riparian areas and watercourses in the western United States. Roosts in caves, mines, cliffs, crevices, buildings, and swallow nests, including cliff swallows (*Petrochelidon pyrrhonota*).	Unlikely to occur in the proposed project area due to lack of habitat to support roosting and maternal colonies.

Sources: Except where otherwise noted, range or habitat information for wildlife species is taken from the Biota Information System of New Mexico (2018) website, the USFWS (2018b) Information for Planning and Consultation system, NatureServe (2018), Cartron (2010) and USFWS and CEHMM (2017).

* Special status species specific to Eddy County, New Mexico

[1] Federal (USFWS) status: C = Candidate, E = Endangered, T = Threatened, ENEP = Experimental Population, Non-Essential. New Mexico State status: State E = Endangered, State T = Threatened.

[2] Species is listed as threatened or endangered by the USFWS or NMDGF; however, the species is not listed as occurring within Eddy County, New Mexico.

Appendix C. NEW MEXICO DEPARTMENT OF GAME AND FISH PIPELINE TRENCHING GUIDELINES

TRENCHING GUIDELINES

NEW MEXICO DEPARTMENT OF GAME AND FISH

September 2003

Open trenches and ditches can trap small mammals, amphibians and reptiles and can cause injury to large mammals. Periods of highest activity for many of these species include nighttime, summer months and wet weather. Implementing the following recommendations can minimize loss of wildlife.

- Keep trenching and back-filling crews close together, to minimize the amount of open trenches at any given time.

- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) that need to be assessed on a site-specific basis.

- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling, especially where endangered species occur.

On a statewide basis there are numerous threatened, endangered or sensitive species potentially at risk by trenching operations. Project initiators should seek county species list to evaluate potential impact of projects. Risk to these species depends upon a wide variety of conditions at the trenching site, such as trench depth, side slope, soil characteristics, season, and precipitation events.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Pecos District
Carlsbad Field Office
620 E Greene Street
Carlsbad, NM 88220
Finding of No Significant Impact
Serial No. NM-138302
Enterprise Field Services LLC

FINDING OF NO SIGNIFICANT IMPACT:

I have determined that the proposed action, as described in the EA (DOI-BLM-NM-P020-2018-0668-EA) will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an environmental impact statement is not required.

In making this determination, I considered the following factors:

1. The activities described in the proposed action do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b) (1)). The EA includes a description of the expected environmental consequences of the proposed action and all practical means to avoid or minimize environmental harm have been adopted.

2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b) (2).

3. The proposed activities would not significantly affect any unique characteristics (40 CFR 1508.27(b) (3)) of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, designated wilderness areas, wilderness study areas, or areas of critical concern. No such areas exist in the project area to be affected.

4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b) (4). The effects on the quality of the human environment are not likely to be highly controversial because there is no known scientific controversy over the impacts of the project.

5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b) (5). The BLM has considerable experience with the types of activities to be implemented. The effects analysis (EA, Chap 3) shows the effects are not uncertain, and do not involve unique or unknown risk.

6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6) because it conforms to all existing BLM plans and is applicable to the project area.

7. The effects of the construction of the pipeline would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). The EA discloses that there are no other connected or cumulative actions that would cause significant cumulative impacts. The cumulative impacts are not significant.

8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)).

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species act of 1973.

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Applicable laws and regulations were considered in the EA (See EA Chap 1.4). This action is consistent with the Resource Management Plan, pages AP2-8.

APPROVED:

Field Manager
Carlsbad Field Office

24 Aug 2018
Date

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Pecos District
Carlsbad Field Office
620 E Greene Street
Carlsbad, NM 88220

DECISION RECORD for DOI-BLM-NM-P020-2018-0668-EA Oxy Sand Dunes Central Site Serial No. NM-138302 Enterprise Field Services LLC

I. Decision

I have decided to select the proposed action for implementation as described in Chapter 2 and mitigation as described in Chapter 4 of the attached Environmental Assessment (EA) (DOI-BLM-NM-P020-2018-0668-EA). Based on my review of the (EA) and project record, I have concluded that the proposed action was analyzed in sufficient detail to allow me to make an informed decision. I have selected the proposed action because this action sufficiently meets the purpose and need for the action in a manner which conforms to the 1988 Carlsbad RMP and the Proposed Action is in conformance with the 1988 Carlsbad Resource Management Plan, as amended by the 1997 Carlsbad Approved Resource Management Plan Amendment (page AP2-8, Central Compressor Station).

II. Finding of No Significant Impact

I have reviewed the direct, indirect and cumulative effects of the proposed activities documented in the EA for the (DOI-BLM-NM-P020-2018-0668-EA). I have also reviewed the project record for this analysis. The effects of the proposed action and alternatives are disclosed in the Alternatives and Environmental Consequences sections of the EA. I have determined that the project is not a major federal action and will not significantly affect the quality of human environment, individually or cumulatively with other actions in the general area. I have determined that the preparation of an Environmental Impact Statement is not necessary.

III. Other Alternatives Considered

Not applicable

IV. Public Involvement

The Carlsbad Field Office (CFO) publishes a NEPA log for public inspection. This log contains a list of proposed and approved actions in the field office. The log is located in the lobby of the CFO as well as on the BLM New Mexico website (http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html). The CFO uses Geographic Information Systems (GIS) in order to identify resources that may be affected by proposed action. A map of the project area is prepared to display the resources in the area and to identify potential issues. The proposed action was circulated among CFO resource specialists in order to identify any issues associated with the project. No issues were raised by resource specialists.

V. Appeals

This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with the regulations contained in 43 CFR Part 4. Any appeal must be filed within 30 days of this decision. Any notice of appeal must be filed with the authorized officer at Carlsbad Field Office, 620 E. Greene St, Carlsbad, New Mexico 88220. The appellant shall serve a copy of the notice of appeal and any statement of reasons, written arguments, or briefs on each adverse party named in the decision, not later than 15 days after filing such document (see 43 CFR 4.413(a)). Failure to serve within the time required will subject the appeal to summary dismissal (see 43 CFR 4.413(b)). If a statement of reasons for the appeal is not included with the notice, it must be filed with the IBLA, Office of Hearings and Appeals, U. S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the authorized officer.

Notwithstanding the provisions of 43 CFR 4.21(a) (1), filing a notice of appeal under 43 CFR Part 4 does not automatically suspend the effect of the decision. This decision shall take effect when the BLM authorized officer issues a "Grant Issued" decision letter and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals (IBLA) issues a stay (43 CFR 2801.10). If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal.

A petition for a stay is required to show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied;
(2) The likelihood of the appellant's success on the merits;
(3) The likelihood of immediate and irreparable harm if the stay is not granted; and
(4) Whether the public interest favors granting the stay.

In the event a request for stay or an appeal is filed, the person/party requesting the stay or filing the appeal must serve a copy of the appeal on the Office of the Field Solicitor, U.S. Department of the Interior, Bureau of Land Management, P.O. Box 27115 Santa Fe, NM 87502-0115

Cody Layton
AFM Lands and Minerals

24 Aug 2018
Date

Field Manager
Carlsbad Field Office, BLM

24 Aug 2018
Date

Attachment(s)

1. EOG Resources Inc. Resources Environmental Assessment (DOI-BLM-NM-P020-2018-0668-EA).
2. Find of No Significant Impacts.