Form 3160-5
(August 2007)

OCD Artesia

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM94651

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: UNKNOWN OTH

8. Well Name and No.
RIVER BORE 1

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

9. API Well No.
30-015-42992

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

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

10. Field and Pool, or Exploratory
CEDAR CANYON

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*

11. County or Parish, and State
EDDY COUNTY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

We need to install a temporary road that is 12 feet wide that crosses BLM lands for a total of 173 feet. We will reclaim this road after the installation of the river bore.

This route does not cross BLM lease lines.

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 11 2016
RECEIVED

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #352033 verified by the BLM Well Information System
For OXY USA INC, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH MCKINNEY on 10/06/2016 ()

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

Signature (Electronic Submission) — Date 09/21/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date _____

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

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

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

NEPA Log No: IT4RM-P020-2016-1701-EA
Project Type: Sundry

Reference Number: --
Project Title: Cedar Canyon 29 Fed 2H

Project Lead: Brooke Wilson
Applicant: OXY USA INC

Recd Date: 09-27-2016
Routing Started: 09-27-2016

NEPA Checklist

Resource/Activity	Not Present	Not Impacted	**May be Impacted	Reviewer	COAs/Stips Req	Sign Off Date
Wastes, Hazardous or Solid	○	◉	○	Brooke Wilson	☐	09-27-2016
Public Health and Safety	○	◉	○			
Enivronmental Justice	○	◉	○			
General Topography/Surface Geology	○	○	◉	Brooke Wilson	☐	09-27-2016
Socio Economics	○	◉	○			
Lands/Realty, ROW	○	○	◉	Brooke Wilson	☐	09-27-2016
Access/Transportation	○	○	◉			
Vegetation/Forestry	○	○	◉			
Livestock Grazing	○	○	◉	Stephen Daly	☐	09-28-2016
Invasive, Non-Native Species	○	○	◉			
Soils	○	○	◉	Brooke Wilson	☐	09-27-2016
Air Quality	○	◉	○			
Floodplains	◉	○	○			
Water Quality Surface/Ground	○	○	◉	Stephen Daly	☐	09-28-2016
Watershed	○	○	◉			
Mineral Materials	○	◉	○	Brooke Wilson	☐	09-27-2016
Potash	◉	○	○	Brooke Wilson	☐	09-27-2016
Endangered Species	◉	○	○			
Wetlands/Riparian Zones	○	◉	○	Cassandra Brooks	☐	10-04-2016
Special Status Species	◉	○	○			
Wildlife Habitat	○	○	◉			
Karst Resources	○	○	◉	Brooke Wilson	☐	09-27-2016
ACECs	◉	○	○	Brooke Wilson	☐	09-27-2016
Wild/Scenic Rivers	◉	○	○			
Wilderness	◉	○	○	Brooke Wilson	☐	09-27-2016
Outdoor Recreation	○	◉	○			
Visual Resources	○	◉	○			
Native American Religious Concerns	◉ Unknown					
Cultural Resources	◉	○	○	Hila Nelson	☐	09-29-2016
Paleontology	◉ Unknown					

United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-P020-2016-1608-EA

Oxy USA Inc
Lease #: NMNM94651
Cedar Canyon 29 Fed 2H:
River Bore Temporary Access Road

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

BLM

Carlsbad Field Office

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.

TABLE OF CONTENTS

1. PURPOSE AND NEED FOR ACTION

1.1. Background

Oxy USA INC. has submitted through a sundry notice requesting permission to construct, operate, and maintain a temporary access road. The general location is approximately 10 miles southeast of Loving, NM. The legal land description of the proposed project is described as follows:

New Mexico Principal Meridian, Eddy
T. 24 S., R. 29 E.,
sec. 28, 2826 FNL 1578 FEL

Preparing Office:
Pecos District, Carlsbad Field Office
620 East Greene Street
Carlsbad, NM 88220

1.2. Purpose and Need for Action

The purpose for the action is to provide the applicant with reasonable access to transfer fluid minerals from a federal oil and gas lease.

The need for the action is established by BLM's responsibility under the Mineral Leasing Act of 1920 as amended, the Mining and Minerals Policy Act of 1970, the Federal Land Policy and Management Act of 1976, the National Materials and Minerals Policy, Research and Development Act of 1980 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 to allow reasonable access to develop a federal oil and gas lease.

1.3. Decision to be Made

The BLM would decide whether or not to approve the application(s) for permit to drill, and if so, under what terms and conditions.

1.4. Conformance with Applicable Land Use Plan(s)

The 1988 Carlsbad Resource Management Plan, as amended by the 1997 Carlsbad Approved Resource Management Plan Amendment and the 2008 Special Status Species Approved Resource Management Plan Amendment have been reviewed, and it has been determined that the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

Name of Plan: 1997 Carlsbad Approved Resource Management Plan Amendment

Date Approved: October 1997

Decision: [Page 4] "Approximately 3,907,700 acres (95 percent of the oil and gas mineral estate) would 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)." The proposed well lies within the 95 percent of oil and gas mineral estate open to development and complies with the Surface Use and Occupancy Requirements.

Name of Plan: 2008 Special Status Species Approved Resource Management Plan Amendment

Date Approved: April 2008

Decision: [Page 7] "The BLM would continue to require oil and gas lessees to conduct operations in a manner that would minimize adverse impacts to resources, land uses, and other uses. To that end, the

BLM would continue to apply reasonable mitigation measures to all oil and gas activities." The proposed action would utilize best management practices when developing leases in Lesser Prairie-Chicken and Sand Dune Lizard Habitat. Special mitigation measures would be included into the Pecos District Conditions of Approval.

1.5. Relationship to Statutes, Regulations or Other Plans

1.5.1. Other Plans

This section is intended to highlight specific statutes, regulations, or other plans. It is not intended to be a comprehensive list; instead, it allows you to highlight items specific to the proposed action.

The following is a list of statutes that may apply to a proposed action:

- **Archaeological and Historic Preservation Act of 1974 (16 USC 469)** - Provides for the preservation of historical and archeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of (1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of the terrain caused by the construction of a dam by any agency of the United States, or by any private person or corporation holding a license issued by any such agency or (2)any alteration of the terrain caused as a result of any Federal construction project or federally licensed activity or program.
- **Archaeological Resources Protection Act of 1979, as amended (16 USC 470 et seq.)** - Secures, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals.
- **Clean Air Act of 1970, as amended (42 USC 7401 et seq.)** - Defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer.
- **Clean Water Act of 1977, as amended (30 USC 1251)** - Establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.
- **Endangered Species Act of 1973 (16 USC 1531 et seq.)** - Protects critically imperiled species from extinction as a consequence of economic growth and development untempered by adequate concern and conservation.
- **Federal Cave Resources Protection Act of 1988 (16 USC 4301 et seq.)** - Protects significant caves on federal lands by identifying their location, regulating their use, requiring permits for removal of their resources, and prohibiting destructive acts
- **Lechuguilla Cave Protection Act of 1993** - Protects Lechuguilla Cave and other resources and values in and adjacent to Carlsbad Caverns National Park
- **Migratory Bird Treaty Act of 1918 (16 USC 703-712)** - Implements the convention for the protection of migratory birds
- **Mining and Mineral Policy Act of 1970, as amended (30 USC 21)** - Fosters and encourages private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security, and environmental needs
- **National American Graves Protection and Repatriation Act of 1990 (25 USC 301)** - Provides a process for museums and Federal agencies to return certain Native American cultural items such as human remains, funerary objects, sacred objects, or objects of cultural patrimony to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations and includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking
- **National Historic Preservation Act of 1966, as amended (16 USC 470)** - Preserves historical and archaeological sites

- **Wild and Scenic Rivers Act of 1968, as amended (16 USC 1271 et seq.)** - Preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations
- **Wilderness Act of 1964 (16 USC 1131 et seq.)** - Secures for the American people of present and future generations the benefits of an enduring resource of wilderness

1.6. Scoping, Public Involvement, and Issues

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 the 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. The issues that were raised include:

- How would air quality be impacted?
- How would climate change be impacted?
- How would grazing be impacted?
- How would soils be impacted?
- How would vegetation be impacted?
- How would watershed drainages be impacted?
- How would cave resources be impacted?
- How would wildlife be impacted?
- How would noxious weeds be impacted?
- How would cultural resources be impacted?
- How would paleontology resources be impacted?
- How would recreation resources be impacted?

2. PROPOSED ACTION AND ALTERNATIVE(S)

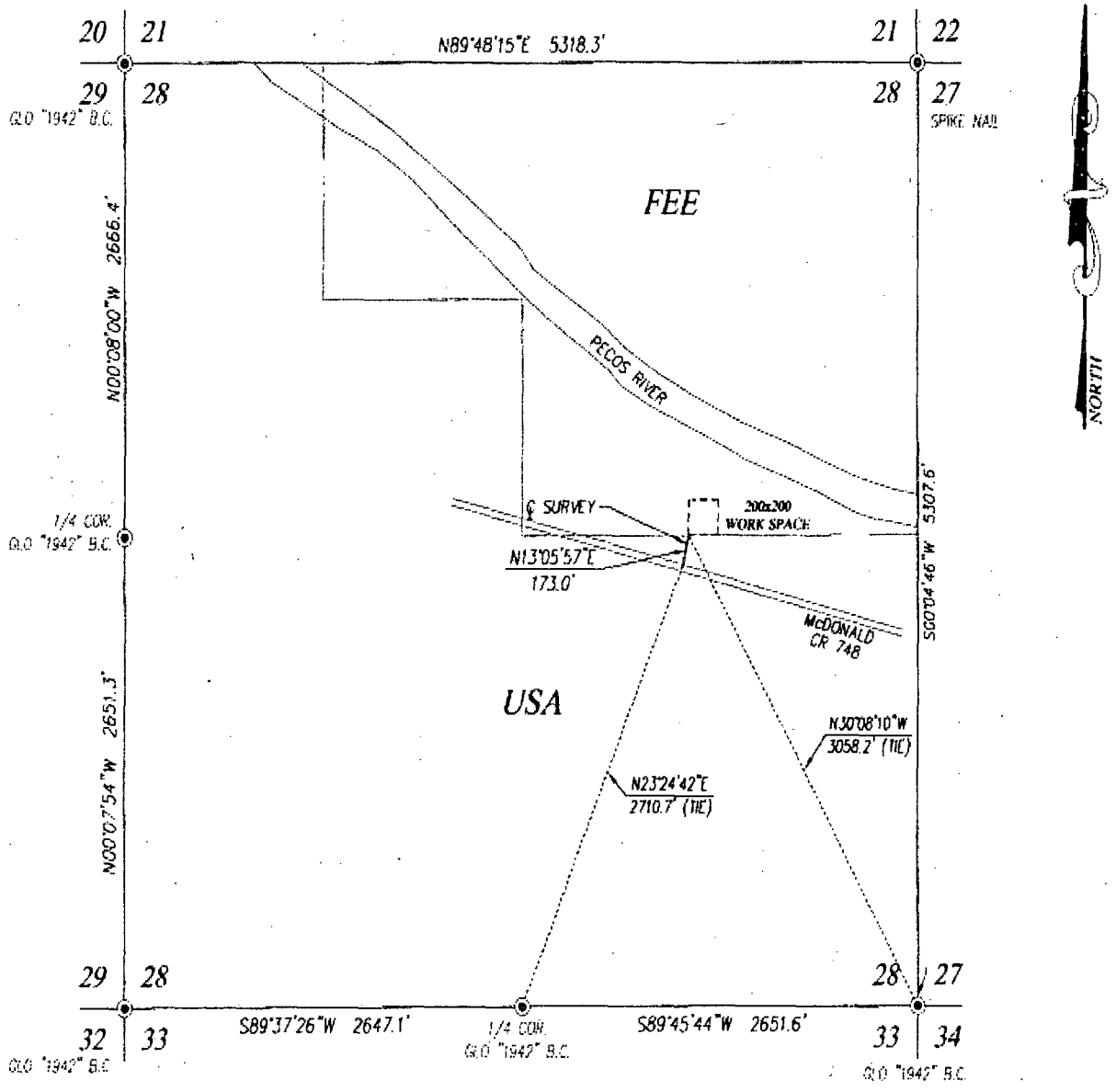
2.1. 2.1. Proposed Action

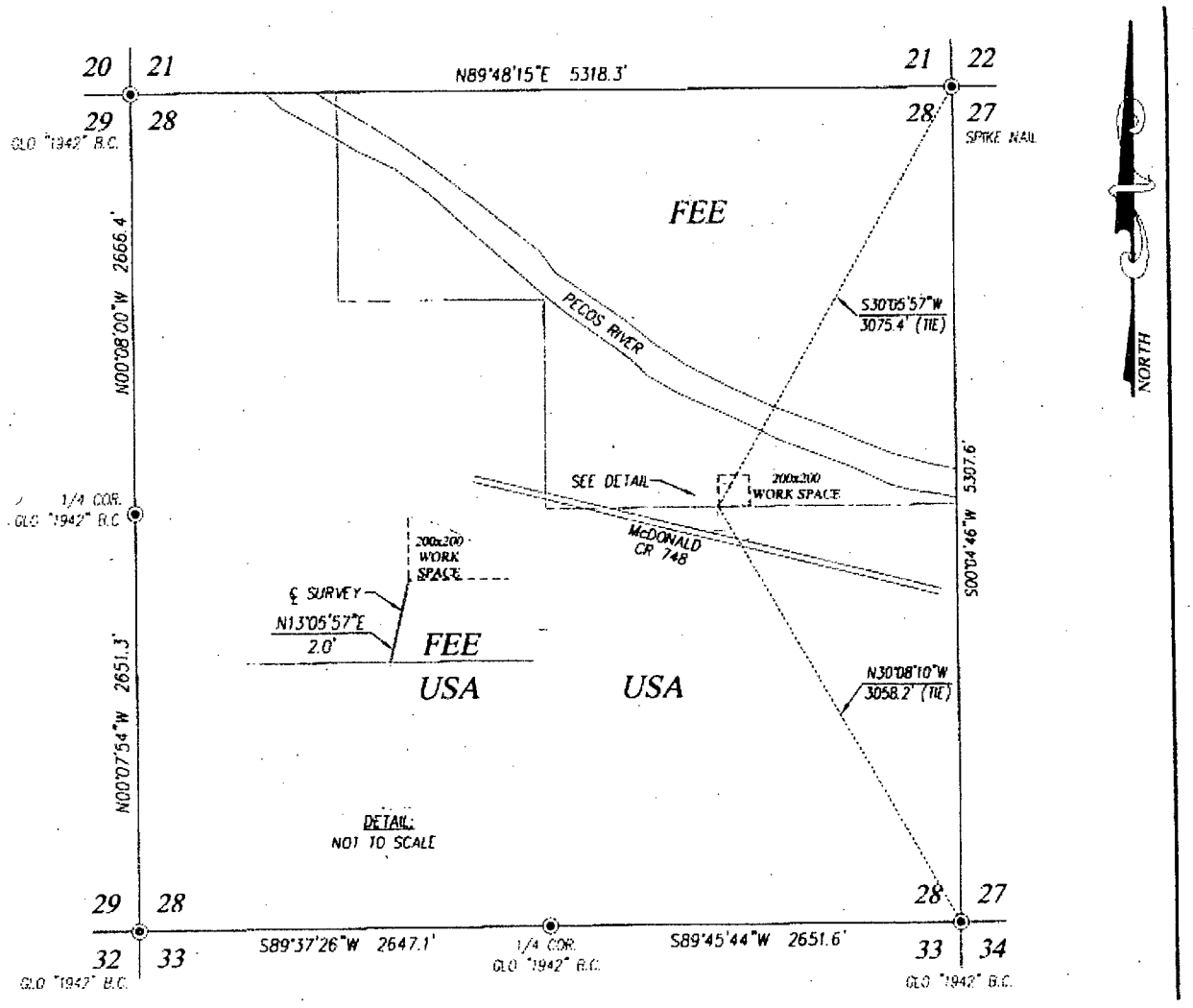
The BLM Carlsbad Field Office is proposing to allow Oxy USA Inc. to construct, operate and maintain a new temporary road to have access to the river bore Oxy is installing on private land.

Proposed Temporary Access Road:

Oxy will construct the new temporary road that is 173' feet long. The road will leave McDonald road and travel northeast 173 feet. The new road would be constructed 14 feet in width, crown and ditched and surfaced with mineral material. The disturbance width for construction would be about 20 feet.

The temporary access road length is 173 ft., and 20.0 ft. wide, for .08 acres.


20
21
N89°48'15"E 5318.3'
21
22
29
28
G.L.O. "1942" B.C.
28
27
SPIKE NAIL
FEE
PECOS RIVER
N00°08'00"W 2666.4'
1/4 COR.
G.L.O. "1942" B.C.
℄ SURVEY
200x200
WORK SPACE
N13°05'57"E
173.0'
McDONALD
CR 748
S00°04'46"W 5307.6'
USA
N30°08'10"W
3058.2' (TIE)
N23°24'42"E
2710.7' (TIE)
N00°07'54"W 2651.3'
29
28
28
27
32
33
S89°37'26"W 2647.1'
1/4 COR.
G.L.O. "1942" B.C.
S89°45'44"W 2651.6'
33
34
G.L.O. "1942" B.C.
G.L.O. "1942" B.C.
NORTH



Total Surface Disturbance:

East Pecos Federal	**0.08 Acres**

Mitigation Measures:

2.2. No Action

The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity How would not take place. 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

Field investigation of all areas of proposed surface disturbance for the Proposed Action were inspected to ensure that potential impacts to natural and cultural resources would be minimized through the implementation of mitigation measures. These measures are described for all resources potentially

impacted in Chapter 3 of this EA. Therefore, no additional alternative other than those listed above have been considered for this project.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The No Action Alternative reflects the current situation within the project area and will serve as the baseline for comparing the environmental impacts of the analyzed alternatives.

Projects requiring approval from the BLM such as Applications for Permit to Drill can be denied when the BLM determines that adverse effects to resources (direct or indirect) cannot be mitigated to reach a Finding of No Significant Impact (FONSI). Under the No Action Alternative, the proposed project would not be drilled, built or constructed and there would be no new impacts to natural or cultural resources from oil and gas production. 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 analyzed alternatives.

During the analysis process, the interdisciplinary team considered several resources and supplemental authorities. The interdisciplinary team determined that the resources discussed below would be affected by the proposed action.

3.1. Air Quality

3.1.1. Affected Environment

The two components of air resources are air quality and climate. Much of the information referenced in this section is incorporated from the Air Resources Technical Report for Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas (herein referred to as Air Resources Technical Report). This document summarizes the technical information related to air resources and climate change associated with oil and gas development and the methodology and assumptions used for analysis.

Air Quality

The Air Resources Technical Report lists the National Ambient Air Quality Standards (USDI, BLM 2013, pp.4-5), describes the types of data used for description of the existing conditions (USDI BLM, 2011, p. 5-6) and how the pollutants are related to the activities involved in oil and gas development (USDI BLM, 2011, pp.6-14). Monitored values of criteria pollutants in the Carlsbad Field Office (CFO) are described below.

Criteria Pollutants

EPA's Green Book web page (EPA, 2012) reports that the Permian Basin is in attainment for all National Ambient Air Quality Standards (NAAQS) as defined by the Clean Air Act. The CFO recently contracted with Applied Enviro Solutions (AES) to provide an emissions inventory for the field office area, including Chaves, Eddy and Lea Counties (AES, 2011). This information is more recent than that available from EPA's most recent emissions inventory and is specific to the field office area.

Table 1 shows monitored design values for ozone for the recent past in the CFO. Design values are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. Monitored design values for the other criteria pollutants are shown in **Error! Reference source not found.**. There is no monitoring conducted for lead and carbon monoxide (CO) in southeastern New Mexico; however, concentrations of these pollutants are expected to be low in rural areas and are therefore not monitored. The New Mexico Environment Department discontinued monitoring for SO_2 in Eddy County due to very low monitored concentrations. Monitoring data for PM_{10} and $PM_{2.5}$ in southeastern New Mexico are not available due to incomplete data collection.

Table 1. Ozone Monitored Design Values for the Carlsbad Field Office Area (ppm)

Site	2006-2008	2007-2009	2008-2010	2009-2011	NAAQS
Hobbs (Lea County)	0.068	0.063	0.059	0.061	0.075
Carlsbad-Artesia (Eddy County)	0.069	0.066	0.067	0.069	0.075
Source: AES, 2011 EPA, 2013					

Hazardous Air Pollutants

The Air Resources Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (USDI BLM 2013, pp. 11-13). The EPA conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP impacts by county in the U.S. 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, 2013).

Table 2. 2011 Design Concentrations of Criteria pollutants in Lea and Eddy counties (EPA, 2012)

Pollutant	Design Value	Averaging period	NAAQS	NMAAQS
O_3	0.069 ppm (Lea County)	8-hour	0.075 ppm[1]	
	0.061 ppm (Eddy County)			
NO_2	6 ppb (Lea County)	Annual	53 ppb	50 ppb
	3 ppb (Eddy County)			
NO_2	42 ppb	1-hour	100 ppb[2]	
[1] Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years [2] 98th percentile, averaged over 3 years				

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 90s (all temperatures are in Fahrenheit degrees) with occasional temperatures over 110. Winter minimum temperatures are generally in between 20s and 30s with extremes remaining above zero degrees. 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 2 shows climate normal 1981-2010 for Carlsbad.

Table 2. Climate Normals for Carlsbad, 1981-2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average 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
Average 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
Average 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
Average 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: NOAA, 2011												

The Air Resources Technical Report summarizes information about greenhouse gas emissions from oil and gas development and their effects on national and global climate conditions. While it is difficult to determine the spatial and temporal variability and change of climatic conditions; what is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change.

3.1.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Methodology and assumptions for calculating air pollutant and greenhouse gas (GHG) emissions are described in the Air Resources Technical Document (USDI BLM, 2013). This document incorporates the sections discussing the modification of calculators developed by the BLM to address emissions for one well. If more than one well is being proposed, the emissions and percentage of area emissions listed below need to be multiplied by the number of wells. The calculators give an approximation of criteria pollutant, HAP, and GHG emissions to be compared to regional and national levels (USDI BLM, 2013). Also incorporated into this document are the sections describing the assumptions that the CFO used in developing the inputs for the calculator (USDI BLM, 2013, pp.27-29).

Air Quality

Criteria Pollutants

Table 3 shows estimated emissions for criteria pollutants for a variety of activities including construction, maintenance and operations. Because the calculators are not able to estimate ozone emissions, volatile organic compounds (VOCs), a precursor to ozone, are estimated instead. Based on past development, emissions have been calculated for a maximum, minimum, and average development scenario. With the exception of operations, these emissions would be temporary and short lived.

Table 3. Criteria Pollutant Emissions Estimated for the Proposed Action Activities (tons)

		Construction	Well (Re)Completion	Well Workover	Annual Operations	Annual Road Maintenance	Reclamation
PM_{10}	Max	2.64	0.27	0.03	1.45	0.00	0.02
	Min	0.10	0.00	0.00	0.02	0.00	0.01
	Avg	0.49	0.04	0.01	0.03	0.00	0.01
$PM_{2.5}$	Max	0.74	0.00	0.01	0.21	0.00	0.00
	Min	0.14	0.00	0.00	0.02	0.00	0.00
	Avg	0.30	0.00	0.01	0.02	0.00	0.00
NO_X[a]	Max	9.46	11.67	0.22	1.14	0.00	0.00
	Min	1.96	0.00	0.04	0.46	0.00	0.00
	Avg	3.77	0.16	0.13	0.47	0.00	0.00
SO_2	Max	0.20	3.05	0.00	0.00	0.00	0.00
	Min	0.04	0.00	0.00	0.00	0.00	0.00
	Avg	0.08	0.04	0.00	0.00	0.00	0.00
CO	Max	2.61	0.08	0.08	1.35	0.00	0.00
	Min	0.50	0.00	0.01	0.92	0.00	0.00
	Avg	1.05	0.04	0.05	0.92	0.00	0.00
VOC	Max	0.74	0.04	0.02	50.02	0.00	0.00
	Min	0.14	0.00	0.00	3.50	0.00	0.00
	Avg	0.30	0.01	0.01	4.13	0.00	0.00

[a] Nitrogen oxides

Table 5 compares emissions from annual operations with total human-caused emissions for Chaves, Eddy and Lea Counties in 2007.

Table 4. Emissions from Annual Operations Compared with Area Emissions for 2007 (tons)

		Annual Operations	Area Emissions[a]	Project Emissions as a % of Area Emissions
PM_{10}	Max	1.45	78,855	0.00184
	Min	0.02	78,855	0.00003
	Avg	0.03	78,855	0.00004

$PM_{2.5}$	Max	0.21	10,673	0.00197
	Min	0.02	10,673	0.00019
	Avg	0.02	10,673	0.00019
NO_X	Max	1.14	44,749	0.00255
	Min	0.46	44,749	0.00103
	Avg	0.47	44,749	0.00105
SO_2	Max	0.00	61,956	0.00000
	Min	0.00	61,956	0.00000
	Avg	0.00	61,956	0.00000
CO	Max	1.35	60,898	0.00222
	Min	0.92	60,898	0.00151
	Avg	0.92	60,898	0.00151
VOC	Max	50.02	15,898	0.31463
	Min	3.50	15,898	0.02202
	Avg	4.13	15,898	0.02598
[a] AES, 2011				

Hazardous Air Pollutants (HAPs)

The formulas used for calculating HAPs in the calculators are very imprecise. For many processes it is assumed that emission of HAPs will be equivalent to 10% of VOC emissions. Therefore the HAP emissions reported here should be considered a very gross estimate and likely an overestimate. The calculator estimates that a minimum of 0.22 tons/year, an average of 0.31 tons/year, and a maximum of 5.63 tons/year of HAPs would be emitted during the construction, and first year of operation of a typical gas well in the Permian Basin. The emissions are a combination of HAP constituents existing in natural gas and released during the completion and operation process. Most gas vented during the completion process is flared, which substantially reduces the quantity of HAPs released.

Greenhouse Gases (GHGs)

Information about GHGs and their effects on national and global climate is presented in the Air Resources Technical Report (USDI BLM, 2013, pp. 22-23). Analysis of the impacts of the proposed action on GHG emissions are reported below. Only the GHG emissions associated with exploration and production of oil and gas will be evaluated because the environmental impacts of GHG emissions from oil and gas consumption, such as refining and emissions from consumer-vehicles, are not effects of the proposed action as defined by the Council on Environmental Quality because they do not occur at the same time and place as the action. Thus, GHG emissions from consumption of oil and gas do not constitute a direct effect that is analyzed under NEPA. Nor is consumption an indirect effect of oil and gas production because production is not a proximate cause of GHG emissions resulting from consumption. However, emissions from consumption and other activities are accounted for in the cumulative effects analysis.

The two primary GHGs associated with the oil and gas industry are carbon dioxide (CO_2) and methane (CH_4). Because CH_4 has a global warming potential 23 times greater than the warming potential of CO_2, the EPA's Office of Transportation and Air Quality (OTAQ) uses the CO_2 equivalent (CO_{2e}) which takes the difference in warming potential into account for reporting the national inventory for GHG emissions. The EPA is also moving towards using the CO_{2e} metric to characterize the benefits of its voluntary programs to be consistent with international practice and to allow for ease in comparison of emissions from different GHGs. Emissions will generally be expressed in metric tons of CO_{2e} in this document.

Estimated emissions from the calculator based on a maximum, minimum, and average development scenario are presented in Table 5.

Table 5. Estimated GHG Emissions

	Construction	Well (Re)Completion	Well Workover	Annual Operations	Annual Road Maintenance	Reclamation

CO_2	Max	1052.10	411.0	17.8	278.2	0.09	0.54
	Min	213.20	0.2	3.5	62.1	0.09	0.40
	Avg	421.30	10.1	10.6	65.0	0.09	0.42
CH_4	Max	0.01	0.0	0.0	37.6	0.00	0.00
	Min	0.00	0.0	0.0	0.4	0.00	0.00
	Avg	0.00	0.0	0.0	1.0	0.00	0.00
N_2O[a]	Max	0.01	0.0	0.0	0.0	0.00	0.00
	Min	0.00	0.0	0.0	0.0	0.00	0.00
	Avg	0.00	0.0	0.0	0.0	0.00	0.00
CO_{2e}	Max	1055.90	411.1	17.9	1068.7	0.09	0.55
	Min	214.00	0.2	3.5	70.6	0.09	0.40
	Avg	422.80	10.1	10.7	86.0	0.09	0.43
CO_{2e} metric tons	Max	958.10	373.0	16.2	969.8	0.08	0.5
	Min	194.20	0.2	3.2	64.1	0.08	0.36
	Avg	383.70	9.2	9.7	78.0	0.08	0.39

[a] Nitrous oxide

Cumulative Impacts

The CFO manages federal hydrocarbon resources in Eddy, Lea, and part of Chavez County. There are approximately 23,500 wells in these counties. About 16,060 of the wells in these counties are federal wells. Data from 2000 to 2010 indicate on average approximately 418 wells are drilled in these counties on federal mineral lands annually in the CFO.

The following analysis of cumulative impacts of the proposed action on air quality will be limited to the Permian Basin area of New Mexico. The cumulative impacts of GHG emissions and their relationship to climate change are evaluated at the national and global levels in the Air Resource Technical Report (USDI BLM, 2013).

Activities that contribute to levels of air pollutant and GHG emissions in the Permian Basin include fossil fuel industries, vehicle travel, industrial construction, potash mining, and others. A complete inventory of criteria pollutant emissions can be found in a report titled "Southeast New Mexico Inventory of Air Pollutant Emissions and Cumulative Air Impact Analysis 2007" (AES 2011). The Air Resources Technical Report includes a description of the varied sources of national and regional emissions that are incorporated here to represent the past, present and reasonably foreseeable impacts to air resources (USDI BLM, 2013). It includes a summary of emissions on the national and regional scale by industry source. Sources that are considered to have notable contributions to air quality impacts and GHG emissions include electrical generating units, fossil fuel production (nationally and regionally), and transportation.

The emissions calculator estimated that there could be very small direct increases in several criteria pollutants, HAPs, and GHGs as a result of the proposed action. Altogether, the emissions resulting from the proposed action could result in a 0.003% increase of criteria and HAP emissions in Eddy, Lea, and Chavez Counties and a 0.001% increase in GHG emissions in New Mexico (Eddy, Lea, and Chaves County GHG emissions are not currently available).

Air Quality

The very small increase in emissions that could result from approval of the proposed action would not result in Eddy, Lea, or Chavez County exceeding the NAAQS for any criteria pollutants. The applicable regulatory threshold for HAPs is the oil and gas industry National Emissions Standards for Hazardous Air Pollutants, which are currently under review by the EPA. The emissions from the proposed well are not expected to impact the 8-hour average ozone concentrations, or any other criteria pollutants in the Permian Basin.

Climate Change

The Air Resources Technical Report discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting local and regional impacts related to emissions. It is currently not feasible to know with certainty the net impacts from particular emissions associated with activities on public lands. However, the small incremental increase in GHGs from this project will not have a measurable impact on climate.

Mitigation Measures and Residual Impacts

None

3.2. Range

3.2.1. Proposed Action

The proposed action is within the Willow Lake allotment 78097. This allotment is a yearlong cow-calf deferred rotation operation. Range improvement projects such as windmills, water delivery systems (pipelines, storage tanks, and water troughs), earthen reservoirs, fences, and brush control projects are located within the allotment, but not located near the project vicinity. In general, an average rating of the range land within this area is 6 acres per Animal Unit Month (AUM). In order to support one cow, for one year, about 72 acres are needed. This equals about nine cows per section.

Direct and Indirect Effects

The loss of 0.08 acres of vegetation will not affect the Animal Unit Months (AUMs) which are authorized for livestock use in this area. There are occasional livestock injuries or deaths due to accidents such as collisions with vehicles, falling into excavations and ingesting plastic or other materials present at the work site.

Impacts to the ranching operation are reduced by the following standard practices such as utilizing existing surface disturbance, minimizing the central tank battery pad, utilizing steel tanks instead of reserve pits, 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.

3.3. Soils

3.3.1. Affected Environment

The area of the proposed action is mapped as Simona-Bippus complex, 0 to 5 percent slopes eroded. These are primarily sandy soils and are described below:

Sandy

Typically, these soils are deep, well-drained to excessively drained, non-calcareous to weakly calcareous sands. They are found on undulating plains and low hills in the "sand country" east of the Pecos River. Permeability is moderate to very rapid, water-holding capacity is low to moderate, and little runoff occurs. These soils are susceptible to wind erosion and careful management is needed to maintain a cover of desirable forage plants and to control erosion. Reestablishing native plant cover could take 3-5 years due to unpredictable rainfall and high temperatures.

Low stability soils, such as the sandy and deep sands found on this area, typically contain only large filamentous cyanobacteria. Cyanobacteria, while present in some locations, are not significant. While they occur in the top 4 mm of the soil, this type of soil crust is important in binding loose soil particles together to stabilize the soil surface and reduce erosion. The cyanobacteria also function in the nutrient

cycle by fixing atmospheric nitrogen, contributing to soil organic matter, and maintaining soil moisture. Cyanobacteria are mobile, and can often move up through disturbed sediments to reach light levels necessary for photosynthesis. Horizontally, they occur in nutrient-poor areas between plant clumps. Because they lack a waxy epidermis, they tend to leak nutrients into the surrounding soil. Vascular plants such as grasses and forbs can then utilize these nutrients

3.3.2. Impacts from the Proposed Action

Direct and Indirect Impacts

There is a potential for wind and water erosion due to the erosive nature of these soils once the cover is lost. There is always the potential for soil contamination due to spills or leaks. The biological soil crusts are susceptible to compressional damage, which is due to vehicle traffic. Disruption of the crust can result in decreased soil organism diversity, soil nutrient levels, soil stability, and organic matter. These impacts are expected to be limited to the new road. Soil contamination from spills or leaks can result in decreased soil fertility, less vegetative cover, and increased soil erosion.

Impacts to soil resources are reduced by the following standard practices which include: utilizing existing surface disturbance, minimizing the central tank battery pad, 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.

Mitigation Measures and Residual Impacts

None

3.4. Vegetation

3.4.1. Affected Environment

Sandy Soil Type Plant Communities

Vegetation within this project area is dominated by warm season, short and midgrasses such as black grama, bush muhly, various dropseeds, and three-awns. Bluestems, bristlegrass, lovegrasses, and hooded windmillgrass make up some of the less common grasses. Shrubs include mesquite, shinnery oak, sand sagebrush, broom snakeweed, and yucca. A large variety of forbs occur and production fluctuates greatly from year to year, and season to season. Common forbs include bladderpod, dove weed, globemallow, annual buckwheat, and sunflower.

3.4.2. Impacts from the Proposed Action

Direct and Indirect Impacts

0.08 acres of vegetation would be removed when the central tank battery pad is constructed. This impact would last as long as the well is productive. When the central tank battery is no longer deemed necessary the pad will be reclaimed and potentially re-vegetates in 3-5 years, depending on timely rainfall. By using the proper seed mix (Seed Mixture 2/Sandy Soil), good seed bed preparation, and proper seeding techniques, this impact would be short term, two or three growing seasons.

Impacts to vegetation are reduced by the following standard practices which include: utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, utilizing steel tanks instead of reserve pits, 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.

Mitigation Measures and Residual Impacts

Interim reclamation will 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.

3.5. Watershed-Drainages

3.5.1 Affected Environment

The area of the proposed action drains in a northeast direction into the Pecos River about 670 feet away. Overland flow reaches the Pecos River during times of heavy rain, and it is likely a source of groundwater recharge. The ground water recharge is from local precipitation entering through playas, sinkholes and swallets. Water quality and quantity is influenced by physical, chemical, and biological reactions that occur as water moves over and through the land surface toward streams and into aquifers. The rate at which water moves through the watershed strongly affects these reactions.

Direct and Indirect Impacts

Ephemeral surface water from local rain events will wash down-slope through the area of the proposed action. Localized decreases in vegetative surface cover combined with the caliche covering the pad and road could result in decreased infiltration rates and increased runoff volume and velocity. This causes increased erosion, top soil loss, and sedimentation.

Water quality can be adversely affected following the occurrence of an undesirable event such as a leak or spill.

Standard practices or design features of the proposed project that minimize impacts to the watershed and water quality include: utilizing a closed loop system with no reserve pits, berming of the production facilities, utilizing existing surface disturbance, minimizing the well pad and access road total surface disturbance, minimizing vehicular use, surfacing parking and staging areas with caliche and reclaiming the areas not necessary for production and quickly reestablishing vegetation on the reclaimed areas.

Mitigation Measures and Residual Impacts

- Surface disturbance will not be allowed within 660 feet of the Pecos River.
- Any water erosion that may occur due to the construction of the road during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

3.6. Karst Resources

3.6.1. Affected Environment

The proposed project is located in gypsum karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Gypsum karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region.

The BLM categorizes all areas within the Carlsbad Field Office as having either low, medium, high or critical cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to fresh water aquifers. This project occurs within a high karst zone. A high karst zone is defined as an area in known soluble rock types that contain a high frequency of significant caves and karst features such as sinkholes, bedrock fractures that provide rapid recharge of karst aquifers.

Field notes from the on-site inspection indicate that no surface expressions of karst were observed. Unknown features may also exist. Due to these factors, this action is subject to mitigation measures designed to adequately protect known and potential cave/karst resources.

Sinkholes and cave entrances collect water and can accumulate rich organic materials and soils. This, in conjunction with the stable microclimate near cave entrances, support a greater diversity and density of plant life which provides habitat for a greater diversity and density of wildlife such as raptors, rodents, mammals, and reptiles.

The interior of the caves support a large variety of troglobitic, or cave environment-dependent species. The troglobitic species have adapted specifically to the cave environment due to constant temperatures, constant high humidity, and total darkness. Some of the caves in the area may contain bat colonies. Caves in this area may contain fragile cave formations known as speleothems.

3.6.2. Impacts from the Proposed Action

Direct and Indirect Effects

A possibility exists for slow subsidence or sudden collapse of a sinkhole, cave passage, or void during excavation operations, with associated safety hazards to the operator and potential for increased environmental impact. These subsidence processes can be triggered or enhanced by intense vibrations from construction or rerouting or focusing of surface drainages.

Mitigation Measures

There are no mitigation measures for this project, as currently proposed.

3.7. Wildlife

3.7.1. Affected Environment

This project occurs in a transition zone from Chihuahuan Desert habitat type to the west and to a sand shinnery habitat type to the east and is primarily dominated by mesquite scrublands intermixed with various grasses. This mesquite scrubland community extends across the southern Great Plains, occupying portions of north and west Texas, western Oklahoma, and southeast New Mexico. Portions of Eddy and Lea counties consist of mesquite scrublands to a lesser degree. The characteristic feature of the mesquite scrubland community is co-dominance by various species of grasses and cacti.

Various bird, mammal, reptile and invertebrate species inhabit this ecosystem in southeast New Mexico. Herbivorous mammals include mule deer, pronghorn, and numerous rodent species. Carnivores include coyote, bobcat, badger, striped skunk, and swift fox. Two upland game bird species, scaled quail and mourning dove, are prevalent throughout southeast New Mexico. Many species of songbirds nest commonly, with a much larger number that use the habitat during migration or for non-nesting activities. Common avian predators include northern harrier, Swainson's hawk, red-tailed hawk, kestrel, burrowing owl, and Chihuahuan raven. Numerous snake and lizard species also inhabit this ecosystem.

3.7.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Impacts of the proposed action to wildlife in the localized area may include: possible mortality, habitat degradation and fragmentation, avoidance of habitat during construction and drilling activities and the potential loss of burrows and nests.

Standard mitigation measures and elements of the proposed action minimize these impacts to wildlife. These include: the NTL-RDO 93-1 (modification of open-vent exhaust stacks to prevent perching and entry from birds and bats), nets on open top production tanks, interim reclamation, closed loop systems, exhaust mufflers, berming collection facilities, minimizing cut and fill, road placement, and avoidance of wildlife waters, stick nests, drainages, playas and dunal features. These practices reduce mortality to wildlife and allow habitat to be available in the immediate surrounding area thus reducing stressors on wildlife populations at a localized level. Impacts to local wildlife populations are therefore expected to be minimal.

Mitigation Measures and Residual Impacts

None

3.8. Noxious Weeds and Invasive Plants

3.8.1. Affected Environment

There are four plant species within the CFO that are identified in the New Mexico Noxious Weed List Noxious Weed Management Act of 1998. These species are African rue, Malta starthistle, Russian olive, and salt cedar. African rue and Malta starthistle populations have been identified throughout the Carlsbad Field Office and mainly occur along the shoulders of highway, state and county roads, lease roads and well pads (especially abandoned well pads). The CFO has an active noxious weed monitoring and treatment program, and partners with county, state and federal agencies and industry to treat infested areas with chemical and monitor the counties for new infestations. African Rue was treated along McDonald Road in 2011.

3.8.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Any surface disturbance can increase the possibility of establishment of new populations of invasive, non-native species. The construction of the proposed action may contribute to the establishment and spread of African rue and Malta starthistle. The main mechanism for seed dispersion would be by equipment and vehicles that were previously used and/or driven across noxious weed infested areas. Noxious weed seed could be carried to and from the project area by construction equipment and transport vehicles.

Mitigation Measures and Residual Impacts

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

3.9. Cultural and Historical Resources

3.9.1. Affected Environment

The project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 11,500 – 7,000 B.C.), Archaic (ca. 6,000 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 to present). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in The Human Landscape in Southeastern New Mexico: A Class I Overview of Cultural Resources Within the Bureau of Land Management's Carlsbad Field Office Region, published in 2012 by SWCA Environmental Consultants.

Native American Religious Concerns
The BLM conducts Native American consultation regarding Traditional Cultural Places (TCP) and Sacred Sites during land-use planning and its associated environmental impact review. In addition, during the oil & 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 Traditional Cultural Properties, the BLM has very little knowledge of tribal sacred or traditional use sites, and these sites may not be apparent to archaeologists performing surveys.

3.9.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Cultural resources on public lands, including archaeological sites and historic properties, are protected by federal law and regulations (Section 106 of the National Historic Preservation Act and the National Environmental Policy Act). Class III cultural surveys will be conducted of the area of effect for realty or oil and gas projects proposed on these lands prior to the approval of any ground disturbing activities to identify any resources eligible for listing on the National Register of Historic Places. Cultural resource inventories minimize impacts to cultural sites and artifacts by avoiding these resources prior to construction of the proposed project. If unanticipated or previously unknown cultural resources are discovered at any time during construction, all construction activities shall halt and the BLM authorized officer will be immediately notified. Work shall not resume until a Notice to Proceed is issued by the BLM.

A Class III cultural resource inventory (10-NM-523-0430) was conducted and no historic properties were identified within the area of potential effect.

Mitigation Measures and Residual Impacts

Due to the high density of cultural resources in the area and the fact that the survey was conducted in 2010 the BLM-CFO is requesting that an archaeological monitor be present during construction of the temporary road.

3.10. Paleontology

3.10.1. 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 nonrenewable 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 (PRPA), the Federal Land Policy and Management Act of 1976 (FLPMA), and the National Environmental Policy Act of 1970 (NEPA). BLM has also developed policy guidelines for addressing potential impacts to paleontological resources (BLM, 1998a,b; 2008, 2009). 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 1-5, 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.

3.10.2. Impacts from the Proposed Action

Direct and Indirect Effects

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 a PFYC Class 2: Alluvium; upper and middle Quaternary. A pedestrian survey for paleontological resources was not necessary and there should be no impacts to paleontological resources.

Mitigation Measures

There are no mitigation measures for this project, as currently proposed.

3.11. Visual Resource Management

3.10.1. Proposed Action

The Visual Resource Management (VRM) program identifies visual values, establishes objectives in the RMP for managing those values, and provides a means to evaluate proposed projects to ensure that visual management objectives are met.

This proposed project occurs within a Visual Resource Management Class IV zone. The objective of VRM Class IV is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic landscape elements of color, form, line and texture.

Direct and Indirect Effects

This project will cause some short term and long-term visual impacts to the natural landscape. Short term impacts occur during construction operations and prior to interim reclamation. These include the presence of construction equipment vehicle traffic. However, interim reclamation, conducted within 6 months after construction will reduce this area by about 1/3 by recontouring and revegetating.

Long term impacts are visible to the casual observer through the life of the well. These include the visual evidence of storage tanks, piping, pump jacks, pads and roads which cause visible contrast to form, line, color, and texture. Removal of vegetation due to road and drill pad construction exposes bare soil lighter in color and smoother in texture than the surrounding vegetation. The surfacing of these areas with caliche materials causes further contrasts. Those contrasts will be visible to visitors in the area.

After final abandonment and reclamation, the pad, road and associated infrastructure will be removed, reclaimed, recontoured and revegetated, thereby eliminating visual impacts.

Short and long term impacts are minimized by best management practices such as color selection, reducing cut and fill, screening facilities with natural features and vegetation, interim reclamation and contouring roads along natural changes in elevation.

Mitigation Measures and Residual Effects

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color Shale Green, Munsell Soil Color No. 5Y 4/2"

3.12. Impacts from the No Action Alternative

The No Action Alternative is used as the baseline for comparison of environmental effects of the analyzed alternatives. Under the No Action Alternative, the proposed project would not be drilled, built or constructed and there would be no new direct or indirect impacts to natural or cultural resources from oil and gas production. The natural and cultural resources in the project area would continue to be managed under the current land and resource uses.

3.13 Cumulative Impacts

Cumulative impacts are the combined effect of past projects, specific planned projects, and other reasonably foreseeable future actions within the project study area to which oil and gas exploration and development may add incremental impacts. This includes all actions, not just oil and gas actions, that may occur in the area including foreseeable non-federal actions.

The combination of all land use practices across a landscape has the potential to change the visual character, disrupt natural water flow and infiltration, disturb cultural sites, cause minor increases in greenhouse gas emissions, fragment wildlife habitat and contaminate groundwater. However, the likelihood of these impacts occurring is minimized through standard mitigation measures, special Conditions of Approval and ongoing monitoring studies.

All resources are expected to sustain some level of cumulative impacts over time however these impacts fluctuate with the gradual abandonment and reclamation of wells. As new wells are being drilled, there are others being abandoned and reclaimed. As the oil field plays out, the cumulative impacts will lessen as more areas are reclaimed and less are developed.

4. SUPPORTING INFORMATION

4.1. List of Preparers

Prepared by: Brooke Wilson, Natural Resource Specialist, BLM-CFO

Date: 9/26/16

The following individuals aided in the preparation of this document:

Hila Nelson, Archaeologist, BLM-CFO
Cassandra Brooks, Wildlife Biologist, BLM-CFO
Steve Daly, Soil Conservationist, BLM-CFO

4.2. References

Applied Enviro Solutions (AES). 2011. Southeast New Mexico Inventory of Air Pollutant Emissions and Cumulative Air Impact Analysis 2007. BLM. Carlsbad Field Office.

Curtis, D., and Beierman, H., 1980. Playa lakes characterization study: U.S. Department of the Interior, Fish and Wildlife Service, Ecological Services Office, Fort Worth, Texas, 54 p.

Gurdak, J.J., and Roe, C.D., 2009. Recharge rates and chemistry beneath playas of the High Plains aquifer – A literature review and synthesis: U.S. Geological Survey Circular.

Environmental Protection Agency. 2013. The Green Book Non Attainment Areas for Criteria Pollutants. http://www.epa.gov/airquality/greenbk/ (Accessed 3/15/2013).

Environmental Protection Agency. 2013. 2005 National-Scale Air Toxics Assessment. Summary of Results. http://www.epa.gov/ttn/atw/nata2005.

Environmental Protection Agency. 2013. Air Trends: Design Values. http://www.epa.gov/airtrends/values.html.

Melcher, C.P., and S.K. Skagen. 2005. Grass buffers for playas in agricultural landscapes: a literature synthesis: U.S. Geological Survey Open-File Report 2005-1220. 35 p.

NOAA. 2011. NOAA's 1981-2010 Climate Normals. National Climatic Center. http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html. (Accessed July 1, 2011).

Railey, J. A. 2012 The Human Landscape in Southeastern New Mexico: A Class I Overview of Cultural Resources Within the Bureau of Land Management's Carlsbad Field Office Region. SWCA Environmental Consultants, Albuquerque, New Mexico.

USDI. BLM. 2013. Air Resources Technical Report for Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas. New Mexico State Office.

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 the

Oxy USA Inc
Lease #: NMNM94651
Cedar Canyon 29 Fed 2H:
River Bore Temporary Access Road

NEPA No. DOI-BLM-NM-P020-2016-1608-EA

I. Decision

I have decided to select the proposed action for implementation as described in the 6/21/16, Cedar Canyon 29 Fed 2H temporary access. Based on my review of the Environmental Assessment (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 this alternative because the proposed treatments will provide reasonable access to oil and gas development.

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-P020-2016-1608-EA. I have also reviewed the project record for this analysis. The effects of the proposed action are disclosed in the Environmental Consequences sections of the EA. I have determined that the proposed action as described in the EA will not significantly affect the quality of the human environment. Accordingly, I have determined that the preparation of an Environmental Impact Statement is not necessary.

III. Other Alternatives Considered

No reasonable action alternative was substantially different in design or effects from the proposed action for this project. Therefore no other alternative was considered or analyzed.

Other action alternatives were substantially similar in design and had sustainably similar effects to the proposed action alternative analyzed in the EA. Therefore no other alternative was considered or analyzed.

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).

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 George MacDonell, Carlsbad Field Manager, at 620 E.Greene St., Carlsbad, NM 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 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 George MacDonell, Carlsbad Field Manger.

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. 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, 1100 Old Santa Fe Trail, Santa Fe, NM 87505.

James A. Amos for

George MacDonell
Field Manager

10-5-16
Date

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

Oxy USA Inc
Lease #: NMNM94651
Cedar Canyon 29 Fed 2H:
River Bore Temporary Access Road

NEPA No. DOI-BLM-NM-P020-2016-1608-EA

FINDING OF NO SIGNIFICANT IMPACT:

I have determined that the proposed action, as described in the 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 a temporary access road.

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.

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)).

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)).

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)).

7. The effects of a new pad site for a flare, new access road, and a surface gas 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.

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)). Cultural resource surveys were completed.

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)).

10. The proposed activities will not knowingly threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). *Section 1.4 and 1.5 of the EA.*

APPROVED:

James A. Amon for

George MacDonell
Field Manager
Carlsbad Field Office

10-5-16
Date