

**United States Department of the Interior  
Bureau of Land Management**

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**Western Refining Southwest, Inc. 70-12 Pipeline Project  
in Chaves and Eddy Counties, New Mexico**

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## List of Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
AQB	Air Quality Bureau
ARMS	Archaeological Records Management Section
AT&SF	Atchison, Topeka and Santa Fe
AUMs	Active animal unit months
BA	Biological Assessment
BBL/D	Barrels per day
BMPs	Best management practices
BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe Railway
CCA	Candidate Conservation Agreement
CCAA	Candidate Conservation Agreement with Assurances
CEHMM	Center of Excellence for Hazardous Materials Management
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CI	Certificate of Inclusions
CMA	Core management area
COA	Condition of Approval
CP	Certificate of Participation
DSL	Dunes sagebrush lizard
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
ESA	Endangered Species Act of 1973
FLPMA	Federal Land Policy and Management Act
GPS	Global positioning system
HEA	Habitat equivalency analysis
HPD	Historic Preservation Division
H <sub>2</sub> S	Hydrogen sulfide
ID	Interdisciplinary
IMs	Isolated manifestations
IPA	Isolated population area
LPC	Lesser prairie-chicken
MBTA	Migratory Bird Treaty Act
MSDS	Material Safety Data Sheet
NMDOT	New Mexico Department of Transportation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NMDA	New Mexico Department of Agriculture
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMOCD	New Mexico Oil Conservation Division
NMRPTC	New Mexico Rare Plant Technical Council
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHWM	Ordinary high water mark
OHV	Off-highway vehicle

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O&M	Operations and Maintenance
OSHA	U.S. Department of Labor, Occupational Health and Safety Administration
PA	Permian Basin Programmatic Agreement
POD	Plan of Development
PPA	Prime population area
RCRA	Resource Conservation and Recovery Act
RMP	Carlsbad Resource Management Plan
RMPA	Carlsbad Approved Resource Management Plan Amendment
ROD	Record of Decision
ROW	Right-of-way
SLO	New Mexico State Land Office
SMA	Special Management Area
SSPA	Sparse and scattered population area
SWCA	SWCA Environmental Consultants
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional cultural properties
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator
VRM	Visual resource management

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# 1 PURPOSE AND NEED FOR ACTION

## 1.1 Background

Western Refining Southwest, Inc. (Western) has submitted a Standard Form (SF) 299 Right-of-Way (ROW) application to the Bureau of Land Management (BLM) Carlsbad Field Office (CFO) requesting the long-term use of public lands for the purpose of installing a 75.43-mile 12-inch pipeline to transport crude oil for private use in El Paso, Texas. Western is requesting a 50-foot ROW grant from the BLM CFO—to include 30 feet of permanent ROW and 20 feet of temporary workspace ROW. The BLM has assigned this project the ROW case file number: NM 131400. The majority of the project is proposed on BLM-managed lands located in Chaves and Eddy Counties, along with 10 acres on New Mexico State Land Office (SLO) land in Eddy County and 10 acres on private land located in Chaves County, New Mexico. The proposed pipeline consists of approximately 62.01 miles of BLM land, 12.13 miles of SLO land, and 1.28 miles of private lands. The legal description for the proposed pipeline is listed below in Table 1.1. The CFO would serve as lead federal agency for the undertaking.

The proposed project is located in Eddy and Chaves Counties, approximately 20 miles east of Carlsbad, New Mexico. The proposed pipeline would transport crude oil, beginning near New Mexico State Highway (NM Hwy) 249 (NM 249-Aberdeen Road) in Chaves County and traveling south to the terminus located at the Western's T Mason Station on Pipeline Road in Eddy County (Figure 1.1). See Appendix A for more detailed maps of the project area.

In addition to proposed pipeline facilities, Western proposes installing 22 temporary workspaces and right-of-way for three aboveground station facilities. These stations may accommodate unloading of crude oil from trucks, pipeline arriving metering, tank storage, pumping, departing metering, biocide and drag-reducing agent injections, wet oil treatment, and pigging facilities for pipeline maintenance. Bogle Tract-Station H249 would consist of approximately 10 acres located on private land near NM 249-Aberdeen Road; Loco Hills Site-Station H82 would consist of approximately 10 acres located on BLM land near U.S. Highway 82 directly south of the town of Loco Hills; and SLO Site-Station H62 would consist of approximately 10 acres on SLO land near U.S. Highway 62. The legal descriptions for these facilities are shown in Table 1.1.

**Table 1.1. Legal Description of Proposed Action Pipeline and Aboveground Appurtenant Facilities**

Name	Size (acres)	Legal Description	County
Bogle Tract-Station H249	10	Section 1, T15SR29E	Chaves County
Loco Hills Site-Station H82	10	Section 29, T17SR30E	Eddy County
SLO Site-Station H62	10	Section 36, T20SR30E Section 1, T21SR29E	Eddy County
Temporary workspaces	48.28	Sections 1,2,12,25,36 T15SR29E Sections 32,33 T16SR30E Sections 20,29 T17SR30E Sections 5,8 T19SR30E Sections 3,4,36 T20SR30E Sections 1,12 T21SR29E Sections 8,26,27,35 T22SR30E Section 2, T23SR30E Sections 23,35 T24SR30E Sections 22,23 T25SR30E	Chaves and Eddy Counties
Proposed Pipeline	Temporary: 376.97 Permanent: 249.43 Total: 376.97	Sections 1,2,12,13,24,25,36 T15SR29E Sections 5,8,17,20,29,32 T16SR30E Sections 5,8,17,20,28,29,33 T17SR30E Sections 4,5,9,16,17,20,29,32 T18SR30E Sections 5,9,8,16,21,28,33 T19SR30E Sections 3,4,10,14,15,24,23,25,36 T20SR30E Sections 1,12,13,24,25 T21SR29E Sections 30,31 T21SR30E Sections 5,6,8,16,17,22,21,26,27,35 T22SR30E Sections 2,11,14,23,26,27,34 T23SR30E Sections 3,10,15,23,22,26,27,35,34 T24SR30E Sections 2,11,14,13,23,26,27,34 T25SR30E Sections 3,10,9 T26SR30E	Chaves and Eddy Counties

As part of the application process, a Plan of Development (POD) is required and has been prepared. The appropriate information from the POD has been incorporated into the Proposed Action of this environmental assessment (EA).

SWCA Environmental Consultants (SWCA) conducted a biological survey of the proposed disturbance areas and the results of that survey are included in the biological assessment (BA), which is included as Appendix B to this EA (SWCA 2014). Additionally, SWCA prepared a cultural resources inventory report for the proposed project. SWCA conducted an archaeological survey of the project area—SLO and private lands within the Permian Basin Programmatic Agreement (PA), and BLM lands outside the PA—to aid in complying with Section 106 of the National Historic Preservation Act (NHPA). The majority of the land is managed by the BLM CFO within the PA. Biological resource surveys were conducted in February

and April 2014 and cultural resource surveys were conducted over three sessions between December 2013 and February 2014.

This 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. The project record contains an interdisciplinary analysis to support the findings in this document. This EA analyzes the site-specific impacts associated with the Proposed Action and its alternatives, 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.

## 1.2 Purpose and Need for Action

The BLM's purpose is to provide Western with the legal use of, and access across, public lands managed by the BLM by granting a 50-foot ROW for the crude transport pipeline project. 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 action is established by the BLM's responsibility under the Federal Land Policy and Management Act (FLPMA) to respond to an application for an ROW grant for use of federal land. The Western proposed pipeline is needed infrastructure due to the Western Gallup refinery being at full capacity. The proposed pipeline would provide the necessary infrastructure to connect to the El Paso refinery due to its additional capacity for extra crude oil. The BLM will decide whether to grant the ROW, and if so, under what terms and conditions.

## 1.3 Conformance with Applicable Land Use Plan(s)

The Proposed Action and Alternative B are in conformance with the 1988 Carlsbad Resource Management Plan (RMP) (BLM 1988). The 1988 RMP has been amended twice—once in 1997 and again in 2008. The 1997 Carlsbad Approved Resource Management Plan Amendment (RMPA) and Record of Decision (ROD) (BLM 1997) were developed to address management of oil and gas resources. The 2008 Special-Status Species Approved RMPA and ROD (BLM 2008a) were developed to address management of the lesser prairie-chicken (LPC; *Tympanuchus pallidicinctus*) and the dunes sagebrush lizard (DSL; *Sceloporus arenicolus*). The 1988 RMP, as amended, provides for the integrated multiple use and sustained yield of resources for the planning area.



Figure 1.1. Project location map.

The 1988 RMP complies with the multiple use mandates established by FLPMA and the 43 CFR 1600 regulations governing multiple use planning. It allows the oil and gas industries reasonable opportunities to lease and explore, while protecting sensitive areas and other resources. Continuing management guidance states, "Public lands would remain open and available for mineral exploration and development unless withdrawal or other administrative action is necessary to protect other resource values" (BLM 1988:13).

The Pecos District Office, which includes the CFO and the Roswell Field Office, uses the "BLM General Requirements for Oil and Gas Operations on Federal Lands" as a Condition of Approval (COA) that describes general requirements and standard plan operations for oil and gas operations and ROWs as outlined in Appendix 2 of the Carlsbad Approved RMPA and ROD (BLM 1997:Appendix 2:1–21) and the 2008 RMPA (BLM 2008a:2–3).

Utility corridors are recognized as an appropriate use of public lands by the BLM CFO 1988 RMP (BLM 1988:10–11), which provides management direction for designation of ROW corridors. The BLM encourages applicants to locate new facilities within designated ROW corridors. Deviations from designated corridors may be permitted based on the type and need of the proposed facility and lack of conflicts with other resource values and uses. To comply with Section 368 of the Energy Policy Act of 2005, the Pecos District Office would designate utility corridors for major projects such as interstate electric transmission lines, pipelines, and communications lines for interstate use (BLM 2008a:2–12).

The 2008 RMPA states that:

New projects of the type described above [utility corridors for major projects such as interstate electric transmission lines; pipelines; and communications lines for interstate use] that propose to cross the Planning Area would be evaluated based on the impacts to lesser prairie-chicken and sand dune lizard habitats and other resources to meet the overall objectives of this plan. These projects would not be located in ROW avoidance areas if other routes can meet the purposes of the project. (BLM 2008a: 2–13)

Impacts from the Proposed Action on LPC and DSL are discussed in Section 3.3 and in the BA (see Appendix B). In addition, the Proposed Action is not located in a ROW avoidance area. Therefore, the Proposed Action is in conformance with the RMP, as amended.

## **1.4 Relationship to Statutes, Regulations, or Other Plans**

Various federal and state agencies regulate different aspects of oil and gas infrastructure development. Table 1.2 lists the environmental permits and approvals that could be required for the proposed project.

**Table 1.2. Potential Permits, Approvals, and Clearances Needed for Construction, Operation, and Maintenance of Facilities**

Permit/Notification	Issuing Agency	Status
<b>Federal Permit, Approval, or Clearance</b>		
ROW grant	BLM	Subject of this application.
ROW grant	New Mexico State Land Office	Subject of this application.
Clearance under Section 7 of the Endangered Species Act	U.S. Fish and Wildlife Service	Surveys were conducted. Findings are described in Section 3.3 and in the BA (see Appendix B). Any consultation with the U.S. Fish and Wildlife Service would be managed by the BLM.
Clean Water Act Section 404 Permit	U.S. Army Corps of Engineers	No jurisdictional water bodies or wetlands would be impacted by the project; therefore, a Section 404 permit would not be required.
<b>State Permit, Approval, or Clearance</b>		
Air permit	New Mexico Environment Department	Air quality would not be adversely impacted by the proposed project; therefore, an air quality permit would not be required.
Clearance under Section 106 of the National Historic Preservation Act	State Historic Preservation Office	Surveys were conducted. Findings are described in Section 3.4 and in the associated cultural resources inventory report (Carlson et al. 2014). Any consultation with the State Historic Preservation Office would be managed by the BLM.
Tribal Communications: Consultation to determine if the proposed project would have any impact on receptors of cultural importance	Native American Tribes	Any consultation with Native American tribes would be managed by the BLM.
Section 401 certification	New Mexico Environment Department	No state-regulated water bodies or wetlands would be impacted by the project; therefore, a Section 401 permit would not be required.
Clean Water Act Section 402 General Construction (Stormwater) Permit	New Mexico Environment Department	Exempt Final Rule: Amendments to the Storm Water Regulations for Discharges Associated with Oil and Gas Construction effective June 12, 2006.
Hydrostatic test permit	New Mexico Environment Department	Permit application to be submitted and approved prior to any discharge of hydrostatic test water.

Permit/Notification	Issuing Agency	Status
Road crossing, railway permits, and Intrepid land exchange	Eddy and Chaves County road departments, Burlington Northern Santa Fe Railway (BNSF), New Mexico Department of Transportation (NMDOT), the City of Carlsbad, the U.S. Department of Energy for the rail feeding the Waste Isolation Pilot Plant facility, and Intrepid Potash, Inc.	Western is in the process of applying for permits from each jurisdictional agency.

### **1.4.1 Council on Environmental Quality Regulations**

Parts 1500 through 1508 of the Council on Environmental Quality (CEQ) regulations (40 CFR 1500.3) provide stipulations applicable to and binding for all federal agencies for implementing the procedural provisions of NEPA, “except where compliance would be inconsistent with other statutory requirements.”

Additionally, the ROW grant holder is required to:

- comply with all applicable federal, state, and local laws and regulations;
- implement the Proposed Action in a way that is as consistent as possible with local, county, or state plans.

### **1.4.2 Endangered Species Act of 1973**

The Endangered Species Act of 1973 (ESA) requires all federal departments and agencies to conserve threatened, endangered, and critical and sensitive species and the habitats on which they depend and to consult with the U.S. Fish and Wildlife Service (USFWS) on all actions authorized, funded, or carried out by the agency to ensure that the action would not likely jeopardize the continued existence of any threatened and endangered species or adversely modify critical habitat. Consultation with the USFWS, as required by Section 7 of the ESA, was conducted as part of the Special-Status Species RMPA (Consultation No. 22420-2007TA-0033) to address cumulative effects of RMP implementation (BLM 2008a). The consultation is summarized in Appendix 10 of the RMP. The BLM would conduct consultation with the USFWS for this Proposed Action.

### **1.4.3 Clean Air Act**

The Clean Air Act of 1970, as amended, establishes National Ambient Air Quality Standards (NAAQS) to control air pollution. The New Mexico Environment Department Air Quality Bureau (NMED AQB) oversees air quality regulations and standards for stationary sources of air pollution. Impacts to air quality from oil and gas exploration and development are controlled by mitigation measures developed on a case-by-case basis. As part of the planning and decision-making process, the BLM must consider and analyze the potential effects of its activities on air resources. The Proposed Action would be in compliance with the NAAQS for potential air pollution from the proposed project activities. This EA discusses the recommended mitigation measures during construction that would prevent the potential for adverse impacts to air quality within the Design Features, Section 2.1.2.

### **1.4.4 National Historic Preservation Act**

Heritage resources are protected by the NHPA (Public Law [PL] 89-665), as amended, and its implementing regulations (36 CFR 800) and other legislation, including NEPA (PL 91-852) and its implementing regulations (40 CFR 1500–1508). Other relevant laws include the Antiquities Act of 1906 (PL 52-209), the Archaeological and Historical Conservation Act of 1974 (PL 93-291), the Archaeological

Resources Protection Act of 1979 (PL 96-95) and its regulations (36 CFR 296), the American Indian Religious Freedom Act (42 United States Code [USC] 1996), and the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601). Executive Order (EO) 11593 of 1971 also requires that cultural resources be protected. Compliance with Section 106 responsibilities of the NHPA is achieved by following the BLM–New Mexico State Historic Preservation Office protocol agreement, which is authorized by the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. The BLM would conduct consultation with the State Historic Preservation Office regarding this Proposed Action.

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### **1.4.5 Clean Water Act**

The Federal Water Pollution Control Act, commonly known as the Clean Water Act (codified at 40 CFR 112), protects surface water resources from pollution. The U.S Army Corps of Engineers (USACE) has jurisdiction of navigable waters of the U.S.

Section 401 of the federal Clean Water Act, which through state certification by the New Mexico Environment Department requires the USACE to meet state water quality regulations prior to granting a Section 404 permit for work in creeks or rivers. All federal consultations, including the ESA, must be completed prior to Corps issuance of Section 404 authorizations.

No jurisdictional water bodies or wetlands would be impacted by the project; therefore, a Section 404 permit would not be required nor Section 401 certification. Due to the Amendments to the Storm Water Regulations for Discharges Associated with Oil and Gas Construction, effective June 12, 2006, Western is exempt from Section 402 of the Clean Water Act.

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### **1.4.6 Consistency with Valid and Existing Leases and Grants**

The proposed ROW for the Western pipeline installation includes several third-party leases and ROW grants. Western submitted an ROW grant to SLO on February 28, 2014, and submitted their business lease to SLO in January 2014. Western has obtained the easement from the SLO for the business lease and the ROW. Western has obtained the easement with the private landowner.

Western is also currently working on agreements with the ROW grantees including the Eddy and Chaves County road departments, the BNSF Railway, the NMDOT, the City of Carlsbad for the waterline supplying the City's Eagle Water system, and the U.S. Department of Energy for the rail feeding the Waste Isolation Pilot Plant facility. Western has submitted applications to all of these grantees. These agreements would allow access for operations and maintenance on existing pipelines and roads, but would disallow installation of any future surface facilities within the proposed 76-mile route.

Western is currently in negotiations with Intrepid for a private ROW agreement on Federal Lands that have now been identified as subject to a land exchange between Intrepid and the BLM. This area is the Proposed Action and Western has adjusted the Proposed Action at Intrepid's request. There is approximately 1 mile of the Proposed Action that is currently considered Federal lands that is the land exchange area.

## **1.5 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 both internally within the BLM via meetings with resource specialists, as well as externally where the public is invited to comment.

Public scoping meetings were held on February 4, 2014, at the National Cave and Karst Research Institute located in Carlsbad, and consisted of an afternoon and evening session. The sessions were briefly introduced by BLM staff, followed by Western representatives delivered a brief presentation describing the proposed project. Graphic displays were provided outlining project plans and locations of

the proposed stations and pipeline. BLM planning staff gave a brief presentation describing the NEPA process and procedures for public comment, including distributing comment forms.

A 30-day public comment period was established (February 4–March 6, 2014). While no one from the public was present in the evening session, one member from the public attended the afternoon session.

Attendees were encouraged to pose any specific questions to the subject matter specialists available at the meetings, which included planning, wildlife, cave/karst, realty, and range specialists, as well as Western representatives. Public attendance in the afternoon session totaled 15 people including four Western representatives, one SWCA representative, nine BLM specialists, and one member of the public. The evening session had no public members in attendance.

The BLM's interdisciplinary (ID) team of resource specialists conducted internal scoping on the Proposed Action on December 11, 2014, and identified several resource issues regarding the Proposed Action. Internal and external resource issues identified for the project are listed in Table 1.3.

BLM staff identified the following issues during the internal ID team meeting:

- Wildlife
  - LPC and DSL: timing restrictions would be required and would need consultation with USFWS
  - DSL areas: need for a trench monitor
  - Sneed's pincushion cactus (*Coryphantha sneedii* var. *sneedii*), and burrowing owl (*Athene cunicularia*): surveys needed
  - Habitat equivalency analysis (HEA) crossing: would need reclamation reseeding on road
- Archaeology
  - Internal scoping avoided known sites, but would need survey for areas not previously surveyed
  - State sites would need survey
- Visual resource management (VRM), recreation, and Special Management Areas (SMA)
  - CFO buried pipeline stipulations
  - Hackberry Lake Off-Highway Vehicle (OHV) Recreation SMA
    - COAs are in place to include an emphasis on safety and signage during construction for OHV trail crossings
  - Route over Livingston Ridge (VRM III)
    - Line placement considerations, partial vegetation removal, seeding, erosion control, soil matching camouflage techniques, and/or other measures may be needed in this area.
  - Travel management and resource protection
    - Implementing reclamation and route barriers to disguise disturbance to prevent the pipeline route from becoming an OHV route that would potentially grant easier access to protected resource areas, possibly resulting in resource damage or disturbance.
  - Proper spacing between this project and others to eliminate potential safety and operation/maintenance conflicts, creating a safe environment for the general public, as well as all public land permittees.
- Cave/karst
  - Would need a monitor along some sections

Other issues that were raised by the BLM to be further analyzed within this EA include the following:

- Rangeland/livestock grazing
  - Coordination necessary with existing grazing allotment leasees (public land permittees)

In addition, the BLM CFO published a NEPA log for public inspection. This log contained a list of proposed and approved actions in the CFO planning area. The log is located on the BLM New Mexico website ([http://www.blm.gov/nm/st/en/prog/planning/nepa\\_logs.html](http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html)).

**Table 1.3. Internal and External Resource Issues**

<b>Resource</b>	<b>Issue</b>	<b>Identified by</b>
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 with the potential to occur in the project area, including habitat for the LPC and DSL?	BLM
Cultural Resources	How would surface-disturbing activities affect cultural resources? Is there potential for cumulative or indirect impacts to known archaeological sites?	BLM
Visual Resources	How would project construction impact visual values?	BLM
Recreation	How would the proposed project impact Recreation SMA for OHV use? How would the proposed project impact travel management and resource protection?	BLM
Livestock Grazing	How would the proposed project impact livestock grazing in the vicinity of the proposed pipeline, specifically fence crossings and water line crossings?	BLM
Soils	How would the surface disturbance associated with the proposed project affect soils and erosion?	BLM
Cave/Karst	How would the proposed project impact cave/karst resources located within the proposed area of disturbance?	BLM
Public Health and Safety	How would proposed project construction and ongoing activities impact public health and safety?	BLM

### **1.5.1 Issues Considered but Not Analyzed**

The following issues were considered but not analyzed in detail in this EA.

#### **Native American Religious Concerns**

For the Proposed Action, identification efforts for Native American religious concerns were limited to reviewing existing published and unpublished literature, the site-specific Class III survey report prepared for the Proposed Action, and the BLM's cultural resources program regarding the presence of traditional cultural properties (TCPs) identified through ongoing BLM tribal consultation efforts. The Proposed Action would not impact any known TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere with or hinder the performance of traditional ceremonies and rituals pursuant to the American Indian Religious Freedom Act of 1978 (42 USC 1996) or EO 13007.

#### **Air Quality**

Due to the installation of the proposed below ground pipeline system and electric pumps with no significant emission sources, there would not be significant impacts to air quality from the Proposed Action. Three above ground station facilities would be constructed. Any potential impacts from fugitive dust during construction activities would be mitigated within the design features of this EA in Section 2.1.2.

Western is currently developing the Air Permit Applications to the NMED AQB for Stations H82 and H62 that involve oil storage capabilities (i.e. tankage).

#### **Water Resources**

Thirty-five unnamed drainages were identified by the National Hydrography Dataset or field verified by SWCA that cross the proposed pipeline in the project area. Seventeen of these drainages were identified to be upland dry swales that displayed no ordinary high water mark and no distinct bed or bank. These

drainages comprised 0.104 acres within the project area. The remaining 18 drainages were field verified as ephemeral with an ordinary high water mark or a distinct bed or bank. Several of these drainages were identified as potentially jurisdictional as they flow into the Pecos River (8 drainages) or flow into playa lakes (10 drainages) within close proximity to the project area. These drainages comprised 0.037 acre and 0.048 acres within the project area, respectively. No indicators of wetlands, such as hydrophytic vegetation, hydric soils, or wetland hydrology, were identified in the project area. While only the USACE has final and/or legal authority in determining the presence of waters of the U.S. and the extent of their boundaries, it is SWCA's opinion that the drainage features in the project area are unlikely to be considered waters of the U.S. by the USACE. See the BA for a list of ephemeral drainages in the project area (Appendix B).

## **Socioeconomics**

Western estimates that approximately 50 jobs would be created during the life of the proposed project. The project as proposed would enable Western to continue to make capital investments within the State of New Mexico to support the growth of crude oil development for New Mexico and surrounding areas. These investments would yield additional job opportunities within the State of New Mexico spanning the regions from the Four Corners area to the Delaware/Permian Basins. This project would have a positive impact on economics for local and state governments as well as the citizens within the State of New Mexico.

According to the New Mexico Oil and Gas Association (2014), State and local revenue from oil and gas operations within New Mexico accounted for a total revenue of \$1,319 million to the State General Fund, \$372 million to the Severance Tax Bonding Fund, \$395 million to the Land Grant Permanent Fund, and \$357 million to local governments. This revenue doesn't include any revenue from refining, transportation and retail distribution operations nor permanent fund distributions. In summary, there are local and State tax benefits from oil production within New Mexico that the proposed project would be contributing to.

## 2 PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

Western is seeking authorization to install approximately 75.43 miles of pipeline, construct three stations, and use 48.28 acres of temporary workspace, herein referred to as the project or Proposed Action. If completed, the Proposed Action would contribute an estimated 70,000 barrels per day (bbl/d) to 100,000 bbl/d. The project would be located within Chaves and Eddy Counties, New Mexico. The majority of the land is managed by the BLM; however, the pipelines would cross approximately 10 acres of state-owned land and 10 acres of privately owned land (see Figure 1.1). There is approximately 1 mile of the Proposed Action that is currently considered Federal lands that is the land exchange area between Intrepid and the BLM. Construction would begin following approval of the Proposed Action and granting of the ROW. Table 2.1 shows the proposed acreage of impacts by landownership.

**Table 2.1. Acreages of Proposed ROW and Surface Disturbance by Landownership**

Project Element	Land Ownership	Acreage Included in the Proposed ROW Request to BLM	Short-term Disturbance Acres	Long-term Disturbance Acres
76-mile proposed pipeline system	BLM (62.01 miles)	376.97	376.97	249.43
	SLO (12.13 miles)	—	72.40	45.06
	Private (1.28 miles)	—	7.79	6.59
Stations (3 total)	BLM	10.00	10.00	10.00
	SLO	—	10.00	10.00
	Private	—	10.00	10.00
Temporary use areas (22 total)	BLM	31.38	31.38	—
	SLO	—	3.95	—
	Private	—	9.00	—
<b>Total Acreage of ROW</b>		<b>418.35</b>	<b>531.49</b>	<b>331.08</b>

#### 2.1.1 Description of the Proposed Action

##### Proposed Action

Western is proposing to install approximately 75.43 miles of 12-inch-diameter pipeline on public lands managed by the BLM and the SLO located in Eddy and Chaves Counties, New Mexico, as well as one private parcel located in Chaves County, New Mexico. The proposed pipeline would transport crude oil beginning near NM Hwy 249 and would travel south to the terminus located at the Western's T Mason Station on Pipeline Road in Eddy County. Western has requested from BLM a 50-foot ROW grant to include 30 feet of permanent ROW and 20 feet of temporary workspace ROW.

Western is proposing three stations as follows: Station H249 consisting of approximately 10 acres located on private land near NM 249-Aberdeen Road; Station H82 consisting of approximately 10 acres located on BLM land near U.S. Highway 82 directly south of the town of Loco Hills; and Station H62 consisting of approximately 10 acres on state land near U.S. Highway 62. There would be storage tanks and truck unloading skids located at Stations H82 and H62. The proposed station sites may be utilized for temporary storage of pipe and equipment during construction. At each station there would be one metering skid to track integrity of the arriving flow and one metering skid to track integrity of the departing flow, and one building to house the electrical control equipment and centrifugal transfer pumps driven by

electric motors with awning coverings. These stations may accommodate unloading of crude oil from trucks, pipeline arriving metering, tank storage, pumping, departing metering, biocide and drag-reducing agent injections, wet oil treatment, and pigging facilities for pipeline maintenance.

At Station H249, there would be six centrifugal transfer pumps and one in-ground sump tank and sump pump. At Station H82, there would be two centrifugal injection pumps, four in-ground sump tanks and sump pumps, one storage tank with a 50,000 bbl capacity, and four pumping skids for arriving tractor-trailers to unload a maximum of 30,000 bbl/d. At Station H62, there would be eight centrifugal transfer pumps, four in-ground sump tanks and sump pumps, one storage tank with a 50,000 bbl capacity, and four pumping skids for arriving tractor-trailers to unload a maximum of 30,000 bbl/d. The proposed maximum volumetric flow rate of crude oil departing pumping stations would be 70,000 bbl/d at Station H249 and 100,000 bbl/d at Stations H82 and H62.

Western will follow the requirements of 49 CFR Part 195, Transportation of Hazardous Liquids by Pipeline (49 CFR 195) for requirements on the following: annual accident and safety conditions reporting, design, construction, pressure testing, operations and maintenance, qualification of pipeline personnel, and corrosion control. The proposed pipeline installation would consist of a nominal trench depth-of-cover 4 feet from the top of the ground to the top of the pipe. For construction of each station, it is estimated that 25 vehicles, one backhoe, one crane, and one forklift would be used. The workforce estimate would depend on the construction phases. The operational life of the proposed pipeline is expected to be approximately 40 years, although the facility could continue operations beyond that if justifiable. The operation of the plant and gathering system would employ a combination of Western personnel or contractors for ongoing maintenance operations.

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## **2.1.2 Project Construction and Operation Design Features**

The following applicant-committed environmental protection measures have been incorporated into the project design of the Proposed Action for the construction and operations phases to lessen or avoid impacts to resources. Throughout this document these are referred to as the Proposed Action's design features. These features are organized below under the resource they are designed to protect, although some of these measures are designed to protect or mitigate impacts to multiple resources. This document also refers to best management practices (BMPs), which are industry- or agency-recommended construction methods that are routinely implemented to minimize impacts to resources. Where practical, these BMPs have been incorporated into the project's design features.

### **Air Quality**

- Western is currently developing the Air Permit Applications to the NMED AQB for Stations H82 and H62 that involve tankage. Western acknowledges that the Permits to Construct issued by the NMED AQB are required to be obtained prior to construction. The applications will evaluate the anticipated emissions from the station operations, and will include the necessary controls in the station designs.
- Air quality impacts associated with construction projects generally arise from fugitive dust generation by construction equipment. Furthermore, large earth-moving equipment, such as skip loaders, trucks, and other mobile sources, are powered by diesel or gasoline, which are sources of combustion emissions, including nitrogen oxides, carbon monoxide, and volatile organic compounds. Fugitive dust results from land clearing, grading, excavation, and vehicular traffic. The amount of dust generated is a function of the type of construction activity, the silt and moisture contents of the soil, the wind speed, the frequency of precipitation, the level of vehicular traffic and the types of vehicles used, and the roadway characteristics (i.e., paved or unpaved). Emissions would be greater during drier summer and autumn months and in locations with fine-textured soils. During summer and autumn, dust suppression techniques such as watering or application of a chemical stabilizer would be used in construction zones to minimize fugitive dust impacts.
- Reasonable precautions would be used to prevent fugitive dust from becoming airborne, including 1) using water or chemicals to control dust where possible, 2) covering open-bodied trucks at all times while transporting materials likely to produce airborne dusts, 3) promptly removing earth or

material from paved streets, and 4) re-establishing vegetation in temporary work areas as quickly as possible.

### **Soils and Vegetation**

- Western would restrict construction activities and the storage of construction materials and equipment to the areas described above. To minimize sedimentation and erosion during construction of the project, Western is committed to following BMPs, including installing erosion and sediment control devices, using proper grading techniques, conducting periodic inspections, and stabilizing disturbed areas in a timely manner. Following construction, permanent BMPs would be used to prevent sedimentation and erosion. Western would follow the BLM's "Gold Book" standards and guidelines (BLM 2007) or Western's internal standards depending, on whichever is more stringent.
- Western would use public and existing roads as much as possible to lessen new surface disturbance and habitat fragmentation. No temporary access roads would be built.
- The construction ROW would be delineated and clearly marked to prevent accidental disturbance of any unnecessary acreage.

### **Stabilization and Rehabilitation of the Pipeline ROWs**

- Western would conduct stabilization and rehabilitation activities in accordance with landowner agreements, permit requirements, and written recommendations from the local soil conservation authority or other duly authorized agency.
- Final stabilization and rehabilitation measures for pipeline ROWs, in general, involve re-grading the disturbed area to near pre-disturbance contour, re-spreading topsoil, applying soil amendments if necessary, applying a prescribed seed mixture as per BLM, mulching, and placing runoff and erosion control structures such as water bars, erosion control mats, and wattles (slope interruption devices). The goal of final reclamation is to 1) restore primary productivity of the site and establish vegetation that would provide for natural plant and community succession, and 2) establish a vigorous stand of desirable plant species that would limit or preclude invasion of undesirable species, including invasive, non-native species. Western would follow the BLM's "Gold Book" standards and guidelines (BLM 2007) or Western's internal standards, depending on whichever is more stringent.
- To assist with the stabilization and rehabilitation of the pipeline ROWs, during construction, topsoil would be handled separately from subsoil materials. At all construction sites, topsoil would be stripped to provide sufficient quantities to be re-spread to a depth of at least 4 to 6 inches over the disturbed areas to be reclaimed. Where soils are shallow or where subsoil is stony, as much topsoil would be salvaged as possible. Topsoil would be stockpiled separately from subsoil materials and marked with signs or identified on alignments sheets. Runoff would be diverted around topsoil stockpiles to minimize erosion of topsoil materials.
- As soon as practicable after backfilling the trench, all work areas would be final graded and restored to pre-construction contours and natural drainage patterns as closely as possible. Non-cultivated lands would be reseeded as soon as possible to minimize erosion. The seeding procedure would be the same as described above.
- If seasonal or weather conditions are not favorable, temporary erosion controls would be maintained until the area is revegetated. Surplus construction material and debris would be removed from the ROW unless otherwise approved. Fences and other existing infrastructure would also be returned to their pre-construction condition as approved by landowners and/or land management agencies.

### **Water Resources**

- If required by the proposed project, hydrostatic test water would be discharged to an upland area in compliance with required permits from the New Mexico Environment Department, using appropriate discharge and erosion control measures. Western will develop a Hydrostatic Test Plan prior to initiating any hydrostatic testing of piping for the Proposed Action.
- SWCA is currently assisting Western in whether permitting would be required with the USACE.

## Cave/Karst Resources

- A trench monitor would be required along some sections of the proposed route; BLM will coordinate with Western regarding these identified areas.
- In the event that any underground voids are encountered during construction activities, construction activities would be halted and the BLM would be notified immediately.
- In the event that any leaks would be detected during pipeline operation, the pipeline would be shut down, the source of the leak would be determined, shut offs would occur and the BLM would be notified.

## Wildlife and Special-status Species

The project area lies within the Special-Status Species ROD and Approved RMPA zoning area established by the BLM (BLM 2008a). The RMPA zoning area was designated to provide greater protection for LPC and DSL habitat (Appendix B). Conservation measures and other protective criteria have been established by the BLM for installation of new pipelines within the RMPA, which include the following BMPs for construction and revegetation and implementation of controlled surface use stipulations (BLM 2008a).

- All personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals. BMPs on pipeline burial are available from the New Mexico Department of Game and Fish (NMDGF 2012) Habitat Handbook trenching guidelines. These guidelines have been developed to prevent wildlife mortalities from entrapment. Reptiles, amphibians, and small mammals are particularly vulnerable to that risk.
- To avoid the loss of migratory bird active nests, eggs, or young, construction activities on the pipelines should occur outside the migratory bird breeding season (March 1–August 31). If construction activities are to occur during the migratory bird season, pre-construction nest surveys would be recommended.
- Dunes should be avoided during development if possible. If avoidance is not possible or practical, then protocol surveys for DSL may need to be performed and mitigation measures followed.

Within the RMPA area, strict regulations apply for LPC and DSL and trenching during construction (BLM 2013; see BA, Appendix B). Regulations for trenching include not allowing trenches to remain uncovered for more than 8 hours without an agency approved monitor, restricting construction work to certain hours of the day during the avian breeding season, and covering evaporation ponds to keep birds out (see BA, Appendix B). The RMPA is currently being updated, and before construction begins it is advisable to verify with the BLM which regulations apply to this specific project.

Impacts to these species will need to be evaluated once a Plan of Development is finalized. As previously stated, the project area is located in the BLM's RMPA area and is enrolled in the Candidate Conservation Agreement (CCA)/Candidate Conservation Agreement with Assurances (CCAA).

The New Mexico CCA/CCAA is organized and managed cooperatively by the Center of Excellence for Hazardous Materials Management (CEHMM), the BLM Carlsbad and Roswell Field Offices, and the USFWS, in cooperation and consultation with landowners and industries to implement conservation measures on federal and non-federal lands for the LPC and DSL through CCAs. Conservation projects are funded by fees or contributions, largely from the oil and gas industry, and are contracted and managed by the CEHMM.

Impacts to the DSL and LPC would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA area, strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project.

## ***Dunes Sagebrush Lizard Protective Design Features***

Areas within the survey area fall within the boundary of the DSL habitat area as determined in the BLM RMPA (2008). The proposed project may impact individuals and/or habitat; 128.82 acres of DSL habitat

exist within the project area. Established regulations in the RMPA and trenching guidelines must be closely adhered to in order to ensure the project would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

The project area crosses the known distribution for the DSL. The best management practices must be followed, as required by the BLM in the RMPA (BLM 2013), and by the NMDGF Habitat Handbook trenching guidelines (NMDGF 2003). Biological monitors present during pipeline trenching would reduce DSL mortality from entrapment. In addition, SWCA recommends that all personnel working on the construction of the proposed project are instructed to avoid intentionally harassing all animals.

As previously stated, the project area is located in the BLM's RMPA area and is enrolled in the CCA/CCAA. Impacts to the DSL would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project.

Conservation measures listed in the Certificate of Participation (CP) and Certificate of Inclusions (CI) in the CCA/CCAA for DSL are as follows (CEHMM 2014).

1. To the extent determined by the USFWS or CEHMM representative at the Plan of Development stage, all infrastructures supporting the development of a well (including roads, power lines, and pipelines) will be constructed within the same corridor.
2. On enrolled parcels that contain inactive wells, roads and/or facilities that are not reclaimed to current standards, the Participating Cooperator shall remediate and reclaim their facilities within 3 years of executing the CP, unless the Cooperator can demonstrate they will put the facilities back to beneficial use for the enrolled parcel(s). If an extension is requested by the Cooperator, they shall submit a detailed plan (including dates) and receive USFWS or CEHMM approval prior to the 3-year deadline. All remediation and reclamation shall be performed in accordance with USFWS or CEHMM requirements and be approved in advance by staff from the USFWS and/or CEHMM Authorized Officer.
3. Allow no new surface occupancy within 30 m (98.4 feet) of areas designated as occupied or suitable unoccupied DSL complexes or within delineated shinnery oak corridors. The avoidance distance is subject to change based on new information received from peer-reviewed science.
4. Utilize alternative techniques to minimize new surface disturbance when required and as determined by the USFWS or CEHMM representative at the Plan of Development stage.
5. Provide escape ramps in all open water sources under the Participating Cooperator's control.
6. Allow no 24-hour drilling operations or 3-D geophysical exploration during the period from March 1 through June 15, annually, on lands enrolled by the Participating Cooperator that are located within Zone 1 (timing/noise/markers). Other activities that produce noise or involve human activities, such as geophysical exploration (other than 3-D operations) and pipeline, road, and well pad construction will be allowed during these dates 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. Exceptions to these requirements will be considered in emergency situations, such as mechanical failures, but would not be considered for routine planned events.
7. Noise abatement during the period from March 1 to June 15, annually. Noise from facilities (e.g., pumpjack, compressor) under the control of the Participating Cooperator that service enrolled lands located within Zone 1 will be muffled or otherwise controlled so as not to exceed 75 db measured at 9.1 m (30 feet) from the source of the noise.
8. Limit seismic exploration to areas outside of occupied and suitable shinnery dune complexes to protect DSL habitat.
9. Submit a routine monitoring and inspection schedule for oil, gas, and produced water pipelines and facilities to ensure accidental pollution events are avoided in sensitive habitats for the DSL.
10. Inside the BLM RMPA dunes sagebrush lizard polygon, the following will apply:
  - a. Any trench left open for 8 hours or less is not required to have escape ramps; however, before the trench is backfilled, an agency approved monitor shall walk the entire length of

- the open trench and remove all trapped wildlife and release them at least 91 m (100 yards) from the trench.
- b. For trenches left open for 8 hours or more, earthen escape ramps (built at no more than a 30-degree slope and placed no more than 152.4 m [500 feet] apart) shall be placed in the trench. The open trench shall be monitored each day by an agency approved monitor during the following three time periods: 1) 5:00 am to 10:00 am, 2) 11:00 am to 2:00 pm, and 3) 3:00 pm to sunset. All trapped wildlife shall be released at least 91 m (100 yards) from the trench.
  - c. One agency approved monitor shall be required for every mile of open trench. A daily report (consolidate if there is more than one monitor) on the wildlife found and removed from the trench shall be provided to the BLM (email is acceptable) the following morning.
  - d. This stipulation shall apply to the entire length of the project in the DSL habitat regardless of land ownership.
11. Management recommendations may be developed based on new information received from peer-reviewed science to mitigate impacts from H<sub>2</sub>S and/or the accumulation of sulfates in the soil related to production of gas containing H<sub>2</sub>S on the DSL. Such management recommendations will be applied by the Participating Cooperator as Conservation Measures under the CI/CP in suitable occupied DSL habitat where peer-reviewed science has shown that H<sub>2</sub>S levels threaten the DSL (Appendix F).
  12. Upon the plugging and subsequent abandonment of a well with Zone 1, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well unless otherwise precluded by law or private surface owner.

### ***Lesser Prairie-Chicken Protective Design Features***

The habitat categories for LPC in New Mexico are defined in the 2008 RMPA as the following:

- PPA = Primary Population Area
- CMA = Core Management Area
- HEA = Habitat Evaluation Area
- SSPA = Sparse and Scattered Population Area
- IPA = Isolated Population Area

Conservation measures listed in the CP and CI in the CCA/CCAA for LPC are as follows (CEHMM 2014):

1. To the extent determined by the USFWS or CEHMM representative at the Plan of Development stage, all infrastructures supporting the development of a well (including roads, power lines, and pipelines) will be constructed within the same corridor.
2. On enrolled parcels that contain inactive wells, roads, and/or facilities that are not reclaimed to current standards, the Participating Cooperator shall remediate and reclaim their facilities within 3 years of executing the CP, unless the Cooperator can demonstrate they will put the facilities back to beneficial use for the enrolled parcel(s). If an extension is requested by the Cooperator, they shall submit a detailed plan (including dates) and receive USFWS or CEHMM approval prior to the 3-year deadline. All remediation and reclamation shall be performed in accordance with USFWS or CEHMM requirements and be approved in advance by staff from the USFWS and/or CEHMM Authorized Officer.
3. Allow no new surface occupancy within 30 m (98.4 feet) of areas designated as occupied or suitable shinnery oak corridors. The avoidance distance is subject to change based on new information received from peer-reviewed science.
4. Utilize alternative techniques to minimize new surface disturbance when required and as determined by the USFWS or CEHMM representative at the Plan of Development stage.
5. Provide escape ramps in all open water sources under the Participating Cooperator's control.
6. Install fence markings along fences owned, controlled, or constructed by the Participating Cooperator that cross through occupied habitat within 2 miles of an active LPC lek.
7. Bury new power lines that are within 3.22 kilometers (2 miles) of LPC lek sites active at least once within the past 5 years (measured from lek). The avoidance distance is subject to change based on new information received from peer-reviewed science.

8. Bury new power lines that are within 1.61 kilometers (1 mile) of historic LPC lek sites where at least one chicken has been observed within the past 3 years (measured from the historic lek). The avoidance distance is subject to change based on new information received from peer reviewed science.
9. Allow no 24-hour drilling operations or 3-D geophysical exploration during the period from March 1 through June 15, annually, on lands enrolled by the Participating Cooperator that are located within Zone 1 (timing/noise/markers). Other activities that produce noise or involve human activities, such as geophysical exploration (other than 3-D operations) and pipeline, road, and well pad construction will be allowed during these dates 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. Exceptions to these requirements will be considered in emergency situations, such as mechanical failures, but would not be considered for routine planned events.
10. Noise abatement during the period from March 1 to June 15, annually. Noise from facilities (e.g., pumpjack, compressor) under the control of the Participating Cooperator that service enrolled lands located within Zone 1 will be muffled or otherwise controlled so as not to exceed 75 db measured at 9.1 m (30 feet) from the source of the noise.
11. Management recommendations may be developed based on new information received from peer-reviewed science to mitigate impacts from hydrogen sulfide (H<sub>2</sub>S) and/or the accumulation of sulfates in the soil related to production of gas containing H<sub>2</sub>S on the LPC. Such management recommendations will be applied by the Participating Cooperator as Conservations Measures under the CI/CP in suitable occupied LPC habitat where peer-reviewed science has shown that H<sub>2</sub>S levels threaten the LPC (Appendix F).

Western would use public and existing roads as much as possible to lessen new surface disturbance and habitat fragmentation. No temporary access roads would be built.

## Cultural Resources

- Mitigation may include boring under archaeological sites, conducting limited archaeological testing, having an archaeologist present to monitor construction activities, conducting data recovery, or a combination of some/all of these measures.
- In the event of an unanticipated discovery of cultural material during construction, all work at that location would be stopped immediately and the area fenced off. The appropriate agency would be notified. Work would not begin again in the area until clearance is obtained from the agency.

## Visual Resources

- For the pipeline, all disturbed areas would be revegetated and the CFO buried pipeline stipulations would be followed.
- The proposed permanent aboveground facilities would be encircled by chain-link fence enclosures and would be similar in nature to the oil and gas infrastructure that already exists in the vicinity.
- All aboveground facilities would be painted according to BLM specifications to blend with the surrounding landscape and infrastructure.
- Hackberry Lake OHV Recreation SMA signage required during construction for OHV trail crossings.
- Route over Livingston Ridge (VRM III) measures:
  - Line placement considerations, partial vegetation removal, seeding, erosion control, and soil matching camouflage techniques required in this area.
- Implement reclamation and route barriers to disguise disturbance.
- Proper spacing between this project and others to eliminate potential safety and operation/maintenance conflicts.

## **Livestock Grazing**

- All fences and other existing infrastructure would be returned to their pre-construction condition, or better post-construction condition, as approved by the BLM and allotment permit holders.
- See design features under Soils and Vegetation above that relate to livestock grazing.
- Pipeline areas impacted during construction would be returned to their pre-disturbance state as soon as final construction is completed. Topsoil from the disturbed areas would not be stockpiled for more than 60 days and would be redistributed over the surface. Disturbed soil in construction areas along the pipeline route would be prepared and amended as necessary in preparation for seeding with a native grass seed mix approved by the BLM and allotment permit holders. Weed-free straw or other suitable mulching material would be used during revegetation.
- The goal of the final reclamation is to 1) restore primary productivity of the site and establish vegetation that would provide for natural plant and community succession, and 2) establish a vigorous stand of desirable plant species that would limit or preclude the invasion of undesirable species including non-native and noxious weeds.
- All construction areas would be graded to original contours following the construction period, thereby mitigating potential injuries to livestock from holes, ditches, and trenches. Surplus materials and debris from construction would be removed from the ROW.

## **Public Health and Safety**

### ***Pipeline Construction***

- The pipeline is being designed and would be built in accordance with all applicable state and federal codes and regulations.
- The pipeline would be designed and constructed to meet the 49 CFR 195. These design standards specify pipeline material and qualification, minimum design requirements, and protection from internal and external atmospheric corrosion. Other applicable federal and state regulations, including U.S. Department of Labor, Occupational Health and Safety Administration (OSHA) requirements and U.S. Environmental Protection Agency (EPA) regulations, would be followed during the construction of the pipeline.
- All solid waste associated with the construction of the project would be managed in accordance with all federal, state, and local regulations. Construction debris would be containerized and disposed of at appropriate facilities in a timely manner. Temporary sewage disposal units would be provided by the contractor in areas of active construction and would be maintained regularly to prevent water or soil contamination. Spill kits would be available at all active construction areas. Any leaks from equipment or vehicles would be cleaned up in accordance with all applicable regulations and contaminated material disposed of at appropriate facilities.

### ***Pipeline Operations and Maintenance***

- A leak detection system would provide an early alert to operators when a leak has occurred. Automatic shut-off, check valves, or similar systems would be installed for pipelines to minimize the effects of line failures in production.
- Constant monitoring of the pipeline and all associated equipment would occur throughout the length of the pipeline. Western maintains a rigorous inspection program that monitors all aspects of construction and operation, including welding, environmental, safety, etc. The pipeline would be instrumented and monitored continuously for potential leaks. If a leak is determined or reported during operation, the pipeline would be shut down and the source of the leak would be determined.
- To avoid or minimize the potential for harmful spills and leaks during construction, Western would ensure implementation of their Facility Response Plan and adhere to their Integrity Management Program.
- The pipeline would be operated in a manner designed to protect the public and prevent accidents and failures.

- Other applicable federal and state regulations, including OSHA requirements and EPA regulations, would also be followed during the operation and maintenance of the pipeline. These regulations are intended to ensure adequate protection to the public and the environment.
- Western has minimum standards for operating and maintaining pipeline facilities, which can be found within their Operations and Maintenance (O&M) Manual.
- To further reduce the likelihood of pipeline accident, Western has developed a companywide comprehensive operations and maintenance program for pipelines (O&M Manual and Integrity Management Program). The purpose of this program is to prevent operational incidents and to effectively respond to any incident that may occur.
- Pipeline facilities would be clearly marked at line-of-sight intervals and at crossings of roads, railroads, and other key points. The markers would clearly indicate the presence of the pipeline and provide a telephone number and address where a company representative could be reached in the event of an emergency or prior to any excavation in the area of the pipeline by a third party.
- Western's pipeline systems are equipped with block valves. In the event of an emergency, usually evidenced by a sudden loss of pressure, the block valves allow for a section of pipeline to be isolated from the rest of the system. Data acquisition systems are also present at all of Western's meter stations.
- Routine inspections would be conducted by pipeline personnel to identify soil erosion that may expose the pipe, dead vegetation that may indicate a leak in the line, conditions of the vegetative cover and erosion control measures, unauthorized encroachment on the ROW such as buildings and other substantial structures, and other conditions that could present a safety hazard or require preventive maintenance or repairs.

## 2.2 No Action

BLM NEPA Handbook H-1790-1 states that for EAs on externally generated applications, the No Action alternative generally means that the proposed activity would be denied (BLM 2008b:52). This option is provided in 43 CFR 3162.3-1(h)(2). Under this alternative, the BLM would not grant the ROW to the applicant, the proposed pipeline would not be built, and the associated surface disturbance would not occur. The No Action alternative is presented for baseline analysis of resource impacts.

## 2.3 Alternative B

The proposed Alternative B is completely on Federal Lands and will be utilized if acceptable commercial terms cannot be reached between Western with Intrepid and/or there are delays with the issuance of the requested Proposed Action resulting from the status of the Land Exchange. The total distance of the route is not substantially changed with either route through the Intrepid mine area. The proposed pipeline for Alternative B consists of approximately 62.96 miles of BLM land, 11.35 miles of SLO land, and 1.28 miles of private lands for a total proposed mileage of 75.60 miles. The majority of the proposed Alternative B is proposed on BLM-managed lands located in Chaves and Eddy Counties, along with 10 acres on New Mexico State Land Office (SLO) land in Eddy County and 10 acres on private land located in Chaves County, New Mexico.

The legal descriptions for the proposed Alternative B proposed aboveground appurtenant facilities and proposed temporary workspaces are similar to the Proposed Action (Table 1.1). The proposed pipeline route for Alternative B would follow the same route as the Proposed Action except for the area located near the Intrepid operation (Figure 1.1). The legal descriptions for the Alternative B proposed pipeline route, aboveground appurtenant facilities, and temporary workspaces are listed below in Table 2.2.

**Table 2.2. Legal Description of Alternative B Pipeline and Aboveground Appurtenant Facilities**

Name	Size (acres)	Legal Description	County
Bogle Tract-Station H249	10	Section 1, T15SR29E	Chaves County
Loco Hills Site-Station H82	10	Section 29, T17SR30E	Eddy County
SLO Site-Station H62	10	Section 36, T20SR30E Section 1, T21SR29E	Eddy County
Temporary workspaces	48.28	Sections 1,2,12,25,36 T15SR29E Sections 32,33 T16SR30E Sections 20,29 T17SR30E Sections 5,8 T19SR30E Sections 3,4,36 T20SR30E Sections 1,12 T21SR29E Sections 8,26,27,35 T22SR30E Section 2, T23SR30E Sections 23,35 T24SR30E Sections 22,23 T25SR30E	Chaves and Eddy Counties
Proposed Pipeline	Temporary: 381.57 Permanent: 228.94 Total: 381.57	Sections 1,2,12,13,24,25,36 T15SR29E Sections 5,8,17,20,29,32 T16SR30E Sections 5,8,17,20,28,29,33 T17SR30E Sections 4,5,9,16,17,20,29,32 T18SR30E Sections 5,9,8,16,21,28,33 T19SR30E Sections 3,4,10,14,15,24,23,25,36 T20SR30E Section 1 T21SR29E Sections 6,7,18,19,30,31 T21SR30E Sections 5,6,8,16,17,22,21,26,27,35 T22SR30E Sections 2,11,14,23,26,27,34 T23SR30E Sections 3,10,15,23,22,26,27,35,34 T24SR30E Sections 2,11,14,13,23,26,27,34 T25SR30E Sections 3,10,9 T26SR30E	Chaves and Eddy Counties

## 2.4 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 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 siting the preliminary routes for the pipeline system, a desktop analysis was conducted by the BLM to identify sensitive areas to avoid. Once the preliminary route was identified, cultural resource and biological resource surveys were conducted. The route was then adjusted or realigned in several segments in order to avoid impacts to cultural or biological resources where possible.

The proposed pipeline route and design would meet the BLM's purpose and need while minimizing environmental impacts to the greatest extent possible. The route was ultimately planned to minimize impacts to habitat for both the LPC and the DSL. Cultural and historic sites were also avoided where applicable (see Section 3.4 for details regarding avoidance of cultural sites).

Any other proposed pipeline route would likely result in greater surface impacts and environmental impacts. For example, any potential routes that were shorter but would result in greater potential adverse resource impacts or routes that were not feasible due to existing physical constraints were considered but eliminated during the onset of this project. Public scoping did not identify an additional unforeseen alternative; therefore, the No Action, the Proposed Action, and the Alternative B alternatives were brought forward for detailed analysis in this EA.

### 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

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This chapter is organized by relevant major resources or issues/concerns as presented in Section 1.5.1. On the basis of CEQ guidance and BLM NEPA Handbook H-1790-1, the following discussion is limited to those resources that could be impacted to a degree that warrants detailed analysis (40 CFR 1502.15) (BLM 2008b:96) as determined by the CFO BLM ID team. Each resource section includes the following subsections:

**Affected Environment:**

This section succinctly describes the existing condition and trend of issue-related elements of the human environment that would be affected by implementing the Proposed Action or an alternative, as described in Chapter 2 and limits the description of the affected environment to be commensurate with the potential impacts: “1500.4 (c) impacts shall be discussed in proportion to their significance.” For the purposes of providing baseline data for the affected environment, a project area for each resource was delineated, as appropriate.

**Impacts from the No Action Alternative:**

**Direct and Indirect Impacts:** The No Action alternative reflects the current situation within the project area and serves as the baseline for comparing the environmental impacts of the Proposed Action.

**Cumulative Impacts:** A discussion of any cumulative impacts resulting from the No Action alternative.

**Impacts from the Proposed Action:**

**Direct and Indirect Impacts:** This EA addresses the resources and impacts on a site-specific basis as required by NEPA. Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific EA tiers to the information and analysis contained in the CFO’s RMP, as amended (BLM 1988, 1997, 2008a). For each resource analyzed, the impacts discussion identifies:

- Direct impacts – impacts that are caused by the action and occur at the same time and in the same general location as the action.
- Indirect impacts – impacts that occur at a different time or in a different location than the action to which the impacts are related.
- Short- or long-term impacts – the duration of impacts are described as short or long term. For the purposes of this EA, short-term impacts occur during or immediately after the construction phase, approximately 1 year for construction and an additional year following construction for a total of 2 years. Long-term impacts occur beyond the first 2 years and apply to the production and the overall life of the project through eventual decommissioning.

**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 what agency (federal or non-federal) or person undertakes such other action.

The cumulative impact area of analysis can vary by resource. For purposes of quantifying cumulative impacts for resources that use acreage as the impact indicator (vegetation, soils, etc.), the cumulative impact area of analysis has been defined as 200 feet from the centerline of the ROW and from the boundary of the plant site. This cumulative impact area of analysis was established to identify any other actions within range of the Proposed Action that might affect nearby surface acreage. For other resources that use other indicators for impacts analysis, the resource sections below indicate what the cumulative impact area of analysis would be.

*Past and Present Actions:* The past and present actions can be defined as all actions contributing to the current condition of resources found in the project area, as described in the affected environment sections below. Past and present actions that have contributed to the current condition of resources include heavy past and present oil and gas infrastructure and development, livestock grazing, and dispersed recreational use of public lands. *Pending further information from BLM.*

*Reasonably Foreseeable Future Actions:* Reasonably foreseeable future actions include pending applications that are likely to occur within the cumulative impact area of analysis, which would contribute impacts to resources also impacted by the Proposed Action. To be considered under cumulative impacts, a proposed future action must have a well-defined scope and already be formally proposed or applied for.

*Pending further information from BLM.* The cumulative impacts section under each resource analyzed below describes the impact of the Proposed Action together with these pending actions.

**Mitigation Measures and Residual Impacts:** As directed by 40 CFR 1508.20, mitigation measures are those measures that could reduce or avoid adverse impacts and have not already been incorporated into the Proposed Action (as listed in the project design features, Section 2.1.2). These measures may:

- Avoid the impact altogether by not taking a certain action or parts of an action;
- Minimize the impact by limiting the degree of magnitude of the action and its implementation;
- Rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- Reduce or eliminate the impact over time by implementing preservation and maintenance operations during the life of the action; and
- Compensate for the impact by replacing or providing substitute resources or environments.

Residual impacts are those remaining after implementation of mitigation measures. These impacts may be to the subject resource or a different resource.

## 3.1 Soil Resources

### 3.1.1 Affected Environment

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (USDA-NRCS 2014), 26 soil types (Table 3.1) are mapped within the project area. A soil map and descriptions of each soil type are provided in the BA (see Appendix B).

Surface geology in the project area includes eolian deposits from the Holocene to middle Pleistocene and Piedmont alluvial deposits from the Holocene to lower Pleistocene. These geologic types include deposits of higher gradient tributaries bordering major stream valleys, alluvial veneers of the piedmont slope, and alluvial fans. They may also include Pliocene deposits in the uppermost layers.

**Table 3.1. Soils in the Proposed Action.**

Soil Type	Acres in Project Area	Percent of Project Area
Berino complex, 0 to 3 percent slopes, eroded	70.27	14.35%
Berino loamy fine sand, 0 to 3 percent slopes	2.95	0.60%
Berino-Cacique association	4.39	0.90%
Berino-Dune land complex, 0 to 3 percent slopes	4.32	0.88%
Cacique loamy sand, 0 to 3 percent slopes, eroded	9.86	2.01%
Faskin-Roswell complex	7.81	1.60%
Kermit-Berino fine sands, 0 to 3 percent slopes	206.76	42.21%

Soil Type	Acres in Project Area	Percent of Project Area
Largo loam, 1 to 5 percent slopes	5.94	1.21%
Likes loamy fine sand, 1 to 5 percent slopes	1.21	0.25%
Mined land	0.53	0.11%
Pajarito loamy fine sand, 0 to 3 percent slopes, eroded	11.42	2.33%
Pajarito-Dune land complex, 0 to 3 percent slopes	3.19	0.65%
Potter-Simona complex, 5 to 25 percent slopes	18.85	3.85%
Reagan loam, 0 to 3 percent slopes	3.25	0.66%
Reeves-Gypsum land complex, 0 to 3 percent slopes	21.31	4.35%
Rock land	0.59	0.12%
Roswell-Jalmar complex	7.11	1.45%
Simona fine sandy loam	11.55	2.36%
Simona gravelly fine sandy loam, 0 to 3 percent slopes	27.43	5.60%
Simona-Bippus complex, 0 to 5 percent slopes	38.68	7.90%
Sotim fine sandy loam	4.59	0.94%
Tencee-Sotim association	3.85	0.79%
Tonuco loamy fine sand, 0 to 3 percent slopes	6.03	1.23%
Tonuco loamy fine sand, 0 to 3 percent slopes, eroded	3.39	0.69%
Tonuco loamy sand, 0 to 3 percent slopes, eroded	3.80	0.78%
Upton-Simona complex, 1 to 15 percent slopes, eroded	10.73	2.19%

Data from USDA-NRCS 2014.

### 3.1.2 Impacts from the No Action Alternative

#### Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to soil resources, because the ROW would not be granted and no soils would be disturbed.

#### Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

### 3.1.3 Impacts from the Proposed Action

#### Direct and Indirect Impacts

Construction activities (e.g., clearing vegetation, grading, excavating, etc.) related to the the trenching of the pipeline would directly impact approximately 1,206.59 acres of soil resources. Most of this would be short-term disturbance (see Section 2.1). Direct impacts to soils include increased erosion from the removal of the vegetative cover, contamination from accidental spills or leaks, and compaction of soil from heavy equipment usage resulting in a loss of structure and porosity. These impacts can lead to increased runoff and subsequently increased erosion.

Indirect impacts to soil resources can include a change to the overall productivity from the mixing of the topsoil with subsoil during trenching and grading activities. This has the greatest chance of occurring on sensitive soils, which include soils that are easily eroded with shallow profiles that occur infrequently in the project area. Air quality can also be diminished due to wind erosion of the soil resources.

Another indirect impact is the colonization of noxious weeds on disturbed soils. This can occur anywhere a soil is disturbed. Weeds can outcompete native species because of their ability to thrive under conditions with low soil water content, poor nutrient availability, and coarse textures. The following areas are currently being treated for noxious weeds and should be taken into consideration by the proposed contractor during construction to minimize the spread of weeds by construction equipment:

- African rue (*Peganum harmala*)
  - Northwest and southeast of Section 8, T22SR30E
  - Approximately 1.5 miles within Sections 1 and 2, T21SR29E
  - Approximately 1.5 miles within Sections 25 and 26, T20SR31E
- Goldenrod (*Solidago L.*)
  - Proposed Action crosses SAR 360 Bluestem Road in Section 3, T20SR30E
  - Approximately 2.5 miles where Proposed Action parallels SAR Bluestem Road in Sections 28 and 33, T19SR30E

The project design features in Section 2.1.2 have been developed to minimize impacts to soils and maximize the potential for successful reclamation.

### Cumulative Impacts

*Pending further information from BLM.*

Implementation of the Proposed Action's project design features, as well as implementation of BMPs for other future planned activities, would mean that overall cumulative impacts to soils would be low.

### Mitigation Measures and Residual Impacts

Soil protection and restoration methods are included in the project design features (see Section 2.1.2).

## 3.1.4 Impacts from Alternative B

### Direct and Indirect Impacts

Construction activities (e.g., clearing vegetation, grading, excavating, etc.) related to the the trenching of the pipeline would directly impact approximately 1,206.59 acres of soil resources. Most of this would be short-term disturbance (see Section 2.1). Direct impacts to soils include increased erosion from the removal of the vegetative cover, contamination from accidental spills or leaks, and compaction of soil from heavy equipment usage resulting in a loss of structure and porosity. These impacts can lead to increased runoff and subsequently increased erosion.

Indirect impacts to soil resources can include a change to the overall productivity from the mixing of the topsoil with subsoil during trenching and grading activities. This has the greatest chance of occurring on sensitive soils, which include soils that are easily eroded with shallow profiles that occur infrequently in the project area. Air quality can also be diminished due to wind erosion of the soil resources.

Another indirect impact is the colonization of noxious weeds on disturbed soils. This can occur anywhere a soil is disturbed. Weeds can outcompete native species because of their ability to thrive under conditions with low soil water content, poor nutrient availability, and coarse textures. The following areas are currently being treated for noxious weeds and should be taken into consideration by the proposed contractor during construction to minimize the spread of weeds by construction equipment:

- African rue (*Peganum harmala*)
  - Northwest and southeast of Section 8, T22SR30E
  - Approximately 1.5 miles within Sections 1 and 2, T21SR29E
  - Approximately 1.5 miles within Sections 25 and 26, T20SR31E
- Goldenrod (*Solidago L.*)
  - Alternative B crosses SAR 360 Bluestem Road in Section 3, T20SR30E
  - Approximately 2.5 miles where Alternative B parallels SAR Bluestem Road in Sections 28 and 33, T19SR30E

The project design features in Section 2.1.2 have been developed to minimize impacts to soils and maximize the potential for successful reclamation.

## Cumulative Impacts

*Pending further information from BLM.*

Assuming that the same project design features would be implemented for Alternative B, as well as implementation of BMPs for other future planned activities, would mean that overall cumulative impacts to soils would be low.

## Mitigation Measures and Residual Impacts

Soil protection and restoration methods are included in the project design features (see Section 2.1.2).

## 3.2 Wildlife

### 3.2.1 Affected Environment

The Chihuahuan Desert Grasslands, Chihuahuan Basins and Playas, and Shinnery Sands Ecoregions (Griffith et al. 2006) provide habitat for a variety of wildlife species. The BLM CFO RMPA contains a description of wildlife species that are found within the planning area (BLM 2008a:3–9). The BLM CFO wildlife management objective is to manage habitats on public land for the conservation and rehabilitation of fish, wildlife, and plant resources consistent with multiple use management principles (BLM 2008a).

SWCA biologists observed habitat utilization by 33 bird species, 16 mammals, four reptiles, and three invertebrates during February and May 2014 surveys of the proposed project area, as described in the BA (see Appendix B).

A number of big game species have the potential to occur in and around the project area including mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and collared peccary (*Peccari tajacu*). Small game species could include scaled quail (*Callipepla squamata*) and Montezuma quail (*Cyrtonyx montezumae*). Badger (*Taxidea taxus*), long-tailed weasel (*Mustela frenata*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), ringtail (*Bassariscus astutus*), and bobcat (*Lynx rufus*) also have the potential to occur in the project area in a variety of habitats.

An abundance of non-game species are also known to occur within the CFO's jurisdiction, including mammals, reptiles, amphibians, raptors, and neotropical migrants not discussed above. Due to the range of habitats present within the project area, such species are numerous and diverse. Non-game mammals with the potential to occur in the project area include desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), ground squirrels, mice, rats, shrews, and bats. Numerous bat species are also known to occur in or surrounding the project area, including big brown bat (*Eptesicus fuscus pallidus*), California myotis bat (*Myotis californicus*), western small-footed myotis bat (*M. ciliolabrum melanorhinus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), hoary bat (*Lasiurus cinereus*), eastern red bat (*L. borealis*), pallid bat (*Antrozous pallidus*), and western pipistrelle bat (*Pipistrellus hesperus*) (BLM 2013c).

Various reptiles and amphibians have the potential to occur in the project area, including but not limited to western diamondback rattlesnake (*Crotalus atrox*), coachwhip (*Masticophis flagellum*), desert kingsnake (*Lampropeltis getula*), bull snake (*Pituophis melanoleucus*), Texas horned lizard (*Phrynosoma cornutum*), side-blotched lizard (*Uta stansburana*), checkered whiptail (*Cnemidophorus grahamii*), collared lizard (*Cryptophytus collaris*), ornate box turtle (*Terrapene ornata*), plains leopard frog (*Rana blairi*), Great Plains toad (*Bufo cognatus*), New Mexico spadefoot toad (*Spea multiplicata*), Couch's spadefoot toad (*Scaphiopus couchii*), and tiger salamander (*Ambystoma tigrinum*) (BLM 2013c).

A variety of raptor species have the potential to occur in the project area, including but not limited to golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*),

red-tailed hawk (*B. jamaicensis*), rough-legged hawk (*B. lagopus*), Harris's hawk (*Parabuteo unicinctus*), Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), barn owl (*Tyto alba*), western burrowing owl (*Athene cunicularia hypugaea*), great horned owl (*Bubo virginianus*), western screech owl (*Otus kennicotti*), American kestrel (*Falco sparverius*), prairie falcon (*F. mexicanus*), and aplomado falcon (*F. femoralis*). A myriad of neotropical migrants may also be found in the project area varying with vegetation community type (Cartron 2010).

## Migratory Birds

EO 13186, dated January 17, 2001, calls for increased efforts to more fully implement the Migratory Bird Treaty Act (MBTA) of 1918. The federal MBTA prohibits the taking, hunting, killing, selling, purchasing, etc., of migratory birds, parts of migratory birds, or their eggs and nests. Most bird species native to North America are covered by the MBTA. All birds observed in the project area are covered by the MBTA (USFWS 2013b). Active bird nests were observed in or near the project area during surveys in May 2014 (see Table 4.2 in BA in Appendix B for a full list of birds observed during biological surveys).

A variety of raptor species have the potential to occur in the project area, including but not limited to, golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*B. jamaicensis*), rough-legged hawk (*B. lagopus*), Harris's hawk (*Parabuteo unicinctus*), Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), barn owl (*Tyto alba*), western burrowing owl (*Athene cunicularia hypugaea*), great horned owl (*Bubo virginianus*), western screech owl (*Otus kennicotti*), American kestrel (*Falco sparverius*), prairie falcon (*F. mexicanus*), and aplomado falcon (*F. femoralis*). A myriad of neotropical migrants may also be found in the project area varying with vegetation community type (BLM 2013).

## Bald and Golden Eagle Protection Act

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act and the MBTA. In New Mexico the bald eagle is found typically in association with water and nests only at a few undisclosed locations along lakes or streams in the northern and western portions of the state (Stahlecker and Walker 2010). The golden eagle nests primarily on rock ledges or cliffs, less often in large trees at elevations ranging from 4,000 to 10,000 feet and is typically found in mountainous regions of open country, prairies, arctic and alpine tundra, open wooded areas, and barren areas. Both bald and golden eagles are carnivores. In New Mexico, bald eagles prey on fish but also on mammals, especially prairie dogs (*Cynomys* sp.). Golden eagles feed mainly on small mammals, as well as invertebrates, carrion, and other wildlife (BISON-M 2014).

## 3.2.2 Impacts from the No Action Alternative

### Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to wildlife or migratory birds, because the ROW would not be granted and no ground disturbance or noise related to construction and operations would occur.

### Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

## 3.2.3 Impacts from the Proposed Action

### General Wildlife

Construction of the proposed pipeline would result in approximately 489.81 acres of surface disturbance or habitat exclusion.

Impacts to 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). Oil and gas development includes both direct and indirect impacts to wildlife associated with ground disturbances caused by drilling, constructing road networks, installing pipelines, and other associated infrastructure, as well as disturbance associated with ongoing maintenance.

Construction of the pipeline would cause short-term impacts by temporarily removing vegetation from the 50-foot-wide ROW. Reclamation of the disturbed pipeline areas would likely return those affected areas to pre-construction herbaceous production within two to three growing seasons, depending on drought conditions. Additional short-term impacts may include displacement of wildlife during construction activities or exposure of wildlife to hazards such as open trenches and project-related vehicle traffic.

After construction, most species should become acclimated to the operational activity associated with maintenance and operations of the facilities as wildlife typically habituate to and become accustomed to new noise and activity over the long term.

### **Migratory Birds**

Adult migratory birds would not be directly harmed by the Proposed Action because of their mobility and ability to avoid areas of human activity. No nests were observed during surveys in February 2014. Any nests within the project area at the time of construction, along with eggs and juveniles, may be directly impacted during construction and removal of vegetation. The primary vegetation within the project area that would be impacted by the Proposed Action would be shinnery oak shrublands and Chihuahuan desert grasslands. Because of the abundance of similar habitat in the surrounding area, the impact to the bird populations that use these habitats would be low and short term.

The increased human presence, traffic, noise levels, and dust dispersion during construction and reclamation may indirectly disturb or displace adults from nests and foraging habitats within and surrounding the project area in the short term (approximately 1 year of construction and 1 year of reclamation). Long-term production operations would result in only a slight increase in human activity in the immediate project area.

Activities in the survey area are not expected to impact bald and golden eagles. No bald eagles were observed during the field survey, and golden eagles that may occur in the survey area likely would not be disturbed. Bald eagles are unlikely to occur in the project area due to the lack of water, trees, and preferred prey. Golden eagles may occur in the project area, especially outside the breeding season when they can perch on utility poles far from cliffs and other rugged terrain. However, their presence would likely be of short duration and there would be no long-term and/or significant impacts to the species and its habitat.

In general, no major or long-term effects on migratory birds are anticipated from the implementation of the proposed project. However, incidental mortality or displacement is possible on a local scale. Plant communities present in the project area are widespread elsewhere and many birds occurring locally would likely simply move into adjacent habitats in response to temporary habitat loss.

### **Cumulative Impacts**

*Pending further information from BLM.*

Large-scale oil and gas development in the area has caused habitat alteration and fragmentation. Well pad and road density break the available habitat into smaller and smaller pieces, which can lead to displacement and physiological stress in wildlife species. 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, noise, interaction).

Watkins et al. (2007) describe quantitative thresholds of fragmentation impact as moderate, high, and 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. The density of current oil and gas development varies across the project area; however, the existing habitat fragmentation in the project area is considered high.

Wildlife habitat alteration includes modification of the vegetation type on the disturbed areas and, on a larger scale, habitat fragmentation for some species, along with noise and visual intrusion into the area during various phases of the project. Provided that revegetation efforts on the cumulative disturbance areas are successful through implementation of the Proposed Action's project design features, as well as successful revegetation for other future activities, the overall cumulative impact to wildlife as a result of habitat fragmentation would be low.

### **Mitigation Measures and Residual Impacts**

Measures to minimize impacts to wildlife are described in the Proposed Action's project design features (see Section 2.1.2). Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

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### **3.2.4 Impacts from Alternative B**

#### **Direct and Indirect Impacts**

Construction of the pipeline sections would result in approximately 490.70 acres of surface disturbance or habitat exclusion.

Impacts to 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). Oil and gas development includes both direct and indirect impacts to wildlife associated with ground disturbances caused by drilling, constructing road networks, installing pipelines, and other associated infrastructure, as well as disturbance associated with ongoing maintenance.

Construction of the pipeline would cause short-term impacts by temporarily removing vegetation from the 50-foot-wide ROW. Reclamation of the disturbed pipeline areas would likely return those affected areas to pre-construction herbaceous production within two to three growing seasons, depending on drought conditions. Additional short-term impacts may include displacement of wildlife during construction activities or exposure of wildlife to hazards such as open trenches and project-related vehicle traffic.

After construction, most species should become acclimated to the operational activity associated with maintenance and operations of the facilities as wildlife typically habituate to and become accustomed to new noise and activity over the long term.

#### **Cumulative Impacts**

*Pending further information from BLM.*

Assuming that the same project design features would be implemented for Alternative B, as well as implementation of BMPs for other future planned activities, would mean that overall cumulative impacts to wildlife would be low.

### **Mitigation Measures and Residual Impacts**

Measures to minimize impacts to wildlife are described in the project design features (see Section 2.1.2). Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

## 3.3 Special-status Species

### 3.3.1 Affected Environment

The special-status species evaluated in this EA are described in the BA (see Appendix B) and consist of 1) all federally protected (i.e., endangered and threatened) species; 2) additional species listed by the USFWS as candidate and proposed species and species under review (USFWS 2014); 3) state-listed endangered and threatened species; 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 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 FLPMA of 1976; and Department of the Interior Manual 235.1.1A.

The species evaluated in this EA are listed in Table 4 and Table 5 of the BA (see Appendix B).

### Special-status Plants

The New Mexico Rare Plant Technical Council (1999) lists 10 species as rare for Chaves County and 28 species as rare for Eddy County. Of the 38 species listed, five—Kuenzler's hedgehog cactus (*Echinocereus fendleri* var. *kuenzleri*), Sneed's pincushion cactus (*Coryphantha sneedii* var. *sneedii*), Lee's pincushion cactus (*Coryphantha sneedii* var. *leei*), gypsum wild-buckwheat (*Eriogonum gypsophilum*), and Pecos sunflower (*Helianthus paradoxus*)—have federal listing by the USFWS (see Appendix B, Table 4). In addition, Tharp's blue-star (*Amsonia tharpii*), Wright's marsh thistle (*Cirsium wrightii*), Guadalupe mescal bean (*Dermatophyllum guadalupense*), gypsum wild-buckwheat, Kuenzler's hedgehog cactus, Scheer's beehive cactus (*Coryphantha robustispina* var. *scheeri*) Allred's flax (*Linum allredii*), Guadalupe jewelflower (*Strepanthus sparsiflorus*), and shining crested coralroot (*Hexalectris nitida*) are New Mexico State-listed or BLM sensitive species known to occur in Chaves or Eddy Counties (see Appendix B, Table 5). None of these species were observed by the SWCA biologist during the biological survey in February 2014. The project area provides potential habitat for one state threatened and BLM sensitive species, Scheer's beehive cactus.

### Special Management Species

The federal species evaluated in this EA are listed within the BA (see Appendix B). In total, nine federally endangered, six federally threatened, one federally proposed threatened, and one experimental, non-essential population species have the potential to occur in Chaves and Eddy Counties (Appendix B). Of those, two species, the aplomado falcon and the LPC, could potentially occur within the project area and are further evaluated in the BA (Appendix B). The occurrence of all other federally listed species was determined to be unlikely in the project area. Among them are two fish, three riparian birds, one bird inhabiting woodlands, and three invertebrates that require water. Four federally protected plants were not observed during the biological surveys conducted along the proposed route, nor was any habitat suitable to those plants noted. Thus, they are excluded from further analysis.

Fifty-seven other special-status species are possible in Chaves and Eddy Counties. Of those, eight species were found to have the potential to occur in the project area and are further evaluated in Section 6. The eight species include two reptiles—the DSL and the Texas horned lizard—both of which are considered sensitive by the BLM and the DSL is also state-listed as endangered. Three additional bird species—ferruginous hawk, burrowing owl (*Athene cunicularia*), and loggerhead shrike (*Lanius ludovicianus*)—listed as sensitive by the BLM. The remaining species with potential to occur in the project area are the Sprague's pipit (*Anthus spragueii*), a USFWS candidate species; common ground-dove (*Columbina passerina*), a state endangered species; and the Scheer's beehive cactus (*Coryphantha robustispina* var. *scheeri*), a state threatened and BLM sensitive species.

The 2008 Special-Status Species RMPA (BLM 2008a) identified the LPC area based on population levels at the time and suitability of habitat. The project area has four designated management areas: the CMA, the PPA, the SSPA, and the IPA. Included in the IPA are 17 HEAs.

Segments of the Proposed Action occur within LPC HEAs as described in the 2008 Special-Status Species RMPA. Seventeen HEAs were established in the RMPA as potential LPC habitat building blocks for expansion of the species. These areas contain a combination of three key components: (1) suitable LPC vegetation habitat, (2) a minimum habitat patch size of 320 acres not affected by fragmentation (development), and/or (3) a history of LPC occupation.

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### **3.3.2 Impacts from the No Action Alternative**

#### **Direct and Indirect Impacts**

Under the No Action alternative, there would be no impacts to special-status species, because the ROW would not be granted and no ground disturbance or noise related to construction and operations would occur.

#### **Cumulative Impacts**

No cumulative impact would be realized as a result of the No Action alternative.

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### **3.3.3 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

Short-term impacts to special-status species include removal or crushing of existing vegetation and compaction of soils from construction and maintenance traffic and disturbance from noise and human activity.

Potential short-term direct impacts to special-status species are the risk of direct mortality of species during construction and loss or degradation of native habitat and displacement of wildlife species from habitat due to development. Potential short-term indirect impacts to special-status species may include disruption or displacement of species from nesting/birthing and foraging areas, other activity patterns due to construction, increased human activity, increased predation on sensitive species due to displacement from their habitat during construction, and other human activities such as noise disturbance.

Long-term impacts include permanent loss of habitat due to placement of the gas plant facilities and associated fencing and disturbance from noise and human activity associated with operation and maintenance of these facilities. Potential long-term impacts to special-status species could include increased risk of direct mortality from vehicle collisions, direct loss or degradation of native habitat and displacement of wildlife species from habitat due to development, and direct mortality of bird species due to the collision threat posed by structures, transmission lines, grounding wires, and guy wires, as well as potential injury or mortality from electrocution.

Potential long-term indirect impacts to special-status species could include fragmentation and isolation of connected habitats, including reduced habitat patch size, reduced distance to areas of disturbance, and the potential displacement of wildlife; increases in the potential for harassment of wildlife due to the increased traffic; and displacement of species from habitat areas due to operation, including increased noise, or location of the project components. See project design features (Section 2.1.2) for operational noise and lighting design plans that would mitigate impacts to LPCs and DSLs.

#### ***Lesser Prairie-Chicken (Tympanuchus pallidicinctus)***

The main threat to the species consists of habitat loss and fragmentation due to agricultural land conversion and oil and gas development (USFWS 2010; Hunt and Best 2004; Fuhlendorf et al. 2002; Woodward et al. 2001). Oil drilling may play a role in the previous abandonment of a number of historically active lek sites in the Carlsbad area. Preliminary data over 2 years show that inactive lek sites are exposed to higher ambient sound levels than active sites (Hunt and Best 2002). The same study also reports a significantly higher number of operating wells within 1 mile of inactive than active lek sites (New Mexico Partners in Flight 2014a).

The LPC may occur in the project area and 77.78 acres of LPC habitat exist within the project area. The nearest known active lek occurs 2.42 miles east of the project area within Section 2, Township 16 South, Range 30 East. Impacts to LPC present in the general area of the project are possible in the form of noise disturbance, but such impacts would only be temporary, and any LPCs present locally during pipeline construction activities would likely move to adjacent habitat dominated by grasses. The proposed project may impact individuals or habitat. Established regulations in the RMPA (BLM 2008) must be closely adhered to in order to ensure the project would not contribute to a trend towards federal listing or cause a loss of viability to the population or species. The BLM RMPA has specific restrictions and conservation measures outlined for activities that take place in the Primary Population Area. These restrictions and conservation measures, as well as conservation measures are outlined in the CCA/CCAA, for the LPCs are discussed in detail in Section 6.

The project area is located in the BLM's RMPA area and is likely enrolled in the CCA/CCAA. Impacts and LPC would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA area, strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project. Given the analysis of effects above, the proposed project is unlikely to jeopardize the LPC.

### ***Dunes Sagebrush Lizard (Sceloporus arenicolus)***

Areas within the survey area fall within the boundary of the DSL habitat area as determined in the BLM RMPA (2008). The proposed project may impact individuals and/or habitat; 128.82 acres of DSL habitat exist within the project area. Established regulations in the RMPA and trenching guidelines must be closely adhered to in order to ensure the project would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

The project area crosses the known distribution for the DSL. The best management practices must be followed, as required by the BLM in the RMPA (BLM 2013), and by the NMDGF Habitat Handbook trenching guidelines (NMDGF 2003). Biological monitors present during pipeline trenching would reduce DSL mortality from entrapment. In addition, SWCA recommends that all personnel working on the construction of the proposed project are instructed to avoid intentionally harassing all animals.

As previously stated, the project area is located in the BLM's RMPA area and is enrolled in the CCA/CCAA. Impacts to the DSL would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project.

### ***Aplomado Falcon (Falco femoralis septentrionalis)***

The project area is within the known distribution of the aplomado falcon. Approximately 62 acres of potential Chihuahuan Basins and Playas, and 315 acres of Chihuahuan Desert Grasslands with scarce yuccas and mesquite are present within the project area in small patches, which provide potential habitat. The presence of utility poles provides hunting perches for this species. Impacts to any aplomado falcons present in the general area of the project are possible in the form of noise disturbance, but such impacts would only be temporary. Project construction should not occur between March and October or be preceded by nest surveys to eliminate the possibility of aplomado falcons nesting in the project area. No long-term impacts to the aplomado falcon or its habitat are anticipated. Given the analysis of effects above, the proposed project may affect, is not likely to adversely affect the aplomado falcon.

### ***Common Ground-Dove (Columbina passerina)***

Should construction activities be conducted outside the breeding season, any impact to common ground-doves present in the project area would consist of noise disturbance and be temporary. If construction activities were to occur during the breeding season, mitigation options include pre-construction nest surveys to eliminate the possibility of impacts to a pair nesting in the project area. The proposed project

may impact individuals or habitat, but likely would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### ***Burrowing Owl (*Athene cunicularia*)***

Although the species' presence was not documented during surveys, the burrowing owl has the potential to occur in the project area and be subjected to temporary noise disturbance during construction. In part for that reason, project construction would be preferable outside the breeding season.

If construction activities are planned during the nesting season, pre-construction surveys should be conducted. Any unoccupied burrows, such as those detected in the project area, should be avoided if possible, with workers being advised to avoid parking in their vicinity. Overall, no long-term impacts are anticipated to the burrowing owl or its habitat.

## **Cumulative Impacts**

*Pending further information from BLM.*

Other ongoing activities that impact special-status species in the cumulative area of analysis are grazing and dispersed recreational use. Cumulatively, these combined actions could result in the loss, and further fragmentation, of native habitat for the special-status species listed above. Cumulatively, the Proposed Action would add to the existing habitat fragmentation for some special-status species, along with noise and visual intrusion into the area during various phases of the project.

## **Mitigation Measures and Residual Impacts**

Measures to minimize impacts to special-status species are described in the Proposed Action's project design features (see Section 2.1.2).

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### **3.3.4 Impacts from Alternative B**

#### **Direct and Indirect Impacts**

Potential short-term direct impacts to special-status species are the risk of direct mortality of species during construction and loss or degradation of native habitat and displacement of wildlife species from habitat due to development. Potential short-term indirect impacts to special-status species may include disruption or displacement of species from nesting/birthing and foraging areas, other activity patterns due to construction, increased human activity, increased predation on sensitive species due to displacement from their habitat during construction, and other human activities such as noise disturbance.

Long-term impacts include permanent loss of habitat due to placement of the gas plant facilities and associated fencing and disturbance from noise and human activity associated with operation and maintenance of these facilities. Potential long-term impacts to special-status species could include increased risk of direct mortality from vehicle collisions, direct loss or degradation of native habitat and displacement of wildlife species from habitat due to development, and direct mortality of bird species due to the collision threat posed by structures, transmission lines, grounding wires, and guy wires, as well as potential injury or mortality from electrocution.

Potential long-term indirect impacts to special-status species could include fragmentation and isolation of connected habitats, including reduced habitat patch size, reduced distance to areas of disturbance, and the potential displacement of wildlife; increases in the potential for harassment of wildlife due to the increased traffic; and displacement of species from habitat areas due to operation, including increased noise, or location of the project components. See project design features (Section 2.1.2) for operational noise and lighting design plans that would mitigate impacts to LPCs and DSLs.

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The project area is located in the BLM's RMPA area and is likely enrolled in the CCA/CCAA. Impacts and LPC would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA area, strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project. Given the analysis of effects above, the proposed project is unlikely to jeopardize the LPC.

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Areas within the survey area fall within the boundary of the DSL habitat area as determined in the BLM RMPA (2008). The proposed project may impact individuals and/or habitat; 128.82 acres of DSL habitat exist within the project area. Established regulations in the RMPA and trenching guidelines must be closely adhered to in order to ensure the project would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

The project area crosses the known distribution for the DSL. The best management practices must be followed, as required by the BLM in the RMPA (BLM 2013), and by the NMDGF Habitat Handbook trenching guidelines (NMDGF 2003). Biological monitors present during pipeline trenching would reduce DSL mortality from entrapment. In addition, SWCA recommends that all personnel working on the construction of the proposed project are instructed to avoid intentionally harassing all animals.

As previously stated, the project area is located in the BLM's RMPA area and is enrolled in the CCA/CCAA. Impacts to the DSL would be mitigated by following the conservation measures listed in the CCA and CCAA certificates. Within the RMPA strict regulations apply and those regulations are included in the CCAA conservation measures. Before construction begins it is advisable to verify with the BLM which regulations apply to this specific project.

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### ***Common Ground-Dove (Columbina passerina)***

Should construction activities be conducted outside the breeding season, any impact to common ground-doves present in the project area would consist of noise disturbance and be temporary. If construction activities were to occur during the breeding season, mitigation options include pre-construction nest surveys to eliminate the possibility of impacts to a pair nesting in the project area. The proposed project may impact individuals or habitat, but likely would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### ***Burrowing Owl (Athene cunicularia)***

Although the species' presence was not documented during surveys, the burrowing owl has the potential to occur in the project area and be subjected to temporary noise disturbance during construction. In part for that reason, project construction would be preferable outside the breeding season.

If construction activities are planned during the nesting season, pre-construction surveys should be conducted. Any unoccupied burrows, such as those detected in the project area, should be avoided if possible, with workers being advised to avoid parking in their vicinity. Overall, no long-term impacts are anticipated to the burrowing owl or its habitat.

## **Cumulative Impacts**

*Pending further information from BLM.*

Other ongoing activities that impact special-status species in the cumulative area of analysis are grazing and dispersed recreational use. Cumulatively, these combined actions could result in the loss, and further fragmentation, of native habitat for the special-status species listed above. Cumulatively, Alternative B would add to the existing habitat fragmentation for some special-status species, along with noise and visual intrusion into the area during various phases of the project.

## **Mitigation Measures and Residual Impacts**

Soil protection and restoration methods are included in the project design features (see Section 2.1.2).

## **3.4 Cultural Resources**

### ***3.4.1 Affected Environment***

Several federal laws and implementing regulations apply to the evaluation and protection of significant cultural resource properties and preservation of cultural standards. Among the most significant of these laws and regulations are:

- NHPA, Section 106, as amended (16 USC 470, EO 13007);
- National Register of Historic Places of 1966 (NRHP) (36 CFR 60);
- Protection and Enhancement of the Cultural Environment, 1971 (EO 11593);
- American Indian Religious Freedom Act Amendments of 1978, as amended (42 USC 1996, 43 CFR 7);
- Archaeological Resources Protection Act of 1979 (16 USC 470aa-47011, 43 CFR 7); and
- Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001, 43 CFR 10).

Management of cultural resources on BLM lands is determined by policy directives contained in the CFO RMP (BLM 1988), as amended. The BLM makes land use decisions that could limit access or require alterations to the Proposed Action to minimize impacts to cultural resources.

SWCA archaeologists conducted an intensive Class III inventory of the Proposed Action's area of potential effects (APE). SWCA conducted the Class III survey over three sessions between November 2013 and February 2014, in accordance with the *Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities* (BLM 2005) and *Standards for Survey Site Evaluation and Reporting for the CFO* (BLM 2012). The survey was conducted by a two-

person crew by walking parallel transects spaced no more than 49 feet apart. The surveyed area included 308.53 acres, consisting of the 50 feet of survey width on either side of the proposed pipeline centerline to accommodate changes in the final engineered route, for a total surveyed width of 100 feet. The surveyed area consists of 186.22 acres of state land within the PA, 17.24 acres of New Mexico SLO land outside the PA, 65.14 acres of private land, and 39.93 acres of land managed by the BLM Roswell Field Office.

In total, the Class III inventory investigated nine cultural properties—five newly recorded archaeological sites and four previously recorded sites. One previously recorded site could not be re-located. Sixteen isolated manifestations (IMs) were also identified.

One previously recorded site—LA 39907—appeared on the Archaeological Records Management Section (ARMS) and/or BLM CFO shapefiles to be within the project area; however, upon investigation, the site could not be re-located. This site had unknown eligibility; because the site could not be re-located during this investigation, SWCA recommends the site ineligible. No further management of this resource is warranted.

Newly recorded site LA 178590 has undetermined eligibility. The site has been avoided by a reroute and would not be impacted by the proposed project. No further management is recommended at this time.

Three of the newly recorded sites—LA 178589, LA 178591, LA 178593—and two previously recorded sites, LA 37566 and LA 44821, are recommended eligible to the NRHP. LA 37566 and LA 44821 have been previously recommended eligible to the NRHP and SWCA concurs with these recommendations.

Of these five recommended eligible sites, two would be impacted by the proposed project. The proposed path of the pipeline was rerouted around sites LA 37566, LA 44821, and LA 178589. Two sites—LA 178591 and LA 178593—are bisected by the proposed pipeline alignment. It is recommended that these sites be avoided by boring (no reroute could be found, as further cultural resources extended 100 to 200 meters (m; 328 feet to 656 feet) outside the proposed pipeline on either side). If avoidance is not feasible, mitigation measures including monitoring, testing, and data recovery are recommended.

Previously recorded sites LA 39907 and LA 163311 are recommended not eligible to the NRHP. The southern portion of LA 163311 is still in use by the Atchison, Topeka and Santa Fe (AT&SF) Railroad Company. Despite the site's ineligibility to the NRHP, boring under the railroad would be required by the pipeline to cross this resource. No further management is recommended for previously recorded site LA 39907.

The remaining newly recorded site—LA 178592—and the 16 IMs are recommended not eligible to the NRHP. No further management of these ineligible resources is recommended.

Full site descriptions are provided in SWCA's cultural resource inventory report (Carlson et al. 2014).

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### **3.4.2 Impacts from the No Action Alternative**

#### **Direct and Indirect Impacts**

Under the No Action alternative, there would be no impacts to cultural resources, because the ROW would not be granted and no ground disturbance would occur.

#### **Cumulative Impacts**

No cumulative impact would be realized as a result of the No Action alternative.

### 3.4.3 Impacts from the Proposed Action

#### Direct and Indirect Impacts

Direct impacts to a cultural site, if disturbed by construction, would include alterations to the physical integrity of the site. However, of the five sites recommended eligible to the NRHP, three are located outside the proposed construction corridor. These resources would not be impacted by the Proposed Action. Two NRHP-eligible sites (LA 178591 and LA 178593) would be partially impacted in that a portion of the defined eligible cultural site boundary lies within the area of direct ground disturbance. These sites would not be adversely affected provided the recommended mitigation measures are implemented. It is recommended that these sites be avoided by boring (no reroute could be found, as additional cultural resources extended 100 to 200 m [328 feet to 656 feet] outside the proposed pipeline on either side). If avoidance is not feasible, mitigation measures including monitoring, testing, and data recovery are recommended.

If a cultural site is significant for reasons other than its scientific information potential, direct impacts may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. A potential indirect impact from the Proposed Action is the increase in human activity that could contribute to unauthorized removal or other alteration to cultural sites in the area.

#### Cumulative Impacts

There would be no contribution to cumulative impacts to cultural resources from this project, as significant cultural sites are being avoided or mitigated. A positive cumulative effect of all cultural studies required to be conducted ahead of oil and gas development is the additional scientific information yielded by the consistent archaeological surveys, providing a greater database of information for the cultural record of the area.

#### Mitigation Measures and Residual Impacts

Mitigation measures would apply to cultural sites recommended eligible for listing in the NRHP that could potentially be adversely impacted by the Proposed Action. Eligibility recommendations and mitigation measures are provided in the table below (Table 3.2).

**Table 3.2. Site Summary, Eligibility, and Mitigation Recommendations**

LA No.	Field/Agency No.	Site Type/Cultural Affiliation and Dates	Eligibility Recommendation	Recommended Mitigation
37566	N/A	Artifact scatter with features/Formative (A.D. 200–1400)	Eligible, Criteria D (SWCA recommendation)	Avoidance by surveyed reroute
39907	N/A	Artifact scatter with features	Not eligible (not relocated)	None (not re-located)
44821	N/A	Feature and artifact scatter/Formative (A.D. 500–1400)	Eligible, Criteria D (SWCA recommendation)	Avoidance by surveyed reroute
163311	N/A	Industrial/Recent (A.D. 1955–1978)	Not eligible	Avoidance by boring or additional mitigation (south portion of railway is still in use)
178589	27852-RB1	Artifact scatter with feature/Formative (A.D. 900–1350)	Eligible, Criteria D (SWCA recommendation)	Avoidance by surveyed reroute
178590	27852-RB2	Artifact scatter with features/Formative (A.D. 500–1400)	Undetermined	Avoidance by surveyed reroute

LA No.	Field/Agency No.	Site Type/Cultural Affiliation and Dates	Eligibility Recommendation	Recommended Mitigation
178591	27852-RB3	Artifact scatter with features/Formative (A.D. 200–1400)	Eligible, Criteria D (SWCA recommendation)	Avoidance by boring or additional mitigation
178592	27852-RB4	Artifact scatter/Formative (A.D. 750–1400)	Not eligible	None
178593	27852-RB5	Artifact scatter with features/ Unspecified Archaic (B.C. 5500–200 A.D.)	Eligible, Criteria D (SWCA recommendation)	Avoidance by boring or additional mitigation

### 3.4.4 Impacts from Alternative B

#### Direct and Indirect Impacts

Direct impacts to a cultural site, if disturbed by construction, would include alterations to the physical integrity of the site. However, of the five sites recommended eligible to the NRHP, three are located outside the proposed construction corridor. These resources would not be impacted by Alternative B. Two NRHP-eligible sites (LA 178591 and LA 178593) would be partially impacted in that a portion of the defined eligible cultural site boundary lies within the area of direct ground disturbance. These sites would not be adversely affected provided the recommended mitigation measures are implemented. It is recommended that these sites be avoided by boring (no reroute could be found, as additional cultural resources extended 100 to 200 m [328 feet to 656 feet] outside the proposed pipeline on either side). If avoidance is not feasible, mitigation measures including monitoring, testing, and data recovery are recommended.

If a cultural site is significant for reasons other than its scientific information potential, direct impacts may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. A potential indirect impact from Alternative B is the increase in human activity that could contribute to unauthorized removal or other alteration to cultural sites in the area.

#### Cumulative Impacts

There would be no contribution to cumulative impacts to cultural resources from this project, as significant cultural sites are being avoided or mitigated. A positive cumulative effect of all cultural studies required to be conducted ahead of oil and gas development is the additional scientific information yielded by the consistent archaeological surveys, providing a greater database of information for the cultural record of the area.

#### Mitigation Measures and Residual Impacts

Mitigation measures would apply to cultural sites recommended eligible for listing in the NRHP that could potentially be adversely impacted by Alternative B. Eligibility recommendations and mitigation measures are provided in Table 3.2.

## 3.5 Visual Resources

### 3.5.1 Affected Environment

The BLM is responsible for managing public lands for multiple uses while ensuring that the scenic values of public lands are considered before authorizing actions on public lands. The BLM accomplishes this through the VRM system. The VRM system classifies land based on visual appeal, public concern for scenic quality, and visibility from travel routes or observation points. The system is based on the premise that public lands have a variety of visual values, and these values mandate different levels of management. Visual values are identified through the VRM inventory (BLM Manual Section 8410) process that consists of scenic quality evaluation, sensitivity level analysis, and a delineation of distance

zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. The visual resource inventory classes are then evaluated with other management considerations and a VRM class is assigned to identify the degree of acceptable visual change (contrast to form, line, color, and texture) within a landscape based on the physical and sociological characteristics: Classes I and II are the most valued, Class III represents a moderate value, and Class IV is of least value.

A section of the proposed pipeline falls within VRM Class III (Figure 3.1). The objective for VRM Class III lands is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The project area occurs within three EPA ecoregions, Chihuahuan Desert Grasslands, Chihuahuan Basins and Playas, and Shinnery Sands (Griffith et al. 2006). Vegetation along the proposed pipeline route is primarily sparse and disturbed grasslands. The land form topography is flat with scattered hilltops visible in the distance. Vertical elements in the surrounding landscape include pumpjacks and aboveground tanks associated with the surrounding oil and gas production facilities. Linear features are present in the form of oil and gas access roads and overhead power lines. Colors are tans and browns from the sandy soils and light greens from the vegetation. The following photograph (Figure 3.2) provides a visual depiction of the representative landscape along the proposed pipeline; this picture is located within the general area where the proposed pipeline route crosses the VRM Class III management area.

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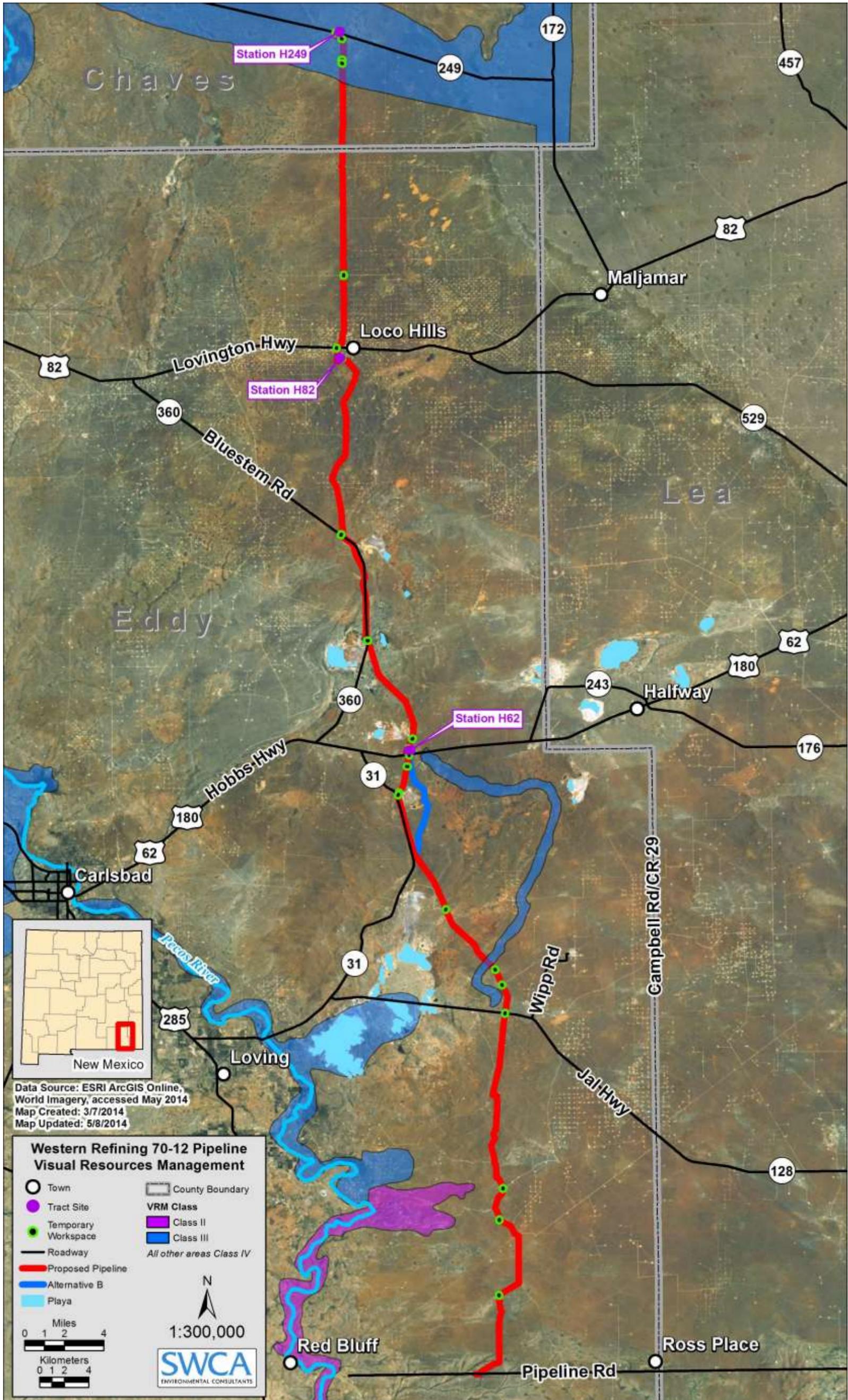


Figure 3.1 Visual Resources Management



**Figure 3.2. View facing north. Other area oil infrastructure is in view (taken February 21, 2014)**

Section 202 of FLPMA requires the BLM to give priority to designation and protection of Area of Critical Environmental Concern (ACEC) during the land use planning process. An ACEC is an administrative designation and pertains to a defined area within public lands where special management attention is needed to protect and prevent irreparable damage to relevant and important values or other natural systems or processes, or to protect human life and provide safety from natural hazards (BLM 1988). ACECs differ from other special management designations, such as wilderness areas, in that the ACEC designation, by itself, does not automatically prohibit other uses in the area.

The proposed pipeline is not located within or adjacent to an ACEC; the closest ACEC is the Pecos River/Canyons Complex located approximately 2.9 miles to the west of the Proposed Action and approximately 4 miles to the west of Alternative B. However, the Proposed Action pipeline route crosses through the Hackberry Lake OHV Recreation SMA and the proposed Alternative B pipeline route crosses through the Maroon Cliffs Archaeological District SMA (Figure 3.3).

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### ***3.5.2 Impacts from the No Action Alternative***

#### **Direct and Indirect Impacts**

Under the No Action alternative, there would be no impacts to visual resources, because the ROW would not be granted and the proposed pipeline would not be built.

#### **Cumulative Impacts**

No cumulative impact would be realized as a result of the No Action alternative.

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### ***3.5.3 Impacts from the Proposed Action***

#### **Direct and Indirect Impacts**

Potential impacts from the Proposed Action would not degrade the relevant and important values of an ACEC due to its location outside of any known ACEC boundary. The potential impacts to the Hackberry Lake OHV Recreation SMA would consist of a direct impact to the surface within the SMA boundary for the proposed pipeline installation.

The area is rural, primarily uninhabited, and not a high-use area for recreation. The most frequent viewers would be residents of Chaves and Eddy Counties traveling past the proposed pipeline route and

employees actively working in area oil and gas activities. The Proposed Action and specifically the aboveground facilities would be consistent with existing landscape developments. Overall, the project

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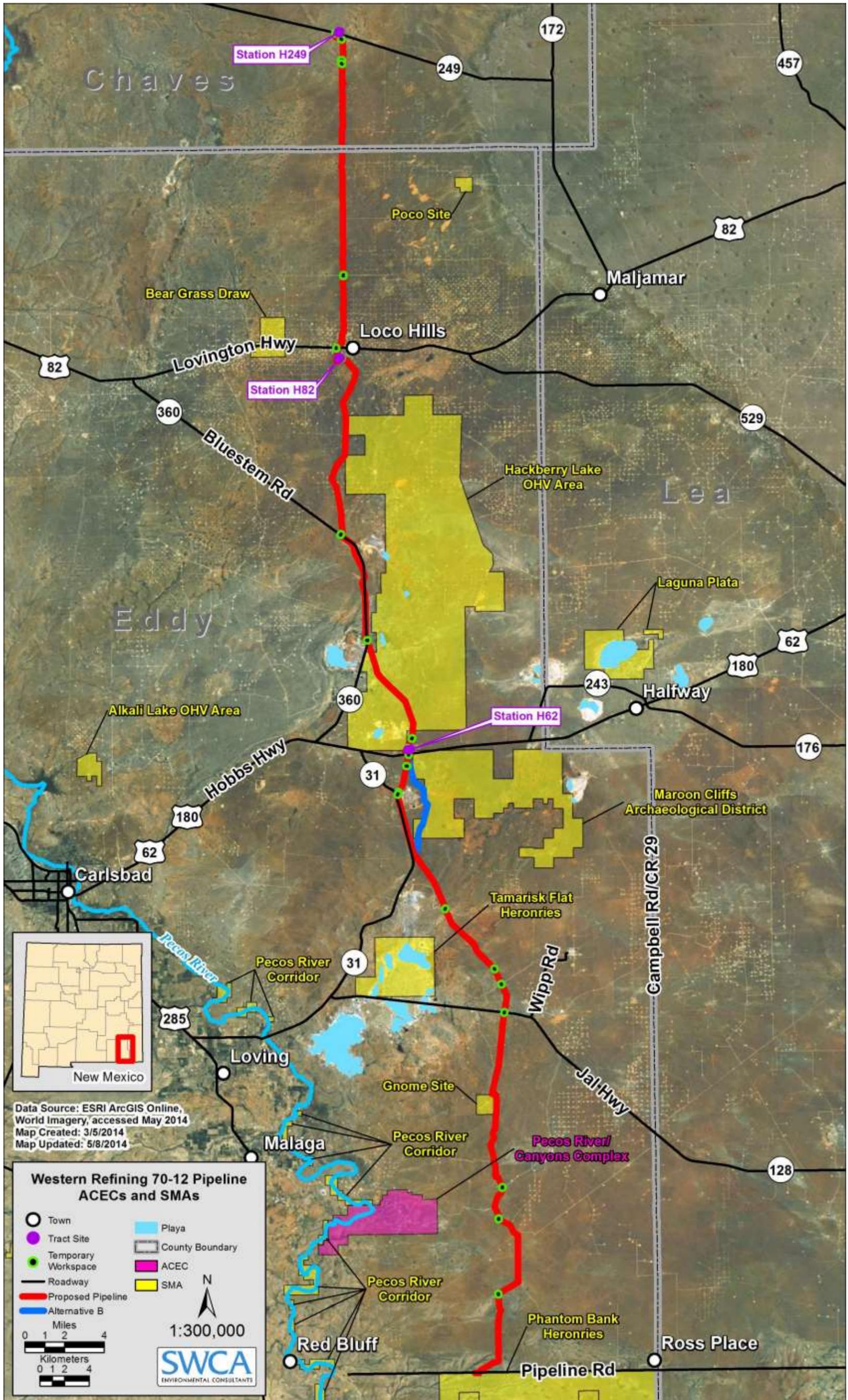


Figure 3.3. ACECs and SMAs

would create contrasts to form, line, color, and texture. Form contrasts would come from the structural element of the proposed stations and fencing added to the flat landscape along the proposed pipeline route. Line contrasts would result from cleared vegetation on the linear pipeline ROW, until reclamation is complete and successful. Color contrasts would come from the disturbance to vegetation, as well as the darker or lighter elements introduced such as facilities. Textural contrast would come from the reflective quality of metallic surfaces on the largely vegetative landscape.

Construction of the pipeline would have short-term direct visual impacts resulting from the removal of existing vegetation. Fugitive dust dispersion during construction and reclamation would create a short-term impact to visibility. A few aboveground facilities would also create a visual impact for the life of operations. The pipeline ROW would disturb primarily grassland vegetation. In some areas, this type of vegetation can recover quickly with successful revegetation treatments. If drought conditions persist, re-establishment of vegetation may take longer than the 2 years previously defined for short-term impacts. Construction of pipelines creates linear features in the landscape and causes contrasts in soil color and changes in vegetation. Soil color contrasts would be eliminated after the ROW is reclaimed and revegetated, but the contrasts caused by the difference in vegetation types between the ROW and the surrounding landscape would be a long-term effect until the disturbed area is revegetated to pre-construction conditions.

The Proposed Action is in compliance with VRM Class III management objectives as proposed activities would represent a minor modification to the landscape and only at close range would dominate the attention of the casual observer.

## Cumulative Impacts

*Pending further information from BLM.*

## Mitigation Measures and Residual Impacts

Measures to minimize impacts to visual resources, the Hackberry Lake OHV Recreation SMA, as well as revegetation measures, are described in the Proposed Action's project design features (see Section 2.1.2). Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

### 3.5.4 Impacts from Alternative B

#### Direct and Indirect Impacts

Potential impacts from Alternative B would not degrade the relevant and important values of an ACEC due to its location outside of any known ACEC boundary. The potential impacts to the Maroon Cliffs Archaeological District SMA would consist of a direct impact to the surface within the SMA boundary for the proposed pipeline installation.

The area is rural, primarily uninhabited, and is highly developed for existing oil and gas activities. The general area where the proposed Alternative B pipeline route would cross the Maroon Cliffs Archaeological District is already under use by Intrepid Potash, Inc. for their potash mine tailings. The most frequent viewers would be residents of Chaves and Eddy Counties traveling past the proposed pipeline route and employees actively working in area oil and gas activities. Alternative B and specifically the aboveground facilities would be consistent with existing landscape developments. Overall, the project would create contrasts to form, line, color, and texture. Form contrasts would come from the structural element of the proposed stations and fencing added to the flat landscape along the proposed pipeline route. Line contrasts would result from cleared vegetation on the linear pipeline ROW, until reclamation is complete and successful. Color contrasts would come from the disturbance to vegetation, as well as the darker or lighter elements introduced such as facilities. Textural contrast would come from the reflective quality of metallic surfaces on the largely vegetative landscape.

Construction of the pipeline would have short-term direct visual impacts resulting from the removal of existing vegetation. Fugitive dust dispersion during construction and reclamation would create a short-term impact to visibility. A few aboveground facilities would also create a visual impact for the life of operations. The pipeline ROW would disturb primarily grassland vegetation. In some areas, this type of vegetation can recover quickly with successful revegetation treatments. If drought conditions persist, re-establishment of vegetation may take longer than the 2 years previously defined for short-term impacts. Construction of the proposed pipeline creates linear features in the landscape and causes contrasts in soil color and changes in vegetation. Soil color contrasts would be eliminated after the ROW is reclaimed and revegetated, but the contrasts caused by the difference in vegetation types between the ROW and the surrounding landscape would be a long-term effect until the disturbed area is revegetated to pre-construction conditions.

Alternative B is in compliance with VRM Class III management objectives as proposed activities would represent a minor modification to the landscape and only at close range would dominate the attention of the casual observer.

### **Cumulative Impacts**

*Pending further information from BLM.*

### **Mitigation Measures and Residual Impacts**

Measures to minimize impacts to visual resources along the proposed pipeline route are described in the project design features (see Section 2.1.2). The BLM CFO would direct Western as to any mitigation measures required to minimize potential impacts to the Maroon Cliffs Archaeological District SMA.

Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

## **3.6 Livestock Grazing**

### **3.6.1 Affected Environment**

Almost all livestock grazing within the 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. The project area is currently suffering as a result of prolonged drought and rangeland wildfire continues to threaten rangeland health and forage availability.

Livestock grazing is common along the extent of the proposed pipeline and could include grazing of domestic cattle, sheep, goats, and horses. The most common livestock operations in the project area are cattle and calf operations. The project area coincides with several BLM allotments within the CFO, summarized in Table 3.3. The grazing authorization grants BLM permit holders use of a certain number of active animal unit months (AUMs) of forage. An AUM is the amount of forage needed to sustain a cow (1,000 lbs) or cow/calf pair for 1 month. Grazing authorizations vary for each allotment.

**Table 3.3 BLM CFO Allotments on BLM-administered Lands Coinciding with the Project Area**

Allotment Number	Allotment Name	Allotment Hectares (Acreage)
77032	Antelope Ridge	24,015.22 (59,342.89)=BLM 2,981.78 (7,368.14)= DOE 83,7.59 (2,069.72) = private 3,525.01(8,710.50) = state Total =31,359.59 (Total = 77,491.24)
77008	Cedar Lake	5,759.97(14,233.20) = BLM 10.64 (26.2994) =private 1478.46 (3,653.3)5= state Total = 7,249.07 (Total = 17,912.85)
77013	Clayton Basin	20,394.35 (50,395.53) = BLM 8,72.36 (2,155.66) = private 2,450.73(6,055.89) = state Total = 23,717.76 (Total = 58,607.08)
77027	Livingston Ridge	15,729.74 (38,869.03) = BLM 399.94 (988.28) = private 5,371.99 (13,274.49) = state Total = 22,665.57 (Total = 56,007.85)
77004	Loco Hills	5,857.29 (14,473.68) = BLM 0,0001 (0.00028) = private 925.24 (22,86.31)= state Total = 6,782.53 (Total = 16,759.99)
770022	Maroon Cliffs	6,421.96 (15,869.02) =BLM 441.370(1,090.65) = private 1,330.40 (3,287.50) = state Total = 8,193.74 (Total = 20,247.17)
77033	Nash Draw	5,517.11 (13,633.07) = BLM 49.67 (122.73) = private 1,095.14 (2,706.14) = state Total =6,661.91 (Total = 16,461.94)
77040	Phantom Banks	21,846.41 (53,983.66) = BLM 284.18 (702.22)= private 1,649.55(4,076.12) = state Total = 23,780.14 (Total = 58,762.00)
77036	Pierce Canyon	9,495.25 (23,463.28) = BLM 260.27(644.12) = private 582.82 (1,440.18) = state Total =10,338.73 (Total = 25,547.57)

Allotment Number	Allotment Name	Allotment Hectares (Acreage)
77026	Quahada Ridge	1,099.50 (2,716.91) = BLM 64.71 (159.89) = private 0.0028 (0.0071) = state 10,287.51 (Total = 25,421)
77042	Twin Wells	15,197.82(37,554.65) = BLM 4,291.73 (10,605.10) = state 83.45(206.21) = private Total = 19,582.72 (Total =48,389.95)
77012	Twin Wells North	33,674.21 (83,210.78) = BLM 644.66 (1,593.02)= private 6,125.49 (15,136.42) = state Total = 40,467.12 (Total = 99,996.43)

### 3.6.2 Impacts from the No Action Alternative

#### Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to livestock grazing, because the ROW would not be granted and no vegetation removal or fencing of available AUMs related to construction and operations would occur.

#### Cumulative Impacts

No cumulative impacts would be realized as a result of the No Action alternative.

### 3.6.3 Impacts from the Proposed Action

#### Direct and Indirect Impacts

Forage removal from the pipeline area would be the main impact to grazing resources in all 12 allotments affected by the Proposed Action. Construction of the pipeline would temporarily remove or impact vegetation from a 50-foot-wide ROW (which includes 30 feet of disturbance area and 20 feet of temporary use or construction area). In total there would be approximately 164.39 hectares (406.21 acres) disturbed or excluded across 12 grazing allotments on BLM-administered lands.

Table 3.4 shows the total acres disturbed or excluded in each allotment from the Proposed Action.

**Table 3.4 Potential Impacts to Grazing Allotments Managed by the BLM CFO**

Project Number	Allotment Name	Proposed BLM Surface Disturbance hectares (acres)
77032	Antelope Ridge	3.52 (8.71)
77008	Cedar Lake	13.63 (33.68)
77013	Clayton Basin	3.74 (9.24)
77027	Livingston Ridge	17.42 (43.04)
77004	Loco Hills	7.65 (18.89)
77022	Maroon Cliffs	25.96 (64.16)
77033	Nash Draw	15.32 (37.85)

<b>Project Number</b>	<b>Allotment Name</b>	<b>Proposed BLM Surface Disturbance hectares (acres)</b>
77040	Phantom Banks	15.99 (39.52)
77036	Pierce Canyon	8.12 (20.06)
77026	Quahada Ridge	0.53 (1.32)
77042	Twin Wells	13.90 (34.36)
77012	Twin Wells North	38.60 (95.39)
<b>Totals</b>		<b>164.39 (406.21)</b>

Ongoing drought in the region could threaten the reclamation success of the disturbed pipeline area if conditions do not improve and indirectly impact grazing opportunities. It is unlikely that herbaceous production and forage levels would return to pre-construction levels, within the average two to three growing seasons, under current drought conditions. If however, drought conditions improve, and the area receives abundant precipitation, than herbaceous production and forage levels may be restored within two to three growing seasons. Additional short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Movement of livestock may also be temporarily impeded in areas of active construction. After construction, livestock should become acclimated to the plant and pipeline activity associated with maintenance of the facilities. Vehicle traffic associated with the Proposed Action could pose impacts to livestock considering that the area is open range and livestock may be found on roads in the area. Livestock carcasses were observed along roadways in areas of open range within the proposed project area.

Direct impacts to livestock occur when holes, ditches or trenches are not excluded properly. Any type of hole or ditch is potentially a hazard to livestock while grazing. Cow or calf injuries may occur if they fall into a ditch or trench-type cavity or in the process of trying to get out. Cow or calf leg injuries also may occur when any hole is left uncovered. Livestock can step into the hole and break or injure a leg. Sink holes were also observed within the proposed project areas. One sink hole observed contained the skull of a bovine. These sink holes can open up or widen during and after construction in areas where the ground is already unstable.

Direct impacts may also include rare occurrences of hydrogen sulfide (H<sub>2</sub>S) poisoning or radiation exposure if leaks occur within the allotment area. LPC and DSL habitats are monitored for H<sub>2</sub>S gasses (New Mexico Partners in Flight 2014), but there is no known monitoring of livestock levels of H<sub>2</sub>S or radiation.

The project has the potential to temporarily impact natural or human-made barriers to livestock movement (fencing/ditches) and range improvements such as watering ponds or water delivery systems (ditches/pipelines) on BLM-administered lands. Impacts to livestock may occur when containment of livestock is compromised (e.g., fencing cutting). This could result in injury to livestock or individuals in the event of a vehicular accident. Indirect impacts include extra time required by the permit holder to locate livestock or potential trespass issues for the respective livestock owner if the livestock cross allotment boundaries.

Surface disturbance resulting from construction and ongoing maintenance may facilitate the introduction and spread of noxious weeds throughout grazing allotments and could accelerate soil erosion which would reduce site productivity and limit grazing opportunities through a reduction in available AUMs.

## **Cumulative Impacts**

*Pending further information from BLM.*

Implementation of the Proposed Action's project design features, as well as implementation of BMPs for other future activities, would mean the cumulative impact to the grazing resources in relation to the availability of forage in the larger surrounding area would be low, because revegetation efforts would restore AUMs in the majority of the cumulative area of analysis.

### **Mitigation Measures and Residual Impacts**

Mitigation measures have been built-in to the Proposed Action and are detailed in Section 2.1.2. No other mitigation has been recommended.

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### **3.6.4 Impacts from Alternative B**

#### **Direct and Indirect Impacts**

Forage removal from the pipeline area would be the main impact to grazing resources in all 12 allotments affected by the Proposed Action. Construction of the pipeline would temporarily remove or impact vegetation from a 50-foot-wide ROW (which includes 30 feet of disturbance area and 20 feet of temporary use or construction area). In total there would be approximately 164.39 hectares (406.21 acres) disturbed or excluded across 12 grazing allotments on BLM-administered lands. See Table 3.4; the proposed BLM and SLO surface disturbance acreages are the same for Alternative B.

Ongoing drought in the region could threaten the reclamation success of the disturbed pipeline area if conditions do not improve and indirectly impact grazing opportunities. It is unlikely that herbaceous production and forage levels would return to pre-construction levels, within the average two to three growing seasons, under current drought conditions. If however, drought conditions improve, and the area receives abundant precipitation, than herbaceous production and forage levels may be restored within two to three growing seasons. Additional short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Movement of livestock may also be temporarily impeded in areas of active construction. After construction, livestock should become acclimated to the plant and pipeline activity associated with maintenance of the facilities. Vehicle traffic associated with Alternative B could pose impacts to livestock considering that the area is open range and livestock may be found on roads in the area. Livestock carcasses were observed along roadways in areas of open range within the proposed project area of Alternative B.

Direct impacts to livestock occur when holes, ditches or trenches are not excluded properly. Any type of hole or ditch is potentially a hazard to livestock while grazing. Cow or calf injuries may occur if they fall into a ditch or trench-type cavity or in the process of trying to get out. Cow or calf leg injuries also may occur when any hole is left uncovered. Livestock can step into the hole and break or injure a leg. Sink holes were also observed within the proposed project areas. One sink hole observed contained the skull of a bovine. These sink holes can open up or widen during and after construction in areas where the ground is already unstable.

Direct impacts may also include rare occurrences of hydrogen sulfide (H<sub>2</sub>S) poisoning or radiation exposure if leaks occur within the allotment area. LPC and DSL habitats are monitored for H<sub>2</sub>S gasses (New Mexico Partners in Flight 2014), but there is no known monitoring of livestock levels of H<sub>2</sub>S or radiation.

The project has the potential to temporarily impact natural or human-made barriers to livestock movement (fencing/ditches) and range improvements such as watering ponds or water delivery systems (ditches/pipelines) on BLM-administered lands. Impacts to livestock may occur when containment of livestock is compromised (e.g., fencing cutting). This could result in injury to livestock or individuals in the event of a vehicular accident. Indirect impacts include extra time required by the permit holder to locate livestock or potential trespass issues for the respective livestock owner if the livestock cross allotment boundaries.

Surface disturbance resulting from construction and ongoing maintenance may facilitate the introduction and spread of noxious weeds throughout grazing allotments and could accelerate soil erosion which would reduce site productivity and limit grazing opportunities through a reduction in available AUMs.

## Cumulative Impacts

*Pending further information from BLM.*

Implementation of the project design features, as well as implementation of BMPs for other future activities, would mean the cumulative impact to the grazing resources in relation to the availability of forage in the larger surrounding area would be low, because revegetation efforts would restore AUMs in the majority of the cumulative area of analysis.

## Mitigation Measures and Residual Impacts

Mitigation measures have been built-in to the project design features as detailed in Section 2.1.2. No other mitigation has been recommended.

## 3.7 Cave/Karst

### 3.7.1 Affected Environment

This project is located in gypsum karst terrain, a land form 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 CFO 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 high, medium and low karst zones (Figure 3.4). A high karst zone is defined as an area occurring in known soluble rock types and containing a high frequency of significant caves and karst features such as sinkholes, bedrock fractures that provide rapid recharge of karst aquifers, and springs that provide riparian habitat.

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. Many of the caves in this area contain fragile cave formations known as speleothems.

### 3.7.2 Impacts from the No Action Alternative

#### Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to the cave/karst resource, because the ROW would not be granted.

#### Cumulative Impacts

No cumulative impacts would be realized as a result of the No Action alternative.

### 3.7.3 Impacts from the Proposed Action

#### Direct and Indirect Impacts

Cave and karst features provide direct conduits leading to groundwater. These conduits can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration or biodegradation as a result of the development of oil and gas leases. In

addition, contaminants spilled or leaked into or onto cave/karst zone surfaces and subsurfaces may lead directly to the disruption, displacement, or extermination of cave species and critical biological processes. In extreme or rare cases, a buildup of hydrocarbons in cave systems due to surface leaks or spills could potentially cause underground ignitions or asphyxiation of wildlife or humans within the cave.

Sink holes were observed during the biological field surveys and one sink hole contained a bovine skull (Figure 3.5). This site was in proximity to existing pipelines that occurred along the proposed route.

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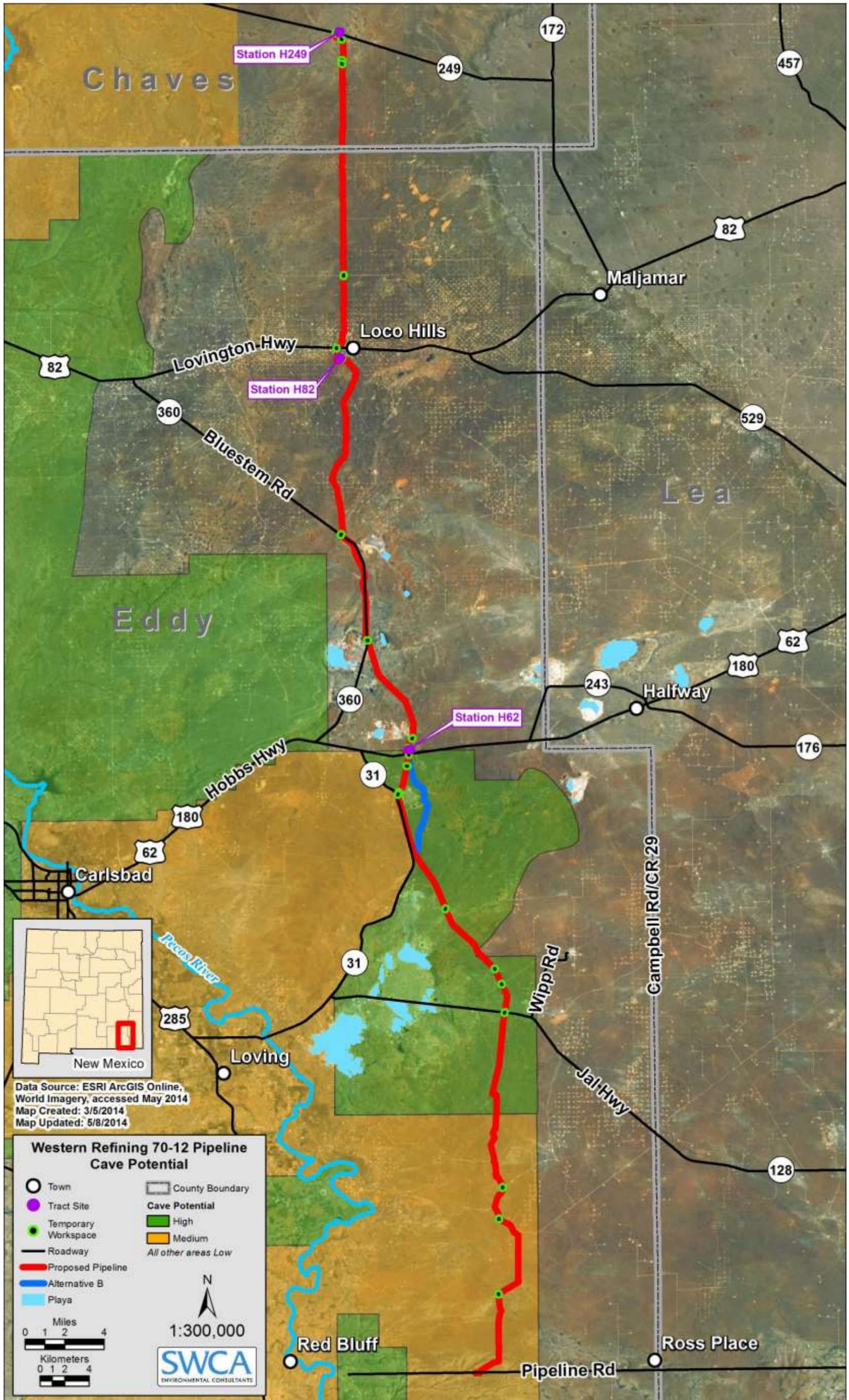


Figure 3.4 Cave/Karst Potential



**Figure 3.5. Sink hole with bovine skull in it observed in project area during field survey.**

In cave and karst terrains, rainfall and surface runoff is directly channeled into natural underground water systems and aquifers. Changes in geologic formation integrity, runoff quantity/quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors can negatively impact cave ecosystems and aquifer recharge processes. Heavy vibrations, and focusing of surface drainages can lead to slow subsidence, sudden collapse of subsurface voids, and/or cave ecosystem damage.

The construction of roads, pipelines, and utilities can impact bedrock integrity and reroute, impede, focus, or erode natural surface drainage systems. Increased silting and sedimentation from construction can plug downstream sinkholes, caves, springs, and other components of aquifer recharge systems and result in adverse impacts to aquifer quality and cave environments. Any contaminants released into the environment during or after construction can impact aquifers and cave systems. A possibility exists for slow subsidence or sudden surface collapse during construction operations due to collapse of underlying cave passages and voids. This would cause associated safety hazards to the operator and the potential for increased environmental impact. Subsidence processes can be triggered by intense vibrations, rerouting of surface drainages, focusing of surface drainage, and general surface disturbance.

Cementing operations may plug or alter groundwater flow, potentially reducing the water quantity at springs and water wells. Inadequate subsurface cementing, casing, and cave/aquifer protection measures can lead to the migration of oil, gas, drilling fluids, and produced saltwater into cave systems and freshwater aquifers.

Production facilities such as transfer stations and pipelines may fail and allow contaminants to enter caves and freshwater systems. Downhole casing and cementing failures can allow migration of fluids and/or gas between formations and aquifers. Facilities may also be subject to slow subsidence or sudden collapse of the underlying bedrock.

### **Cumulative Impacts**

*Pending further information from BLM.*

Any industrial activities that take place upon or within karst terrains or freshwater aquifer zones have the potential to create both short-term and long-term negative impacts to freshwater aquifers and cave systems. While a number of mitigation measures can be implemented to mitigate many impacts, it is still

possible for impacts to occur from containment failures, accidents, spills, and structural collapses. It is therefore necessary to implement long-term monitoring studies to determine if current mitigations measures are sufficient enough to prevent long-term or cumulative impacts.

## **Mitigation Measures and Residual Impacts**

Mitigation measures have been built-in to the Proposed Action and are detailed in Section 2.1.2.

BLM maintains up to date locations and surveys of known cave and karst features. Projects would be located away from these features whenever possible. Proposed roads, utilities, and pipelines would be routed around cave and karst features at an adequate distance to mitigate adverse impacts. Wellbore engineering plans would incorporate required cave and aquifer protection protocols.

### **3.7.4 Impacts from Alternative B**

#### **Direct and Indirect Impacts**

Cave and karst features provide direct conduits leading to groundwater. These conduits can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration or biodegradation as a result of the development of oil and gas leases. In addition, contaminants spilled or leaked into or onto cave/karst zone surfaces and subsurfaces may lead directly to the disruption, displacement, or extermination of cave species and critical biological processes. In extreme or rare cases, a buildup of hydrocarbons in cave systems due to surface leaks or spills could potentially cause underground ignitions or asphyxiation of wildlife or humans within the cave.

In cave and karst terrains, rainfall and surface runoff is directly channeled into natural underground water systems and aquifers. Changes in geologic formation integrity, runoff quantity/quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors can negatively impact cave ecosystems and aquifer recharge processes. Heavy vibrations, and focusing of surface drainages can lead to slow subsidence, sudden collapse of subsurface voids, and/or cave ecosystem damage.

The construction of roads, pipelines, and utilities can impact bedrock integrity and reroute, impede, focus, or erode natural surface drainage systems. Increased silting and sedimentation from construction can plug downstream sinkholes, caves, springs, and other components of aquifer recharge systems and result in adverse impacts to aquifer quality and cave environments. Any contaminants released into the environment during or after construction can impact aquifers and cave systems. A possibility exists for slow subsidence or sudden surface collapse during construction operations due to collapse of underlying cave passages and voids. This would cause associated safety hazards to the operator and the potential for increased environmental impact. Subsidence processes can be triggered by intense vibrations, rerouting of surface drainages, focusing of surface drainage, and general surface disturbance.

Cementing operations may plug or alter groundwater flow, potentially reducing the water quantity at springs and water wells. Inadequate subsurface cementing, casing, and cave/aquifer protection measures can lead to the migration of oil, gas, drilling fluids, and produced saltwater into cave systems and freshwater aquifers.

Production facilities such as transfer stations and pipelines may fail and allow contaminants to enter caves and freshwater systems. Downhole casing and cementing failures can allow migration of fluids and/or gas between formations and aquifers. Facilities may also be subject to slow subsidence or sudden collapse of the underlying bedrock.

#### **Cumulative Impacts**

*Pending further information from BLM.*

Any industrial activities that take place upon or within karst terrains or freshwater aquifer zones have the potential to create both short-term and long-term negative impacts to freshwater aquifers and cave systems. While a number of mitigation measures can be implemented to mitigate many impacts, it is still

possible for impacts to occur from containment failures, accidents, spills, and structural collapses. It is therefore necessary to implement long-term monitoring studies to determine if current mitigations measures are sufficient enough to prevent long-term or cumulative impacts.

### **Mitigation Measures and Residual Impacts**

Mitigation measures have been built-in to the Proposed Action and are detailed in Section 2.1.2. No other mitigation has been recommended.

BLM maintains up to date locations and surveys of known cave and karst features. Projects would be located away from these features whenever possible. Proposed roads, utilities, and pipelines would be routed around cave and karst features at an adequate distance to mitigate adverse impacts. Wellbore engineering plans would incorporate required cave and aquifer protection protocols.

## **3.8 Public Health and Safety**

### **3.8.1 Affected Environment**

A major priority in land management for the CFO is ensuring health and human safety on its public lands. The BLM's goals are to effectively manage safety hazards and hazardous materials, protect the health and safety of public land uses, protect the natural and environmental resources, minimize future hazardous risks including costs and liabilities, and mitigate physical hazards in compliance with all applicable laws, regulations, and policies. The BLM follows its national, state, and local contingency plans as they apply to emergency responses. These plans are also consistent with federal and state laws and regulations.

The proposed pipeline 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 pipeline physical hazards such as welding equipment, heavy machinery, and deep trenches would be present.

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

OSHA regulates worker safety under the Occupational Safety and Health Act of 1970. This act requires employers and operators to provide a safe and healthy workplace for employees, and the agency must track and monitor reportable incidents of accidents and injury.

OSHA requires all chemicals stored within the project area during construction and operations must be handled according to label directions for each chemical. All chemicals present within the project area must also have a Material Safety Data Sheet (MSDS) located in a specified central location where it could be accessed during an emergency situation. These MSDSs must be kept up to date and any new chemical added to the project area must have an MSDS added to the existing catalog. All lists of hazardous substances which may be stored within the project area must be updated at a minimum of once per month or more frequently if chemicals are added more often.

The EPA also regulates public health and safety through its Risk Management Program. This program requires facilities using extremely hazardous substances in excess of specified threshold quantities to evaluate typical and worst case scenarios and have emergency response procedures in place to protect the public and the environment.

Western is committed to operating their facilities in a safe and environmentally sound manner. To achieve this goal, the company has systems and procedures in place ranging from written operating procedures, required internal policies and standards, and compliance audits/inspections and accountability for

correcting findings. See the Public Safety heading in Section 2.1.2 for additional information on policies and safeguards.

## Hazardous Materials

The EPA, along with state and local government agencies, has numerous laws and policies designed to protect the public including:

- The Resource Conservation and Recovery Act (RCRA), passed in 1976, establishes a comprehensive program for managing hazardous wastes from the time they are produced until their disposal. The EPA regulations define solid wastes as any “discarded materials” subject to a number of exclusions. A “hazardous waste” is a solid waste that 1) is listed by the EPA as a hazardous waste, 2) exhibits any of the characteristics of hazardous wastes (ignitability, corrosivity, reactivity, or toxicity), or 3) is a mixture of solid and hazardous waste. On July 6, 1988, the EPA determined that oil and gas exploration, development, and production wastes would not be regulated as hazardous wastes under the RCRA. A simple rule of thumb was developed to determine whether exploration, development, and production waste is likely to be considered exempt or non-exempt from RCRA regulations. If 1) the waste came from downhole or if 2) the waste was generated by contact with the oil and gas production stream during removal of produced water or other contaminants, the waste is most likely to be considered exempt by the EPA. Typical wastes associated with the Proposed Action include trash, sanitary wastes, produced water, and produced hydrocarbons. Based on the discussion above, these are generally exempt from the RCRA.
- The Comprehensive Environmental Response Compensation and Liability Act (CERCLA), passed in 1980, deals with the release (spillage, leaking, dumping, accumulation, etc.) or threat of a release of hazardous substances into the environment. Despite many oil and gas constituent wastes being exempt from hazardous waste regulations, certain RCRA-exempt contaminants could be subject to regulations as hazardous substances under CERCLA. The New Mexico Oil Conservation Division (NMOCD) administers hazardous waste regulations for oil and gas activities in New Mexico.
- All hazardous chemicals, as defined by the EPA Hazardous Substances Reportable Quantities and the Emergency Planning and Community Right to Know Act (EPCRA) list within 40 CFR 302–312 (EPA 2011b), stored at quantities greater than the reportable quantities must be reported as required by the EPCRA regulations. Any release of a hazardous substance above a specified reportable quantity for the hazardous substance must be reported to the EPA.

Any spill must be cleaned up immediately based on information that is available in the MSDS. If any spill is of a sufficient quantity to require notification and possible emergency response, the emergency response agency within Chaves and Eddy Counties, as well as the NMOCD, must be notified immediately upon discovery of the release. All hazardous substances that are recovered during the cleanup must be handled and disposed of in accordance with available information.

Any emergency response necessary would be based upon information available regarding the specific hazardous associated with the substance and after consultation of Western Operations Manager and the proper emergency response officials.

### 3.8.2 Impacts from the No Action Alternative

#### Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to public health and safety, because the ROW would not be granted and no construction or operations would occur.

#### Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

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### **3.8.3 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

Numerous laws and safeguards are detailed in the Proposed Action design features to protect both workers and the public (see Section 2.1.2). 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 pipeline during operation. Release of H<sub>2</sub>S gas could pose a severe health risk to employees, contractors, and neighboring residences

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the EPCRA. The notification of releases such as natural gas, natural gas liquids, and petroleum outside the facility site is required under CERCLA. 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 utilized by oil and gas traffic and users would be accustomed to the type 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 to area roads would be short term for construction of the pipelines, and would lessen considerably during the operations phase.

#### **Cumulative Impacts**

*Pending further information from BLM.*

No cumulative impacts to public health and safety are expected. Operators of other nearby oil and gas facilities would be made aware of the construction and location of the proposed pipeline.

#### **Mitigation Measures and Residual Impacts**

Measures to protect the public's health and safety would be implemented as described in the Proposed Action's project design features (see Section 2.1.2). No additional mitigation measures have been recommended.

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### **3.8.4 Impacts from Alternative B**

#### **Direct and Indirect Impacts**

Numerous laws and safeguards are detailed in the project design features to protect both workers and the public (see Section 2.1.2). These same design features would apply to the proposed Alternative B.

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 pipeline during operation. Release of H<sub>2</sub>S gas could pose a severe health risk to employees, contractors, and neighboring residences

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the EPCRA. The notification of releases such as natural gas, natural gas liquids, and petroleum outside the facility site is required under CERCLA. 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 utilized by oil and gas traffic and users would be accustomed to the type 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 to area roads would be short term for construction of the pipelines, and would lessen considerably during the operations phase.

## **Cumulative Impacts**

*Pending further information from BLM.*

No cumulative impacts to public health and safety are expected. Operators of other nearby oil and gas facilities would be made aware of the construction and location of the proposed pipeline.

## **Mitigation Measures and Residual Impacts**

Measures to protect the public's health and safety would be implemented as described in the project design features (see Section 2.1.2). No additional mitigation measures have been recommended.

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## 4 SUPPORTING INFORMATION

### 4.1 List of Preparers

The following individuals contributed to or reviewed portions of this EA.

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Bradley Benz, Senior Pipeline Engineer	Western Refining
Diana Orr, Right-of-way Specialist	Western Refining
Kelly Robinson, Environmental Supervisor	Western Refining

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**Appendix A: Mapping**

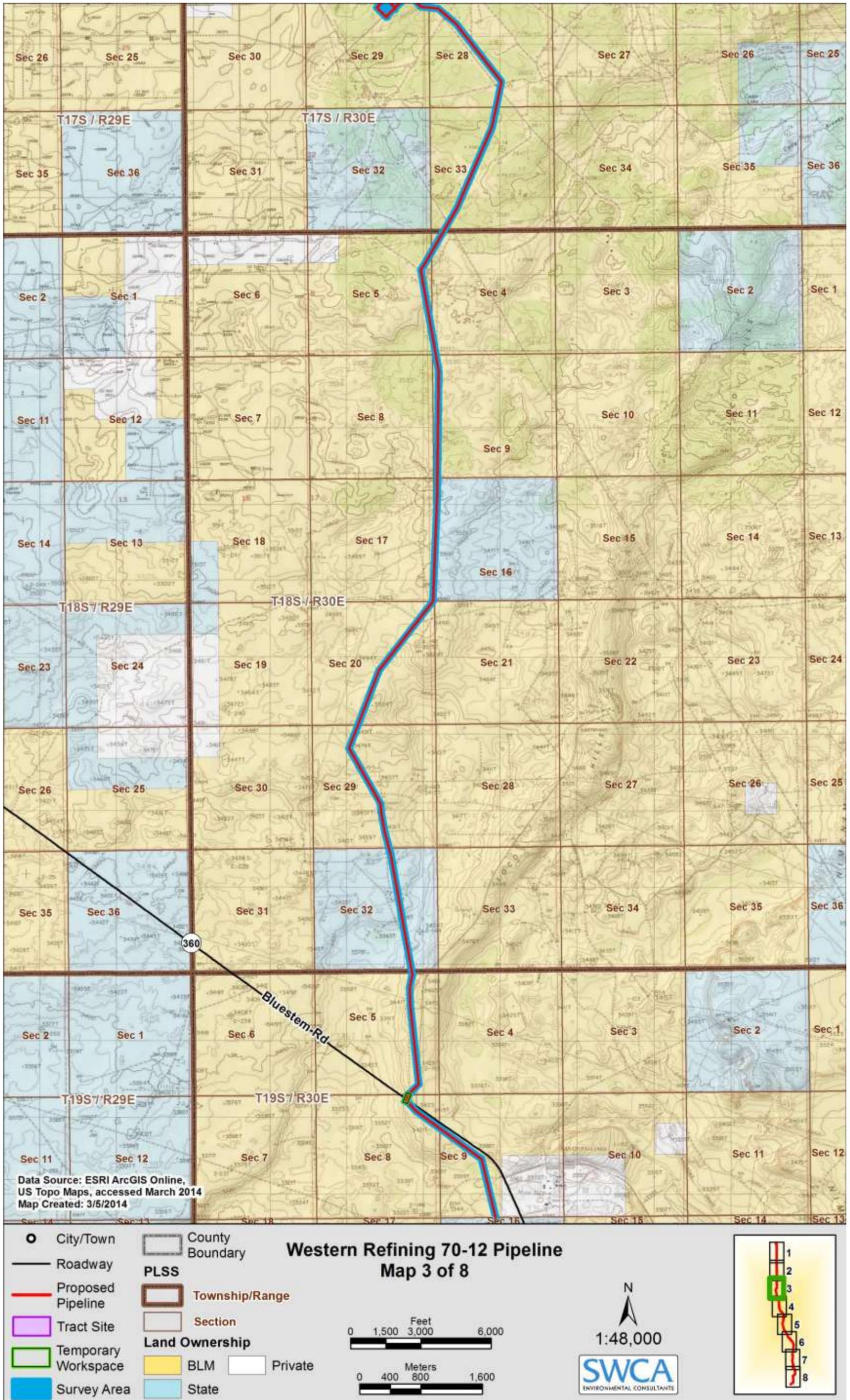
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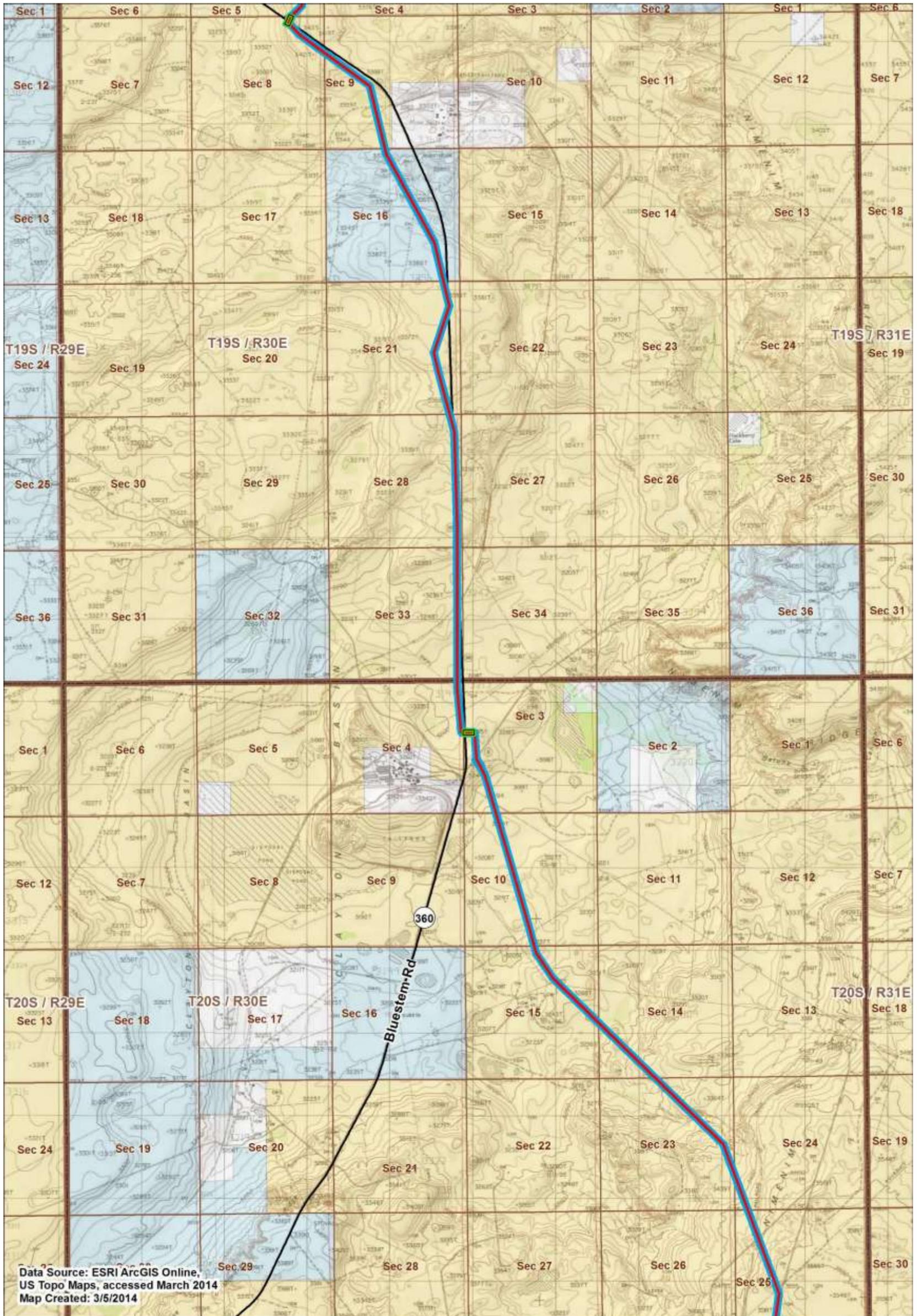
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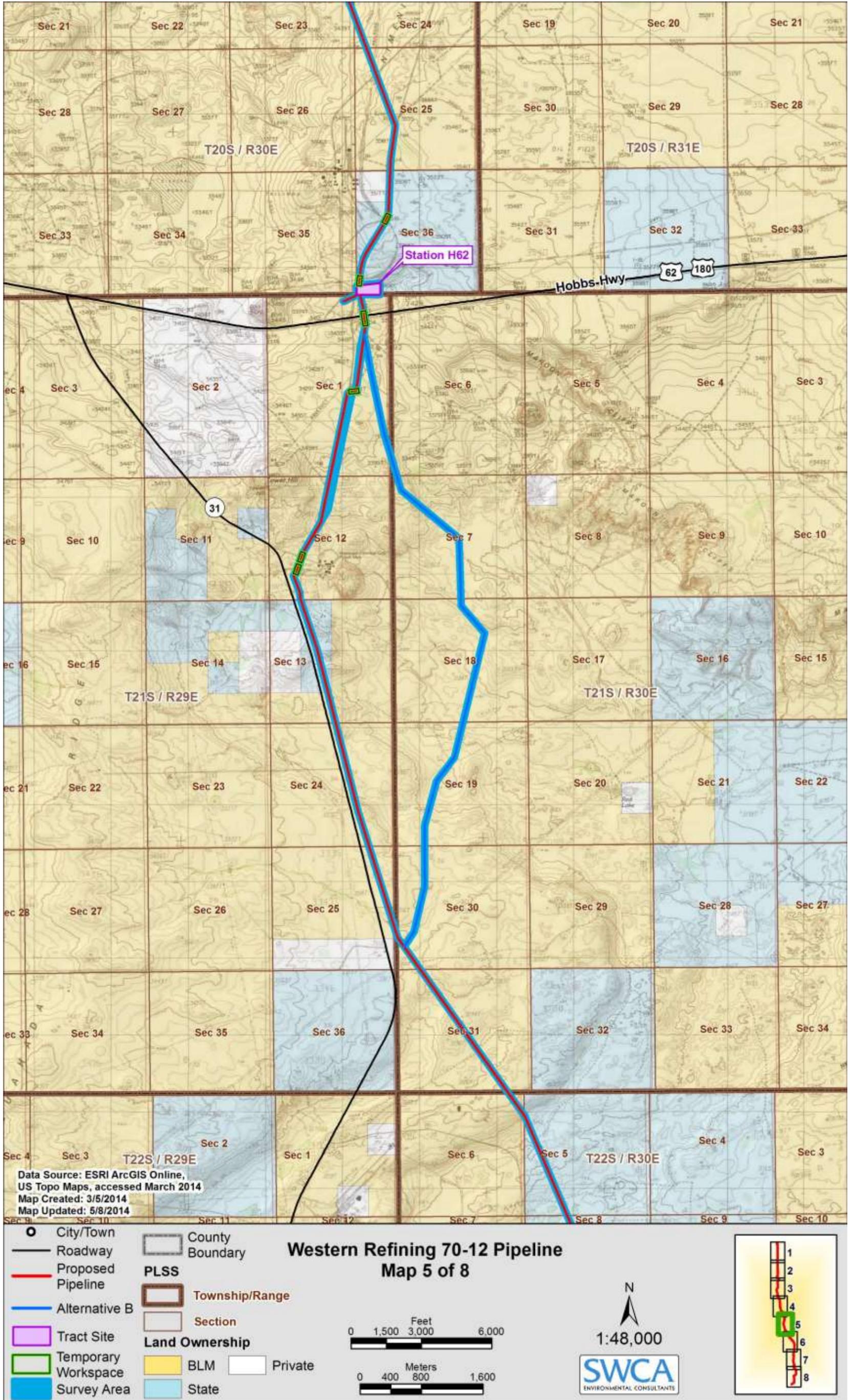


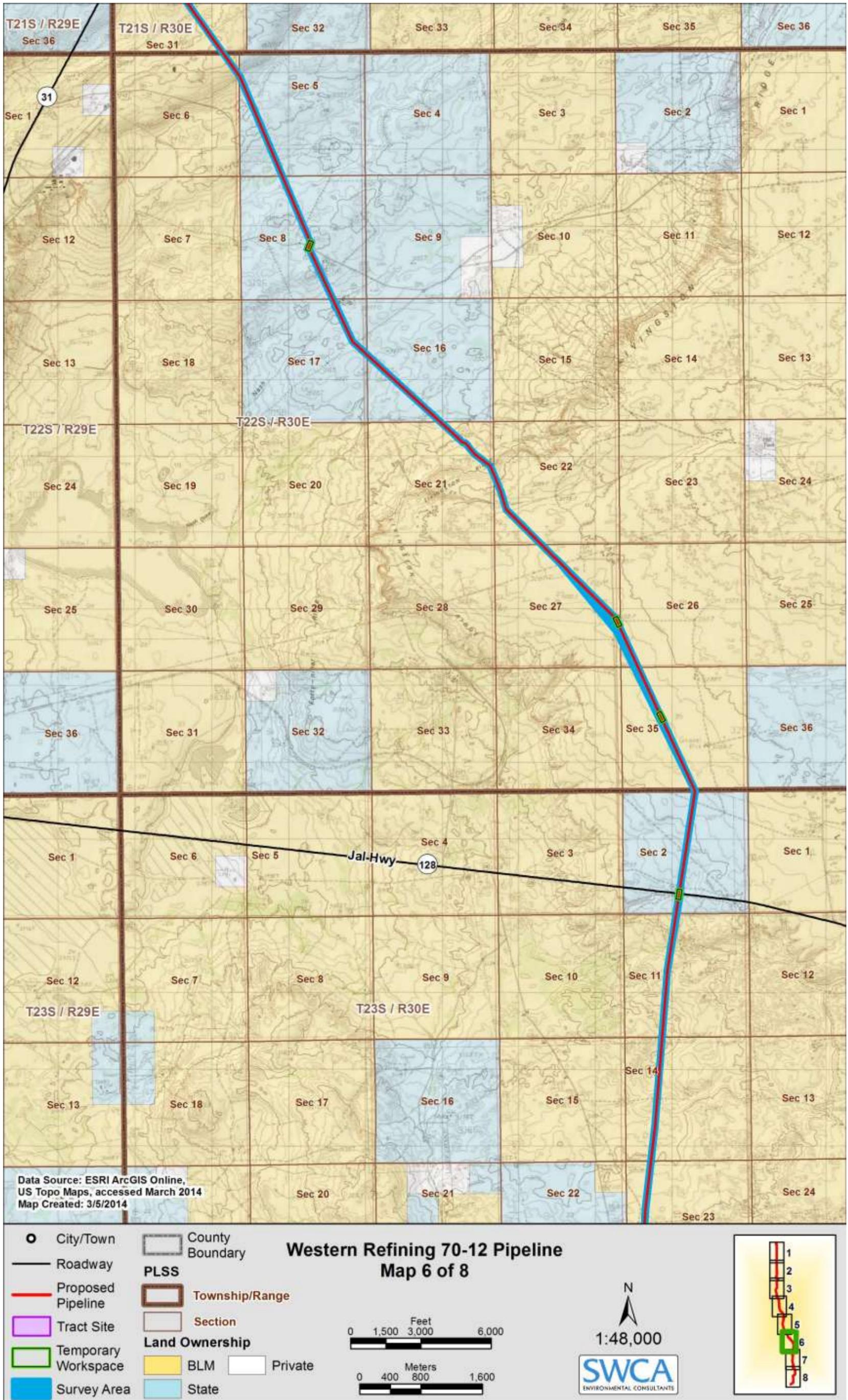


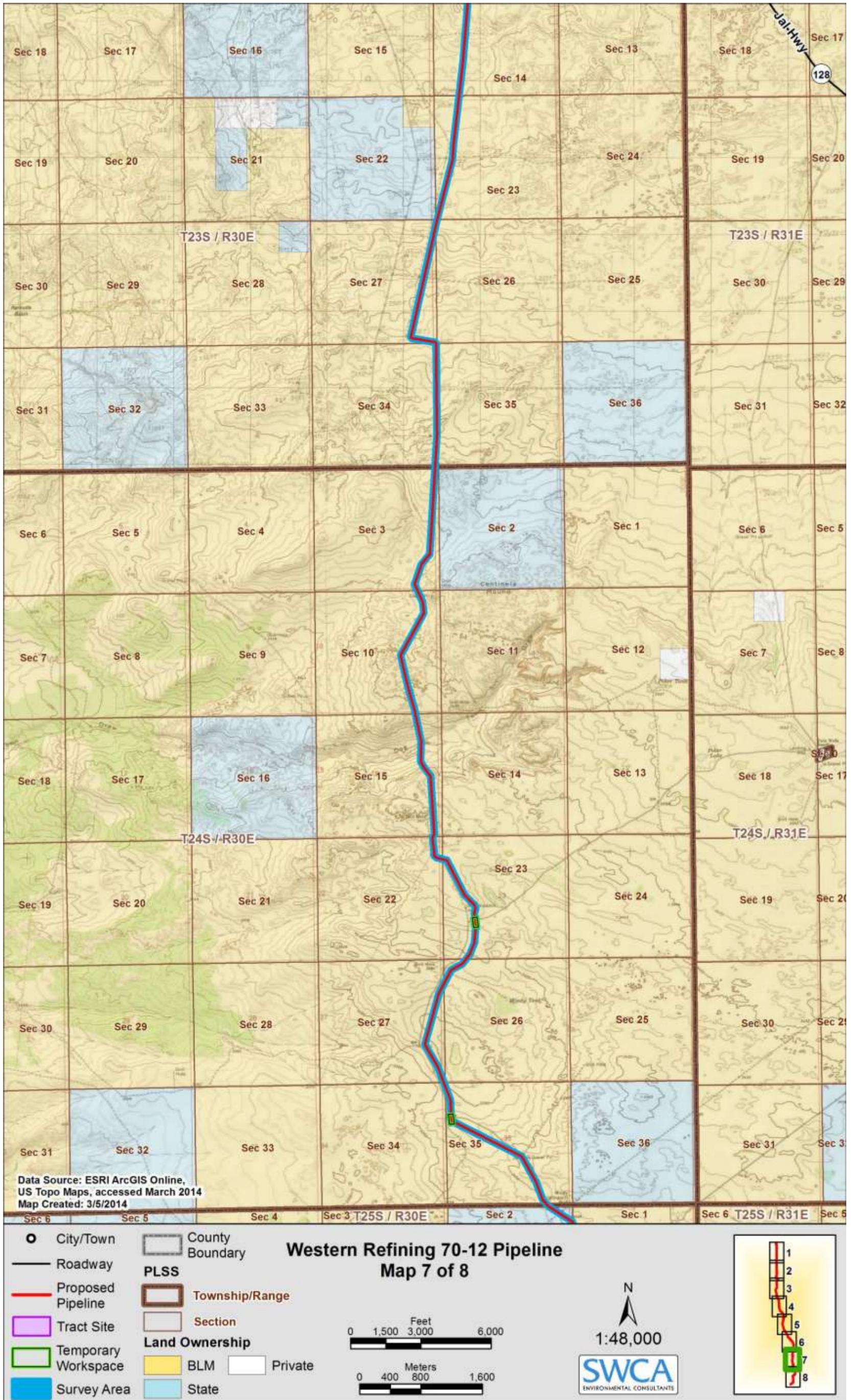


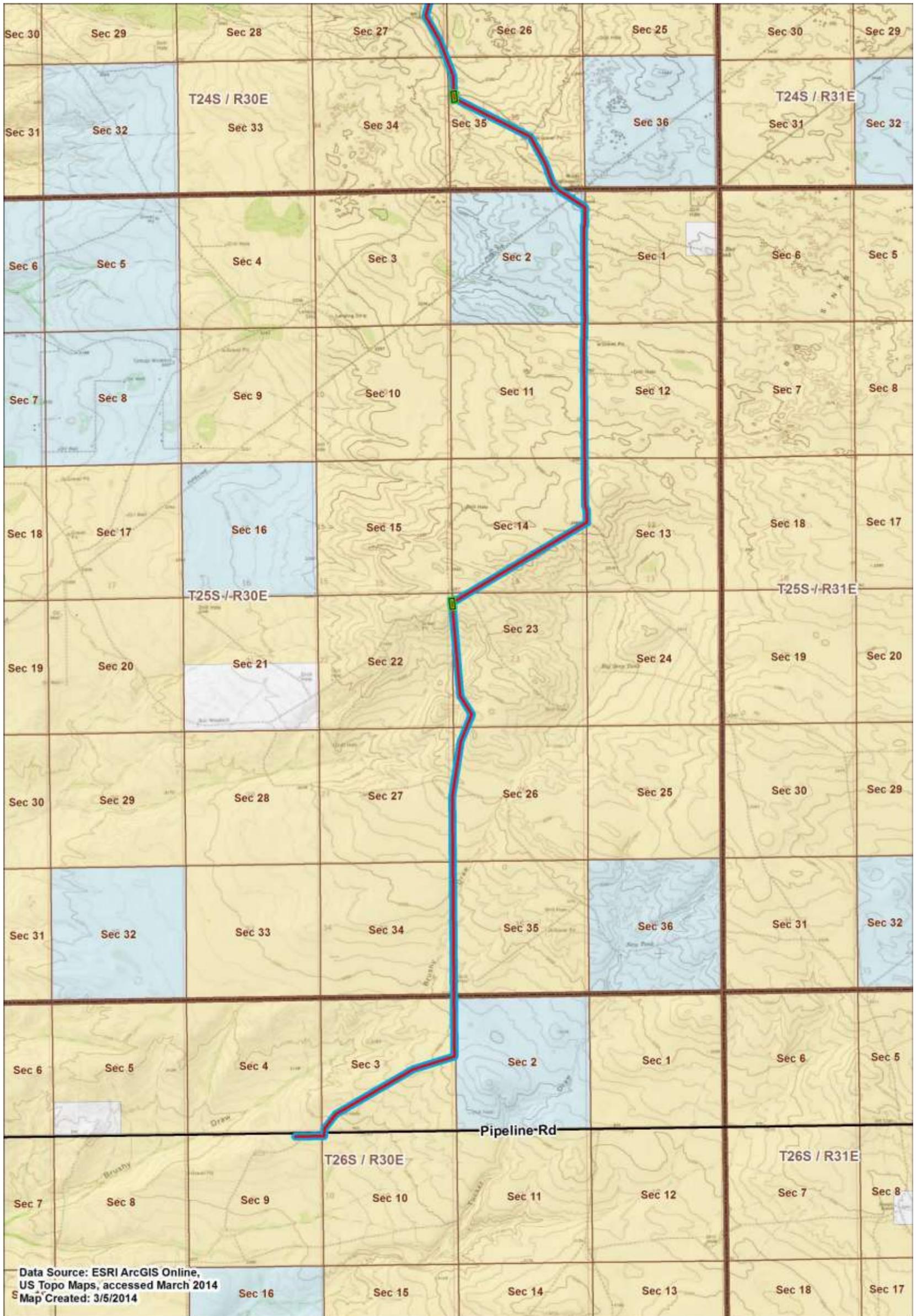
Data Source: ESRI ArcGIS Online, US Topo Maps, accessed March 2014  
 Map Created: 3/5/2014

○ City/Town	County Boundary	<b>Western Refining 70-12 Pipeline</b> <b>Map 4 of 8</b>		 N 1:48,000  SWCA ENVIRONMENTAL CONSULTANTS
— Roadway	PLSS			
— Proposed Pipeline	Township/Range	0 1,500 3,000 6,000 Feet <hr/> 0 400 800 1,600 Meters		
— Tract Site	Section			
— Temporary Workspace	Land Ownership			
— Survey Area	BLM Private			
	State			









Data Source: ESRI ArcGIS Online,  
US Topo Maps, accessed March 2014  
Map Created: 3/5/2014

○ City/Town	County Boundary	<b>Western Refining 70-12 Pipeline Map 8 of 8</b>		 N 1:48,000  SWCA ENVIRONMENTAL CONSULTANTS
— Roadway	PLSS			
— Proposed Pipeline	Township/Range	0 1,500 3,000 6,000 Feet <hr/> 0 400 800 1,600 Meters		
Tract Site	Section			
Temporary Workspace	Land Ownership	BLM Private State		
Survey Area	BLM Private			

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**Appendix B: Biological Assessment**

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