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Lateral 6A-31 Pipeline Support Project

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1. PURPOSE AND NEED FOR ACTION

1.1. Background

A representative of Enterprise Products Company (Enterprise) filed an application for a Right-of-Way (ROW) grant with the Bureau of Land Management, Farmington Field Office (BLM/FFO) to address the Lateral 6A-31 pipeline exposure. The Laterai6A-31 pipeline has become exposed and is unsupported across an unnamed tributary drainage to Blanco Wash. It was originally proposed to horizontal directional drill (HDD) beneath the wash. However, due to extensive cultural resource findings in the project area Enterprise has proposed to stabilize the exposed pipeline by installing support structures within the wash. A span of approximately 200 feet would be supported by helical pier structures. The proposed project is located on public lands managed by the BLM in the southeast quarter of Section 20 and the southwest quarter of Section 21, Township 26 North, Range 8 West, New Mexico Principle Meridian (NMPM), in San Juan County, New Mexico.

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Farmington Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PRMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

1.2. Purpose and Need for Action

The purpose for the proposal is to provide Enterprise with cross country access across public lands to address safety and operational needs at the Lateral 6A-31 pipeline exposure.

The need for the action is established by the BLM's authority under the Title V of the Federal Land Policy and Management Act (FLPMA) of 1976 (43 USC [United States Code]2800 et seq.), as amended (43 USC 1761-1771), and Section 28 of the MLA (43 USC 185), to respond to the ROW application.

1.3. Decision to be Made

Based on the information in this environmental assessment (EA), the BLM/FFO will decide whether to approve the ROW, and if so, under what terms and conditions. Under the National Environmental Policy Act (NEPA) (Public Law [PL]91-90, 42 USC 4321 et seq.), the FFO must determine if there are any significant environmental impacts associated with the proposed actions, warranting further analysis in an Environmental Impact Statement (EIS). The BLM/FFO Field Manager is the responsible officer who will decide either:

- To approve the ROW with design features as submitted;
- To approve the ROW with additional mitigations;
- To analyze the effects of the proposal in an EIS; or
- To deny the ROW.

An approved ROW, issued by the BLM, authorizes the applicant access across public lands.

1.4. Conformance with Applicable Land Use Plan s

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific environmental assessment (EA) tiers to and incorporates by reference the information and analysis contained in the Farmington Proposed Resource Management Plan/Final Environmental Impact Statement [(PRMP/FEIS) BLM 2003a]. This EA is in conformance with the management goals set forth in the Resource Management Plan (AMP) for the Farmington Field Office (FFO) of the BLM, which was approved by the Record of Decision (ROD) signed September 29, 2003, and updated in December 2003 (BLM 2003b). Specifically, this action is in conformance with the following objectives: 1. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs, consistent with national objectives of an adequate supply of minerals at reasonable market prices; and, 2. To the extent possible, new ROWs will be located within or parallel to existing ROWs or ROW corridors to minimize resource impacts. At the same time, the BLM strives to ensure that mineral development is carried out in a manner that minimizes environmental damage and provides for the rehabilitation of affected lands (2003b, 2-2). The PRMP/FEIS, AMP, and ROD are available for review at the BLM Farmington Field Office, 6251 College Blvd., Ste. A, Farmington, NM, or electronically at:

http://www.nm.blm.gov/ffo/ffo_home.html

This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed project would not be in conflict with any local, county, or state plans.

1.5. Relationship to Statutes, Regulations or Other Plans

1.5.1. Endangered Species Act

The Endangered Species Act (ESA) of 1973 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 will 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 Farmington PRMP/FEIS (Consultation No. 2-22-01-1-389) to address cumulative effects of AMP implementation. The consultation is summarized in Appendix M of the PRMP/FEIS. Farmington Field Office staff reviewed the action alternatives and determined they would be in compliance with threatened and endangered species management guidelines outlined in the September 2002 Biological Assessment (Consultation No. 2-22-01-1-389). No further consultation with the U.S. Fish and Wildlife Service is required.

1.5.2. National Historic Preservation Act

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM-New Mexico SHPO 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,* and other applicable BLM handbooks.

1.5.3. Wastes, Hazardous or Solid

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 U.S.

Environmental Protection Agency (EPA) regulations define solid wastes as any "discarded materials" subject to a number of exclusions. A "hazardous waste" is a solid waste that is (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.

A 1980 amendment to RCRA conditionally exempted from regulation as hazardous wastes, "drilling fluids, production waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas. On July 6, 1988, EPA determined that oil and gas exploration, development and production (ED&P) wastes would not be regulated as hazardous wastes under RCRA. A simple rule of thumb was developed for determining if an ED&P waste is likely to be considered exempt or non-exempt from RCRA regulations: If (1) the waste came from down-hole, or (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 EPA.

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 the Oil Conservation Division (OCD) administers hazardous waste regulations for oil and gas activities in New Mexico.

Typical wastes associated with the proposed action would include trash and sewage. During project activities, a trash receptacle and a chemically treated portable toilet would be on location for trash and sewer disposal. The Lateral 6A-31 pipeline would be shut down during support structure installation. All wastes would be disposed of in a proper manner as required by federal and state law. No known hazardous or solid waste materials are present within the analysis area. The notification of releases such as natural gas, natural gs liquids, and petroleum, outside a facility site is required under CERCLA and under BLM NTL-3A.

1.5.4. Public Health and Safety

All worker safety is governed by Occupational Safety and Health Administration (OSHA) safety laws and regulations. Worker safety incidents must also be reported to the BLM under the procedures of Notice to Lessee (NTL)-3A. Pipeline safety regulations are administered by OSHA as well as Department of Transportation (DOT) regulations. Pipeline safety regulations (49 CFR Parts 190 and 192) govern design, construction and operation of gas transmission lines. Any incidents involving DOT-regulated pipelines must be reported under these regulations (District 2003a).

Most substances and wastes generated at oil and gas facilities are exempt from regulation under the Resource Conservation and Recovery Act (1976). The Environmental Protection Agency (EPA) and DOT regulate materials associated with well construction and production activities that are classified as hazardous. When significant amounts of chemicals are stored on-site, governmental agencies will be notified as required under the Emergency Planning and Community Right to Know Act (1986). The notification of releases such as natural gas, natural gas liquids, and petroleum, outside the facility site is required under the Comprehensive Environmental Response Compensation and Liability Act, 1980 (CERCLA) and under BLM NTL-3A.

Additional hazards to the general public in the proposed action area include safety hazards associated with increased traffic during the project. General hazards around producing oil and gas fields such as accidental pipeline failures and moving equipment like pump jacks are potential/present in the action area. Hydrogen sulfide gas is not known to be or expected to be a problem within the project area.

1.6. Scoping, Public Involvement, and Issues

The Farmington Field Office (FFO) publishes a NEPA log for public inspection. This log contains a list of proposed and approved actions in the field office. The log is located on the BLM New Mexico website {http://www.blm.gov/nm/st/en/proglplanning/nepa_logs.html). No public comments were received for this proposed action.

The project was circulated among FFO resource specialists. Internal scoping through a BLM Interdisciplinary Team {IOT) generated resource issues pertinent to the proposed project.

Potential issues include:

- What would be the effect of the alternatives on air resources/air quality?
- What would be the effect of the alternatives on cultural resources?
- What would be the effect of the alternatives on upland vegetation in the analysis area?
- What would be the effect of the alternatives on soils within the analysis area?
- What would be the effect of the alternatives on water resources?
- What would be the effect of the alternatives on livestock grazing?

2. PROPOSED ACTION AND ALTERNATIVE(S)

2.1. Proposed Action

A 200-foot segment of the Lateral 6A-31 natural gas pipeline has become exposed within an unnamed wash. The pipeline plays a vital role in the Ballard Gathering System and Enterprise utilizes the lateral pipeline for pigging throughout the system. Enterprise proposes to install support structures underneath the exposed portion of the pipeline. Temporary access to the site would be through existing pipeline ROW and cross-country. Minimal new surface disturbance is anticipated.

Appropriate equipment would utilize temporary access to the site. Helical piers would be installed within the wash to support the exposed pipeline. The project would not alter the existing bed and bank features of the wash or change the ground elevation within the wash.

Farmington Field Office established environmental Best Management Practices (BMPs) will be followed during installation of the support structures, pipeline maintenance, or any other surface disturbing activity associated with this project. Bureau-wide standard BMPs are found in the Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, Fourth Edition-Revised 2007 {The Gold Book). Farmington Field Office BMPs are integrated into the general and site-specific stipulations.

For a detailed description of design features and construction practices associated with the proposed action, refer to the ROW grant application (attached as Appendix A). Also see the subject Application for additional maps showing the proposed pipeline location and associated facilities described above. Implementation of committed mitigation measures contained in Exhibit A are also listed in Appendix A and incorporated and analyzed in this alternative.

Prior to the development of this document, an onsite inspection of the proposed project area was conducted by representatives of the Adkins Consulting, Inc., the BLM, Enterprise Products Company, and San Juan County Museum Association, Division of Conservation Archaeology (DCA) on December 12, 2013. Design features and mitigation measures that were agreed upon during onsite inspections and surveys include the following:

- All construction and/or maintenance resulting in surface disturbance would be done in accordance to the BLM Surface Operating Standards and Guidelines for Oil and Gas Development, Fourth Edition-Revised 2007 (The Gold Book).
- The dominant vegetation within the analysis area is Sagebrush Community. No vegetation will be removed as a result of the proposed action. The proposed action may result in damage to existing vegetation. Disturbed areas less than 0.1 acre are expected to revegetate naturally from seed sources adjacent to the disturbance (BLM 2013). Enterprise or its contractors will take care not to intentionally disturb existing vegetation and site conditions within the project area.
- All FFO/BLM cultural resources stipulations will be followed as indicated in the Cultural Resource Records of Review. These stipulations may include, but are not limited to temporary or permanent fencing or other physical barriers, monitoring of earth disturbing construction, project area reduction and/or specific construction avoidance zones, and employee education. All employees, contractors, and sub-contractors of the project will be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm). In the event of a discovery during construction, the project proponent will immediately stop all construction activities in the immediate vicinity of the discovery and immediately notify the archaeological monitor, if present, or the BLM. The BLM would then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., National Register, NAGPRA, ARPA), it will be protected in place

until mitigating measures can be developed and implemented according to guidelines set by the BLM.

2.2. No Action

The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided in 43 CFR 3162.3-1 (h)(2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area

2.3. Alternatives Considered but Eliminated from Detailed Study

Enterprise had originally proposed a Horizontal Directional Drill (HOD) underneath the wash for a distance of 634 feet to address the pipeline exposure. This alternative would require Temporary Use Areas (TUAs) on either side of the HOD at the boring stations, one 125 feet by 200 feet approximately 0.574 acre in size and the other 100 feet by 420 feet approximately 0.964 acre in size. In addition, a proposed temporary access road approximately 405 feet in length would pass through the wash However, extensive cultural resource findings within the project area eliminated this alternative from further consideration.

A second alternative was considered to lengthen the HOD to avoid cultural resource impacts. It was determined that a longer HOD would present additional challenges with respect to viable working areas due to varied topography, and drainages, cultural and other sensitive resource impacts The potential for a release from the exposed condition of the pipeline presents a continuing risk to both public safety and the environment. The proposed action has been chosen for the most efficient and responsible solution to the exposed pipeline.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the environment that would be affected by implementation of the alternatives described in Chapter 2. Aspects of the affected environment described in this chapter focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included above in Section 1.6.

Under the No Action Alternative, the proposed action would not be approved and carried forward. There would be no new impacts to the resources in the analysis area. The No Action Alternative would result in the continuation of the current land and resource uses in the analysis area and is used as the baseline for comparison of alternatives.

3.1. Air Resources

3.1.1. Affected Environment

The proposed project is located in San Juan County, New Mexico. Additional general information on air quality in the area is contained in Chapter 3 of the Farmington PRMP/FEIS. In addition, new information about greenhouse gases (GHGs), and their effects on national and global climate conditions has emerged since this document was prepared. On-going scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO_2) methane (CH_4); nitrous oxide (N_2O); water vapor; and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions may cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions}, industrialization and burning of fossilcarbon sources have caused GHG concentrations to increase measurably, and may contribute to overall climatic changes, typically referred to as global warming.

Much of the information referenced in this section is incorporated from the Air Resources Technical Report for BLM Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas (herein referred to as Air Quality Technical Report; USDI/BLM 2011b). This document summarizes the technical information related to air resources and climate change associated with oil and gas development and the methodology and assumptions used for analysis.

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including six nationally regulated ambient air pollutants (criteria pollutants). These criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2}, ozone (O_3}, particulate matter (PM10 & PM2.5), sulfur dioxide (SO_2) and lead (Pb). EPA has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants. The NAAQS are protective of human health and the environment. EPA has approved New Mexico's State Implementation Plan and the state enforces state and federal air quality regulations on all public and private lands within the state, except for tribal lands and within Bernalillo County. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. EPA has proposed or completed actions recently to implement Clean Air Act requirements for greenhouse gas emissions. Climate has the potential to influence renewable and non-renewable resource management.

Air Quality

Criteria Air Pollutants

The Air Quality Technical Report describes the types of data used for description of the existing conditions of criteria pollutants, how the criteria pollutants are related to the activities involved in oil and gas development, and provides a table of current national and state standards (USDI/BLM 2011b). The EPA Green Book web page reports that all counties in the analysis area, San Juan, McKinley, Rio Arriba, and Sandoval Counties in New Mexico and La Plata County, Colorado, are in attainment of all National Ambient Air Quality Standards (NAAQS) as defined by the Clean Air Act. The area also does not violate any New Mexico Ambient Air Quality Standards (NMAAQS). The current criteria pollutant "design concentrations" in the analysis area are described below. Design Concentrations are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. Table 1 shows monitored design values for ozone in recent years for each of the three San Juan County ozone monitoring stations.

Table 1 Reported Ozone Values for San Juan County Ozone Monitoring Stations

State Air Monitoring Station	8-hour Ozone Design Value (ppm[1])				NAAQS[1,1,1]
	2007-2009	2008-2010	2009-2011	2010-2012	2008
Substation	0.067	0.063	0.063	0.067	0.075
Bloomfield	0.061	0.060	0.061	0.067	0.075
Navajo Lake	0.069	0.066	0.068	0.071	0.075

Source: United State Environmental Protection Agency Air Quality System Preliminary Design Value Report, Mar. 22, 2013
[1] parts per million
[2] NAAQS – National Ambient Air Quality Standards

Table 2 summarizes monitored design values for other criteria pollutants in San Juan County.

Table 2 Criteria Pollutant Design Value Concentrations monitored in San Juan County

Pollutant	Design Value	Averaging Time	NAAQS	NMAAQS
NO_2	13 ppb	Annual	53 ppb	50 ppb
NO_2	39 ppb	1-hour	100 ppb	0.10 ppm (24-hour)
PM_{10}	Data incomplete	24-hour	150 µg/m³	150 µg/m³
$PM_{2.5}$	4.5 µg/m³	Annual	12 µg/m³	60 µg/m³
$PM_{2.5}$	14 µg/m³	24-hour	35 µg/m³	
SO_2	0.001 ppm	Annual	None	0.02 ppm
SO_2	20 ppb	1-hour	75 ppb	None
SO_2	0.008 ppm	24-hour	None	0.10 ppm

Source: EPA, 2012
[1] 98th percentile, averaged over 3 years
[2] Not to be exceeded more than once per year on average over 3 years
[3] The NMAAQS is a standard for total suspended particulate matter
[4] Annual mean, averaged over 3 years
[5] 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

In 2005, the EPA estimated that there was less than 0.01 ton per square mile of lead emitted in the analysis area, which is less than 2 tons total (USDI/BLM 2011b). There is no monitoring conducted for lead and CO in northwestern New Mexico; however, concentrations of these pollutants are expected to be low in rural areas and are therefore not monitored.

Hazardous Air Pollutants

The Air Quality Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (USDI/BLM 2011b). EPA has identified 187 toxic air pollutants as HAPs. In March 2011, the EPA published the fourth in a series of National Scale Air Toxics Assessments (NATA) that quantifies HAP emissions for 2005 by U.S. counties. The purpose of the NATA is to identify areas where HAP emissions result in high health risk. Computer models are used to develop estimates of risk of cancer or other health impacts. NATA presents risk hazard indexes for cancer, neurological, and respiratory problems for each county and census tract. Because techniques have changed over the years, each NATA is not comparable to those previously issued. EPA also cautions that because data availability varies from state to state, the results are not necessarily comparable from one geographic area to another. The 2005 NATA analysis estimated tract level total cancer risk for the analysis area as 25 to 50 per one million, and the estimated tract level total respiratory hazard index was zero to 1. The EPA estimates the average national cancer risk for 2005 was 50 per one million, meaning 1 person out of every 20,000 had an increased likelihood of contracting cancer from breathing air toxics from outdoor sources if exposed to 2005 emission levels over their lifetime. A respiratory hazard index below 1 indicates that exposures in the area do not exceed reference levels that would have adverse effects for human health.

Climate

The analysis area is located in a semiarid climate regime typified by dry windy conditions and limited rainfall. Summer maximum temperatures are generally in the range of 80 or 90 degrees Fahrenheit (°F), and winter minimum temperatures are generally in the teens to 20s. Temperatures occasionally reach above 100°F in June and July and have dipped below zero in December and January. Precipitation is divided between summer thunderstorms associated with the southwest monsoon and winter snowfall as Pacific weather systems drop south into New Mexico. Table 3 shows climate normals for the 30-year period from 1981 to 2010 for the Farmington, New Mexico, area.

Table 3. Climate Normals for the Farmington Area, 1981-2010

Month	Average Temperature (°F)	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Precipitation (inches)
January	30.5	40.8	20.3	0.53
February	35.8	46.8	24.8	0.59
March	43.2	56.1	30.3	0.78
April	50.4	64.7	36.2	0.65
May	60.4	74.8	46.1	0.54
June	69.8	85.1	54.5	0.21
July	75.4	89.6	61.2	0.90
August	73.2	86.5	59.8	1.26
September	65.4	79.1	51.7	1.04
October	53.3	66.4	40.1	0.91
November	40.5	52.2	28.8	0.68
December	31.0	41.2	20.7	0.50
Source: USDI/BLM 2011b; data collected at New Mexico State Agricultural Science Center - Farmington				

3.1.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions and dust. Air pollution from the motorized equipment and dust dissemination would discontinue at the completion of the project. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, dust from use of roads for vehicular traffic, and emissions from oil and gas production activities. Impacts to air quality attributable to this project would be temporary and minor.

Cumulative Impacts

The FFO manages Federal hydrocarbon resources in San Juan, Sandoval, Rio Arriba, and McKinley Counties. There are approximately 23,522 wells in the San Juan Basin. About 16,435 of the wells in these counties are Federal wells. Analysis of cumulative impacts for reasonable development scenarios and RFDS of oil and gas wells on public lands in the FFO was presented in the 2003 AMP. This included modeling of impacts on air quality. A more detailed discussion of Cumulative Effects can be found in the Air Resources Technical Report (USDI/BLM 2013b}.

The primary activities that contribute to levels of air pollutant and GHG emissions in the Four Corners area are electricity generation stations, fossil fuel industries, and vehicle travel. The Air Quality Technical Report includes a description of the varied sources of national and regional emissions that are incorporated here to represent the past, present, and reasonably foreseeable impacts to air resources (USDI/BLM 2013b}. It includes a summary of emissions on the national and regional scale by industry source. Sources that are considered to have notable contributions to air quality impacts and GHG emissions include electrical generating units, fossil fuel production (nationally and regionally), and transportation.

The proposed project could result in a very small direct and indirect increase in several criteria pollutants, HAPs, and GHGs as a result of the short term construction activity. The very small increase in emissions from the short term construction activity would not be expected to result in exceeding the NAAQS for any criteria pollutants in the analysis area.

The very small increase in GHG emissions that could result from implementing the proposed alternative would not produce climate change impacts that differ from the No Action Alternative. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth's atmosphere. The incremental contribution to global GHGs from the action alternatives cannot be translated into effects on climate change globally or in the area of this site-specific action. It is currently not feasible to predict with certainty the net impacts from the action alternatives on global or regional climate.

The Air Resources Technical Report (USDI/BLM 2013b) discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting local and regional impacts related to emissions. It is currently not feasible to know with certainty the net impacts from particular emissions associated with activities on public lands.

3.2. Cultural Resources

3.2.1. Affected Environment

The proposed project is located within the archaeologically rich San Juan Basin of northwest New Mexico. In general, the history of the San Juan Basin can be divided into five major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 B.C. to A.D. 400), Basketmaker II-III and Pueblo I-IV periods (aka Anasazi; A.D. 1-1540), and the historic (A.D. 1540 to present), which includes Native American as well as later Hispanic and Euro-American settlers. Detailed descriptions of these various periods are provided in the Bureau of Land Management Farmington Field Office Final Environmental

Impact Statement (2003) and will not be reiterated here. Additional information can also be found in an associated documented, Cultural Resources Technical Report (CRTR; SAIC 2002).

Cultural sites vary considerably, and can include but are not limited to simple artifact scatters, domiciles of various types with a myriad of associated features, rock art and inscriptions, ceremoniaVreligious features, and roads and trails. Traditional Cultural Properties (TCPs; Parker and King 1998) are a separate class of cultural resources and are places that have cultural values that transcend, for instance, the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites, and may or may not coincide with archaeological sites.

For the Proposed Action, identification of TCPs were limited to reviewing existing published and unpublished literature (e.g. Van Valkenburgh 1941, 1974; Brugge 1993; Kelly et al 2006), and the site-specific Class III survey report prepared for the Proposed Action. In addition, the BLM's cultural resources program was contacted for information regarding the presence of TCPs identified through ongoing BLM tribal consultation efforts.

The entire Area of Potential Effect (APE) for the Proposed Action was archaeologically surveyed by San Juan County Museum Association, Division of Conservation Archaeology (DCA) at a BLM Class III level (100%) and a report was prepared and submitted to the BLM in accordance with the Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities (BLM 2005).

The Class III inventory identified five new archaeological sites within the APE (DCA Report 13-DCA-046; BLM Report 2014(11)014F). All five sites are recommended eligible for nomination to the National Register of Historic Places (NRHP).

3.2.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Direct impacts normally include alterations to the physical integrity of a cultural site. If a cultural site is significant for other than its scientific information, 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 or access to the area with the increased potential of unauthorized removal or other alteration to cultural sites in the area.

Significant cultural sites (e.g. National Register eligible/listed) are being avoided with the implementation of design features such as but not limited to reduction of construction areas, temporary barriers, and site monitoring. These design features are detailed in the Cultural Resource Record of Review. The proposed action is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies/rituals. The proposed action will have no direct or indirect impact on significant cultural sites.

Cumulative Impacts

There will be no negative cumulative impact on cultural resources as significant cultural sites are being avoided. A positive cumulative effect is the additional scientific information yielded by the archaeological survey.

3.3. Upland Vegetation

3.3.1. Affected Environment

The analysis area is located within the United States Environmental Protection Agency (USEPA) designated Arizona/New Mexico Plateau Level III ecoregion. The Arizona/New Mexico Plateau occurs primarily in Arizona, Colorado, and New Mexico, with a small portion in Nevada. This ecoregion is approximately 45,870,500 acres (185,632 km^2), and the elevation ranges from 2,165 to 11,949 feet (660 to 3,642 meters). The ecoregion's landscapes include low mountains, hills, mesas, foothills, irregular plains, alkaline basins, some sand dunes, and wetlands. This ecoregion is a large transitional region between the semiarid grasslands to the east, the drier shrublands and woodlands to the north, and the lower, hotter, less vegetated areas to the west and south. Vegetation communities include shrublands with big sagebrush, rabbitbrush, winterfat, shadscale saltbush, and greasewood; and grasslands of blue grama, western wheatgrass, green needlegrass, and needle-and-thread grass. Higher elevations may support pinon pine and juniper woodlands. The ecoregion includes the urban areas of Santa Fe and Albuquerque. Important land uses include irrigated farming, recreation, rangeland, wildlife habitat, and oil and natural gas production.

The analysis area contains a sparse above-ground vegetative cover of big sagebrush *(Seriphidium tridentatum)* and rabbitbrush *(Chrysothamnus* sp.). A sparse ground cover of blue grama *(Bouteloua gracilis),* alkali sacaton *(Sporobolus airoides),* Indian ricegrass *(Achnatherum hymenoides),* broom snakeweed (*Gutierrezia sarothrae),* Russian thistle *(Sa/sola australis),* wolfberry *(Lycium pallidum),* winterfat *(Krascheninnikovia lanata),* and New Mexican prickly pear cactus *(Opuntia phaeacantha)* was also present within the analysis area. Pinon pine *(Pinus edulis)* and Utah juniper *(Sabina osteosperma)* trees are scattered throughout the area.

3.3.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Potential impacts on desert scrub habitat from the proposed project would include direct impacts from habitat degradation as well as a wide variety of indirect impacts. Impacts would be incurred during initial site preparation and would continue throughout the operational life of the project, typically extending over a period of several decades. Plant communities and habitats affected by direct or indirect impacts from project activities could incur short- or long-term changes in species composition, abundance, and distribution. Some impacts may also continue after the decommissioning of the project. Land areas available for project development support a wide variety of plant communities and habitats.

Indirect impacts on terrestrial habitat on or off the project site could result from land clearing and exposed soil; soil compaction; and changes in topography, surface drainage, and infiltration characteristics. Indirect impacts could include the degradation of habitat from construction activities occurring in adjacent areas.

The operation of heavy equipment within the project area may result in injury or destruction of existing vegetation and biological (microbiological) soil crusts, and the compaction and disturbance of soils (Belnap and Herrick 2006). Soil aeration, infiltration rates, and moisture content could be impacted. Biological soil crusts occur in deserts and other sparsely vegetated arid habitats and are important for soil stability, nutrient cycling, and water infiltration; their disturbance may affect the development of plant communities (Fieischner 1994; Belnap et al. 2001; Gelbard and Belnap 2003). All these factors could affect the rate or success of vegetation reestablishment.

Cumulative Impacts

Within the FFO planning area there are approximately 435,500 acres of Great Basin Desert shrub habitat type (USDI/BLM 2003a, page 3-31). Based on the acres of plant community types within the planning area and the estimated total disturbance of future activities, approximately 2.7 percent of the various communities represented would be disturbed within the planning area over 20 years from reasonably foreseeable future actions (USDI/BLM 2003a, page 3-31 and 4-7). The proposed action would result in a minimal contribution to cumulative impacts on upland vegetation in the planning area. Changes in vegetation composition and the potential for invasive, non-native species to establish would also cumulatively impact vegetation in the project area.

3.4. Soils

3.4.1. Affected Environment

The San Juan Basin is bordered by the Defiance Uplift and Chuska Mountains to the west, San Juan Dome to the north, Chaco Slope and Zuni Uplift to the south and the Nacimiento Uplift to the east. In total, the San Juan Basin covers a surface of approximately 4,600 square miles. The soils in the San Juan Basin were formed primarily from two kinds of parent material: alluvial sediment and sedimentary rock. The alluvial sediment is material that was deposited in river valleys and on mesas, plateaus, and abandoned river terraces. The material has been mixed and sorted in transport and has a wide range of mineralogy and particle size. Sedimentary parent material consists mainly of sandstone and shale bedrock. These shale and resistant sandstone beds form prominent structural benches, buttes, and mesas bounded by cliffs.

According to the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) Web Soil Survey, soils in the analysis area are comprised of the Blancot-Notal association, gently sloping.

This soil association is composed of approximately 55 percent Blancot and similar soils, and 25 percent Notal and similar soils. The Blancot series consists of very deep, well drained soils that formed in alluvium and fan alluvium from shale and sandstone. Blancot soils are on valley sides and ridges. Slopes are 0 to 8 percent. The Notal series consists of very deep, well drained, sodium affected soils that formed in alluvium, stream alluvium, and fan alluvium derived from shale, siltstone, and sandstone. Notal soils are on low stream terraces on valley floors and alluvial fans on valley sides, fan terraces and small depressions of undulating plateaus.

The different characteristics of these soil types are listed in the table below.

Table 4 Characterastics of the Soil Types Present Within the Analysis Area

Characteristic	Blancot	Notal
Surface Layer	Pale brown loam	Pale brown silty clay loam
Slope	0-5%	0-2%
Depth	More than 80"	More than 80"
Surface Runoff	Medium	High
Typical Use	Rangeland	Livestock grazing and limited irrigated agriculture
Moisture Regime	Ustic aridic	Typic aridic
Drainage Class	Well drained	Well drained
Available Water Capacity	High	Low
Permeability	Moderate	Very slow
Parent Material	Fan alluvium derived from sandstone and shale	Stream alluvium derived from sandstone and shale

3.4.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed action would not result in any significant surface disturbance. Exposed soil surfaces along the temporary access route and at the base of the proposed pipeline support structures would be susceptible to wind and water erosion. The potential impacts would be dependent, in part, on seasonal variation in rainfall and snowmelt run-off, terrain, soil type, prevailing winds, and vegetative cover. Effects to soils would likely be low for the proposed action.

Cumulative Impacts

The PRMP/FEIS determined that "cumulative impacts on soils in the San Juan Basin would comprise the total amount of short term and long term surface disturbance due to all new oil and gas development and other activities" (USDI/BLM 2003a, page 4-123). The PRMP/FEIS projected that 2,514 acres of initial surface disturbance would occur in the Blanco watershed (USDI/BLM 2003a, page 4-7), containing the project boundaries. The proposed action would result in minimal surface disturbance.

3.5. Surface Water Resources

3.5.1. Affected Environment

Recognizing the potential for the continued or accelerated degradation of the Nation's waters, the U.S. Congress enacted the Clean Water Act (CWA), formerly known as the Federal Water Pollution Control Act (33 U.S.C. 1344). The objective of the CWA is to maintain and restore the chemical, physical, and biological integrity of the waters of the United States.

Under Section 402 of the CWA (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (five or more acres disturbance) or a Phase II small construction activities (between one and five acres disturbance) permit may be required. Section 402(1)(2) of the CWA exempts entities that carry out certain oil and gas activities from obtaining storm water permits, including site preparation and associated activities (i.e., construction of access roads, drilling sites, waste management pits, pipelines, etc.). This rule exempts the oil and gas industry, including associated construction activities, from Federal NPDES storm water permits, except in very limited instances. Facilities that have a discharge of a reportable quantity release or that contribute pollutants (other than non-contaminated sediment) to a violation of a water quality standard are required to obtain and maintain NPDES permit coverage for storm water for the entire operating life of the facility.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into the waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USAGE) has jurisdiction over "waters of the U.S." These jurisdictional waters include those that have a "significant nexus" to traditional navigable waters. The BLM/FFO and USAGE Durango Regulatory Office have determined that jurisdictional waters may include USGS watercourses (i.e., "blue lines" on USGS 1:24,000 topographic maps). A majority of the drainages within the FFO resource management area are intermittent/ephemeral and typical of the Arid West region. Effective discharges within intermittent/ephemeral systems are considered low to moderate (5 to 10 years) events and are typically the result of the North American Monsoon, delivering moisture to the area in late spring and continuing into September.

3.5.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The Lateral 6A-31 pipeline crosses an intermittent/ephemeral drainage that is assumed to be a jurisdictional watercourse as defined on the USGS Thompson Mesa, NM 7.5-minute topographic quadrangle. The proposed project would neither change the elevation of the drainage bottom nor alter the defined bed and bank features. No CWA Section 404 permit is necessary for the project to proceed.

Cumulative Impacts

The proposed actions within the wash may contribute to increased sedimentation realized down gradient of the project area. The project area is situated approximately 2 miles from Blanco Wash.

3.6. Livestock Grazing Resources

3.6.1. Affected Environment

The proposed project is located in the Dufers Point Cattlemen's Association grazing Allotment No. 5076. Vegetation within the analysis area has been determined to be Sagebrush Community. The allotment is 29,931 acres in size and contains 25,562 acres of public lands. The average rangeland carrying capacity for the Dufers Point Cattlemen's Association Allotment is 9.25 acres/AUM. The term grazing authorization permits the utilization of 2,215 active AUMs (Animal Unit Months) of forage. An AUM is the amount of forage needed to sustain a cow (1,000 lb.) or cow/calf pair for one month.

3.6.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed project would not result in the loss of AUM. Short term impacts may include displacement of permitted livestock during project activities or exposure of livestock to hazards. After pipeline stabilization, livestock should become acclimated to traffic associated with its maintenance. Vehicle traffic associated with the project could pose impacts to livestock considering that the area is open range and livestock may be found on roads in the area.

Direct impacts to livestock occur when holes or ditches are not excluded properly. Any type of hole or ditch is potentially a hazard to livestock while grazing. Cow or calf injuries may occur when they fall into a ditch-type cavity or in process of trying to get out. Cow or calf leg injuries also may occur when any type of small hole is left uncovered. Livestock can step into the hole and break a leg.

Impacts to livestock may occur when containment of livestock is compromised (i.e., 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 permittee to locate livestock or potential trespass issues for the respective livestock owner if the livestock cross allotment boundaries.

4. SUPPORTING INFORMATION

4.1. Tribes, Individuals, Organizations, or Agencies Consulted

Sarah Clelland, Land Analyst – Enterprise Field Services, LLC

Jason Meininger- Division of Conservation Archaeology

Runell Seale – Enterprise Products Company

Lyn Wharton, Project Manager- Division of Conservation Archaeology

Chris White, Field Engineer- Enterprise Products Company

4.2. List of Preparers

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Barney Wegener, Natural Resource Specialist- Bureau of Land Management, Farmington Field Office

Matthew Zabka, Environmental Specialist- Adkins Consulting, Inc.

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APPENDIX A. APPLICATION AND SUPPORTING DOCUMENTS

A.1. ROW Grant / Exhibit A

See attachment. The ROW grant and Exhibit A contain additional information about the proposed action including maps of all facilities, roads, pipelines, power lines, etc.

A.2. Authorities

Code of Federal Regulations (CFR)

40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.

43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

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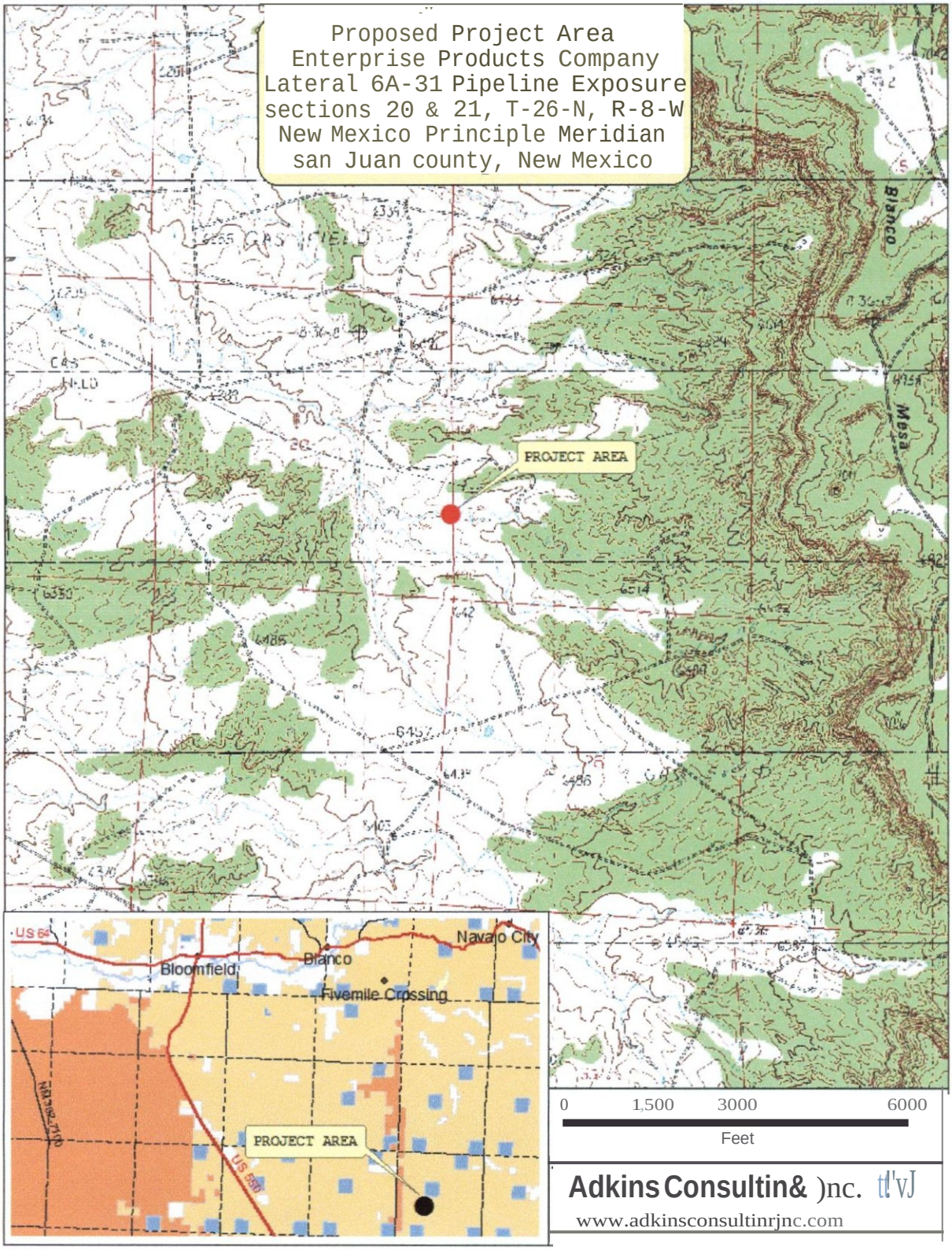
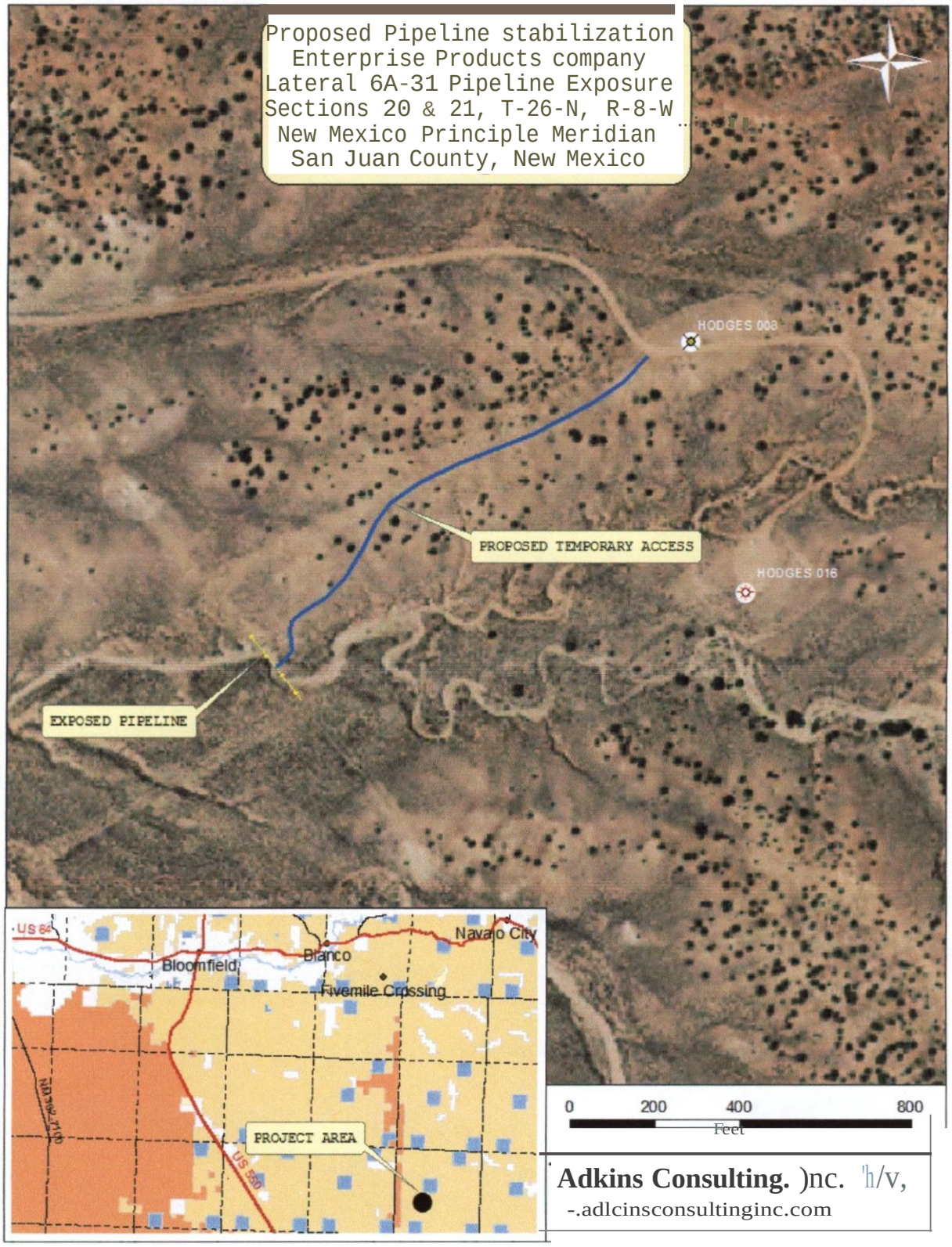
APPENDIX B. MAPS





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