UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Farmington District
Farmington Field Office
6251 N College Blvd., Ste. A
Farmington, NM 87402

Finding of No Significant Impact

WPX Energy Production, LLC's
West Lybrook UT 707H, #708H, #709H, #747H, #748H, #749H, access road and pipeline Re-route

National NEPA No. DOI-BLM-NM-FO10-2016-0208

(IT4RM# F010-2016-0086 EA)

FINDING OF NO SIGNIFICANT IMPACT

I have determined that the proposed action, as described in Environmental Assessment (EA) DOI-BLM-NM-FO10-2016-0208 will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an Environmental Impact Statement is not required.

In making this determination, I considered the following factors:

Context

The Farmington Field Office (FFO) is located in northwestern New Mexico. The field office boundaries include approximately 7,800,000 acres; 1.4 million surface acres and an additional 1 million acres of mineral estate are managed by the BLM. The distribution of BLM-managed lands is fairly well consolidated in the north and becomes increasingly mingled with Tribal lands to the south. BLM-managed lands abut the Navajo Reservation to the west and south, Jicarilla Apache Nation Reservation to the east, and the Ute Mountain Reservation and Southern Ute Indian Reservation to the north. Aztec Ruins National Monument and Chaco Culture National Historical Park, managed by the National Park Service, lie within the field office boundaries. The BLM manages approximately 18% of lands within a 10 mile radius of Chaco Culture National Historical Park.

The FFO encompasses the New Mexico portion of the San Juan Basin. The San Juan Basin and surrounding areas have been occupied by varied cultures since the Paleo Indian period (circa 10,000 BC). The San Juan Basin and Four Comers area have one of the most extensive prehistoric and protohistoric occupations in the United States. The most commonly known archaeological resources are the Anasazi structures at Chaco Culture National Historical Park, Mesa Verde National Park, and other National Park Service sites. Scattered across BLM-managed lands are similar, but smaller structures, which were probably related to these larger sites. Twenty-three Chacoan outliers are known to exist within the FFO. Each contains at least one Chacoan structure and most have associated communities, prehistoric roads, and great kivas along with features such as herraduras and special use areas. The FFO contains an extensive system of finely engineered roads radiating out from Chaco Canyon and extending a considerable distance to outlying sites through the San Juan Basin and beyond. These roads are remarkably straight and carefully constructed. The most notable is the Great North Road, which starts at Chaco Canyon and run north to the Aztec Ruins.

Located within the boundary of the FFO is much of Dinétah, the ancestral homeland to the Navajo. Here the Navajo constructed forked-stick hogans, shades, sweat lodges, and other structures over a several hundred year span. During a short period between 1680 and the mid-1700s, pueblitos were constructed, often associated with other structures. Although not firmly dated, extensive Navajo pictograph and petroglyph sites were painted, etched, pecked, or ground onto the sandstone cliffs of the canyons of Dinétah. Most are believed to be ceremonial art which is no longer traditionally executed in a permanent form.

Native American Traditional and Sacred Areas are known to exist across the FFO. Many are associated with narrative accounts of origin or other traditional stories. Most of the identified sacred areas are associated with the Navajo culture. These places are still important in Navajo ceremonies and daily activities.

Historic Hispanic or Spanish and Anglo sites within the San Juan Basin primarily date from the late 1800s to the present. Although there are some early Spanish land grants in the southern portion of the FFO, most historic sites located on public lands are either Hispanic or Anglo homesteads with associated structures from the late 1800s and early 1900s. Associated with many clusters of homesteads were a school house and often a church which was visited every few months by a priest.

Cultural resource inventories have been conducted throughout the FFO for project undertakings, management studies, and scientific inquiries. As of April 2014, approximately 760,000 acres of the 7,800,000 acres in the FFO boundaries have been inventoried. Over 46,000 sites have been identified ranging from small artifacts to the 800-room structures in Chaco Canyon. Many of these sites are listed on the National Register of Historic Places and Chaco Culture National Historical Park along with several of the Chacoan sites which have been placed on the World Heritage List. The FFO manages 79 Areas of Critical Environmental Concern (ACECs) for relevant and important cultural values, including five World Heritage Sites.

The San Juan Basin is an important area for mammalian and reptilian fossils. A variety of paleontological resources exist in the FFO including animal fossils, fossil leaves, palynomorphs, petrified wood, and trace fossils occurring in the Triassic, Jurassic, Cretaceous, and Tertiary rocks. Dinosaur and other fossils have made significant contribution to the scientific record have been found and excavated in the FFO. Paleontological resources are present in the Bisti De-Na-Zin Wilderness Area, Ah-Shi-Sle-Pa Wilderness Study Area, Fossil Forest Research Natural Area, and seven fossil areas identified in the 2003 Farmington Resource Management Plan.

The San Juan Basin is one of the largest natural gas fields in the nation and has been under development for more than 60 years. Oil was discovered by accident in the Seven Lakes area of McKinley County in 1911. Natural gas was discovered near Aztec, New Mexico, in 1920-1921 with oil of commercial quantity discovered near the Hogback in 1922 (Barnes 1951). Several small pipelines were built to carry the oil and gas from these discoveries to Aztec and Farmington. Development began in earnest in the late 1940s and early 1950s as the demand for natural gas increased. The FFO manages 2,765 active oil and gas leases in the San Juan Basin consisting of 2.1 million acres. Leasing began in the mid-1930s and accelerated in the late 1940s. By 1950, over 1 million acres were under lease.

In 1951, El Paso Natural Gas completed the first interstate pipeline out of the San Juan Basin to California. That same year, oil was discovered in the Mancos Shale in Dogie Canyon (Barnes 1951). Since that time, over 30,000 oil and gas wells have been drilled in the San Juan Basin with approximately 16,000 associated rights-of-way. Approximately 23,000 wells are currently producing. Since Stanolind Oil introduced hydraulic fracturing in 1949, nearly every well in the San Juan Basin has been fracture stimulated.

Intensity

1. The activities described in the proposed action do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). Per 40 CFR 1500.1(b), the EA concentrated on issues that are truly significant to the action in question, rather than amassing needless detail. Issues have a cause and effect

relationship with the proposed action or alternatives; are within the scope of the analysis; have not been decided by law, regulation, or previous decision; and are amendable to scientific analysis rather than conjecture (BLM 2008, page 40). The following issues were identified related to the proposed action.

- How would the proposed project activities impact air resources?
- How would the proposed project activities impact upland vegetation?
- How would the proposed project activities impact the establishment and distribution of noxious weeds?
- How would the proposed project activities impact migratory bird species?
- How would the proposed project activities impact the following BLM Special Status Species: Aztec gilia (*Aliciella formosa*), Brack's hardwall cactus (*Sclerocactus cloveriae* var. *brackii*), Bendire's thrasher (*Toxostoma bendirei*), golden eagle (*Aquila chrysaetos*), and prairie falcon (*Falco mexicanus*)?
- How would the proposed project activities impact cultural resources?
- How would the proposed project activities impact public health and safety?
- How would the proposed project activities impact environmental justice communities?
- How would the proposed project activities impact transportation?

The EA includes a description of the expected environmental consequences of the proposed activities for those issues in Chapter 3.

2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)). The following design features have been included in the proposed action to address any impacts to public health and safety.

The proposed project would affect transportation. During construction, the proposed project would result in increased traffic on area roads; some vehicles would be hauling heavy equipment. Therefore, there would be an increased potential for traffic accidents. Dust associated with construction activities or travel on dirt access roads may result in poor visibility in the area. The increased use of dirt access roads during muddy conditions may worsen the roads' conditions. Following construction and drilling, traffic levels would be similar to current levels; long-term effects on transportation would be positive due to the reduction of truck traffic from the piping of products from the location to a gathering system.

During construction and maintenance activities, the operation of heavy equipment poses potential safety concerns. During the operation of the proposed well-connect pipelines, facility failure (such as pipeline ruptures) could represent a potential danger to the public. Impacts are likely to be low and long-term.

Air quality may affect health and safety. Air quality for San Juan County and for the State of New Mexico is described earlier in Air Resources section 3.2.1. of the EA (pages 14 thru 17). Changes to air quality from the proposed action are expected to be relatively minor, as discussed in Section 3.2 of the EA. Workers in closest proximity to the drilling activity use engineering controls and protective gear to minimize risk of effects.

The Air Resources Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (USDI BLM 2014). The Environmental Protection Agency (USEPA) conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP emissions by county in the U.S. The purpose of the NATA is to identify areas where HAP emissions result in high health risks and further emissions reduction strategies are necessary. A review of the results of the 2005 NATA shows that cancer, neurological and respiratory risks in San Juan County are generally lower than statewide and national levels as well as those for Bernalillo County where urban sources are concentrated in the Albuquerque area (USEPA 2012).

The emissions calculator estimated that there could be very small direct and indirect increases in several criteria pollutants, HAPs, and greenhouse gases (GHGs) as a result of implementing the proposed

alternative. The very small increase in emissions that could result would not be expected to result in exceeding the National Ambient Air Quality Standards (NAAQS) for any criteria pollutants in the analysis area.

3. The proposed activities would not significantly affect any unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (40 CFR 1508.27(b)(3)). Unique characteristics are generally limited to those that have been identified through the land use planning process or other legislative, regulatory or planning processes (BLM 2008, page 71). The FFO does not contain any prime and unique farmlands, suitable or designated wild and scenic rivers, or designated caves.

Table 1 discloses the distance of the proposed activities to wetlands delineated by the Army Corps of Engineers. Table 2 discloses the distance of the proposed activities to National Park Service units and Congressionally designated areas. *The proposed action and alternatives are not located within an Area of Critical Environmental Concern.* Impacts to historic or cultural resources are described in the Cultural Resources section of the EA and discussed further under item 8.

Table 1. Distance of the Proposed Activities from Wetlands

Delineated Wetlands	Distance from Proposed Activities
Bancos	51.5 miles
Blanco	32.5 miles
Bloomfield	34.5 miles
Cutter Canyon	30.5 miles
Carrizo Oxbow	28 miles
Desert Hills	36.5 miles
Valdez	34 miles

Table 2. Distance of the Proposed Activities from Park Lands and Ecologically Critical Areas

Park Land or Ecologically Critical Area	Distance from Proposed Activities
Ah-Shi-Sle-Pah Wilderness Study Area	9 miles
Aztec Ruins National Monument	44 miles
Bisti De-Na-Zin Wilderness Area	15 miles
Chaco Culture National Historical Park	14 miles
Fossil Forest Research Natural Area	18.5 miles

4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)). Controversy in this context means disagreement about the nature of the effects, not expressions of opposition to the proposed action or preference among the alternatives (BLM 2008, page 71). Oil and gas development has occurred in the San Juan Basin for more than 60 years. While there may be controversy over the appropriateness of oil and gas development, there is not a high level of controversy or substantial scientific dispute over the impacts of that activity. The impacts of the proposed activities are described in Chapter 3 of the EA.

5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)). As described under Context, oil and gas development has occurred in the San Juan Basin since the late 1940s and early 1950s. The field office has permitted over 30,000 wells and 16,000 rights-of-way. Hydraulic fracturing has occurred on nearly every well in the San Juan Basin since the 1950s. As such, the FFO has decades of experience and is knowledgeable about the impacts and risks associated with the proposed activities.

6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)). Approval of these activities in no way assures approval of any future activities.

7. The effects of the proposed activities would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). Direct, indirect, and cumulative impacts are described in Chapter 3 of the EA.

8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). The proposed activities are not located in an ACEC containing relevant and important cultural values. Cultural resource surveys were completed (NNHPD NO.: HPD-15-829) and (BLM Report Number: 2016(I)011.1F). Cultural resources were not identified within the project areas. No TCPs are known to exist in the APE.

There are no known historic properties within the APE. The Proposed Action will have no direct or indirect impacts on historic properties (no historic properties affected).

The proposed action will have no direct or indirect impact on historic properties (no historic properties affected). As discussed in the Cultural Resources section 3.7. (page(s) 25 thru 27 of EA).

The BLM fulfills its responsibilities under the National Historic Preservation Act (NHPA) through a number of agreements. The National Programmatic Agreement (NPA; 2012) between the BLM, Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers (NCSHPO) allows the agency to fulfill its NHPA responsibilities according to the provisions of the NPA in lieu of 36 CFR 800.3 through 800.7 regulations. The NPA, which applies to all BLM activities below specified thresholds, provides among other things, regulatory relief in many instances from the requirement for case-by-case review by State Historic Preservation Officers (SHPOs) and the ACHP, in exchange for managers' maintenance of appropriate staff capability and observance of internal BLM standards as set out in the 8100 Manual series.

The New Mexico BLM has a two-party protocol with the New Mexico SHPO (2014) specifically encouraged by the NPA. This protocol details how the New Mexico BLM and SHPO will regulate their relationship and consult. Specifically, this document outlines among other things, how and when consultation will be conducted between the BLM, SHPO, Tribes, and the public. The protocol also outlines when case-by-case SHPO consultation is or is not required for specific undertakings and the procedures for evaluating the effects of common types of undertakings and resolving adverse effects to historic properties. These common types of undertakings regularly include the common actions undertaken in the BLM FFO.

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

Due to the mobility of adult birds, they would be unlikely to be directly harmed by the proposed project. As discussed in Section 2.2.2 (Description of Proposed Project - Protection of Flora and Fauna, Including SSS and Livestock), if the vegetation-clearing phase of construction is scheduled to occur during migratory bird breeding season, a pre-construction migratory bird nest survey would be conducted within the associated proposed project area. Therefore, it is unlikely that nests, eggs, or young birds within the proposed project area would be directly harmed. If project activities occur during migratory bird breeding season, birds nesting outside of but near the proposed project area could abandon existing nests as a result of visual and audial disturbances.

Indirect effects associated with disturbance to foraging habitat are described in Section 3.6.1 (Wildlife - Direct and Indirect Impacts – Migratory Birds).

The project area does not contain suitable habitat for mountain plover, yellow-billed cuckoo or bald eagle.

The proposed action area is within the BLM/FFO designated potential habitat area for Brack’s hardwall cactus (*Sclerocactus cloveriae* var. *brackii*) and Aztec gilia *(Aliciella formosa*).

No Aztec gilia were identified during the surveys of the proposed project area. The survey was completed outside of the blooming period (late April to mid-June) for this species. Additionally, individuals of this species are typically very small and difficult to identify outside of the blooming period. As such, it is possible that individuals could have been overlooked during the survey.

A During the biological field survey three dead Brack's hardwall cactus were found in a small area along the margins of a small drainage at the northwestern most corner of the Northwest ¼ of the Northwest ¼ of Section 18 of Township 23 North, Range 8 West. The surrounding area was carefully surveyed but no live individuals were identified. Refer to the BSR (Appendix C) for a detailed discussion of survey results and a description of precautions taken to ensure the validity of the survey during winter months. The survey was completed outside of the blooming period (late April to mid-June) for this species. Additionally, individuals of this species are typically very small and difficult to identify outside of the blooming period. As such, it is possible that individuals could have been overlooked during the survey.

The proposed project would result in the disturbance of up to 1.18 acres of Aztec gilia/Brack's hardwall cactus habitat located within the outer boundary of the Nacimiento Formation. This acreage includes disturbance on both Navajo Indian Allotted lands and BLM lands. For the short-term, this acreage would not provide potential habitat for these species. Upon interim reclamation, a portion of this area will be reclaimed and it is possible that Aztec gilia and Brack's hardwall cacti could become established within these reclaimed areas. During final reclamation, WPX would fully reclaim all portions of the proposed project area that were not fully reclaimed during interim reclamation. In order to fully reclaim these areas WPX would need to first clear the vegetation in order to recontour the ground; during this process, it is possible that Aztec gilia and/or Brack's hardwall cacti that became established or reestablished within post-interim reclamation areas could be killed. The proposed project area does not appear to currently provide suitable habitat occupied by live individuals. Proposed disturbance would likely have no impact to individual cacti and minimal impact to potential habitat.

As discussed in Section 2.3 - Alternatives Considered but Eliminated from Detailed Study, the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H access road and pipeline were originally permitted along an existing access road. However, due to a large portion of the existing road being fenced off and inaccessible WPX proposes a new re-route to access the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H well pad. WPX chose to re-route along the recently disturbed area next to the new fence line to consolidate disturbance and fragmention in such a way as to minimize impacts to Brack's hardwall cactus and Aztec gilia habitat to the extent practicable in accordance with the BLM-FFO guidance..

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Sections 1.4 and 1.5 of the EA describe the relationship of the proposed activities to relevant laws, policies, regulations, and plans.

REFERENCES

Barnes, Frank C., 1951. History of development and production of oil and gas in the San Juan Basin. In *The south and west sides of the San Juan Basin, New Mexico and Arizona*, Smith, C.T.; Silver, C. ed(s), New Mexico Geological Society, Guidebook, 2nd Field Conference, pp. 155-160.

BLM. 2008. *National Environmental Policy Handbook. H-1790-1.* Bureau of Land Management. National Environmental Policy Act Program.

APPROVED:

/s/Jeff Tafoya (for) 3/9/16

Maureen Joe Date

Acting Field Manager
Farmington Field Office

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Farmington District
Farmington Field Office
6251 N College Blvd., Ste. A
Farmington, NM 87402

DECISION RECORD

for the
West Lybrook UT 707H, #708H, #709H, #747H, #748H, #749H, access road and pipeline Re-route
National NEPA No. DOI-BLM-NM-FO10-2016-0208

(ITFRM # F010-2016-0086)

I. Decision

I have decided to select Alternative B for implementation as described in the West Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H access road and pipeline Re-route NEPA No. DOI-BLM-NM-FO10-2016-0208 Environmental Assessment (EA). Based on my review of the Environmental Assessment and project record, I have concluded that proposed action was analyzed in sufficient detail to allow me to make an informed decision. I have selected this alternative because the proposed project would allow WPX Energy Production, LLC access to their proposed drilling site in order to horizonatally drill for oil and gas within their valid existing lease.

II. Conformance and Compliance

The proposed action is in conformance with the 2003 BLM-FFO Resource Management Plan (RMP). Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific Environmental Assessment (EA) tiers into and incorporates by reference the information and analysis contained in the BLM-FFO Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) (BLM 2003a). The RMP was approved by the September 29, 2003 Record of Decision (ROD) (BLM 2003b), and updated in December 2003.

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. 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. (BLM 2003b, 2-2 – 2-3)

III. Finding of No Significant Impact

I have reviewed the direct, indirect and cumulative effects of the proposed activities documented in the EA for the West Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H access road and pipeline Re-route. I have also reviewed the project record for this analysis. The effects of the proposed action and alternatives are disclosed in the Alternatives and Environmental Consequences sections of the EA. I have determined that construction of a well pad, access road and pipelines re-route will allow WPX Energy Production, LLC reasonable access to the mineral lease in order to develop the existing lease as described in the EA will not significantly

affect the quality of the human environment. Accordingly, I have determined that the preparation of an Environmental Impact Statement is not necessary.

IV. Other Alternatives Considered

The proposed access and pipeline corridor was originally proposed with the W Lybrook UT #705H, #706H, #745H, #746H; W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H; and Remote Facilities 23-8-18D project. However, during the original onsite for the project the access and pipeline corridor was moved to follow the existing driveway across Navajo Indian allotment NO-G-1310-1841 in order to utilize existing disturbance. That allotment is being fenced off. The allottee will not grant access for the project and as a result, the access and pipeline corridor must be re-routed around the allotment on BLM land. No other reasonable alternatives to the Proposed Action have been developed that would result in significantly fewer impacts or any clear advantages over the Proposed Action. The proposed access road and proposed pipeline corridor follow the most economic and direct route based on the location of existing WPX infrastructure, existing disturbance, surface resources, and terrain..

V. Rationale for the Decision

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 (RMP) for the Farmington Field Office (FFO) of the BLM, which was approved by the Record of Decision (ROD) signed September 29, 2003 (BLM 2003b). Specifically, this action is in conformance with the following: 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. 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, RMP, and ROD are available for review at the BLM Farmington Field Office, 6251 College Blvd., Farmington, NM, or electronically at:

The proposed action is in conformance with the 2003 BLM-FFO Resource Management Plan (RMP). Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific Environmental Assessment (EA) tiers into and incorporates by reference the information and analysis contained in the BLM-FFO Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) (BLM 2003a). The RMP was approved by the September 29, 2003 Record of Decision (ROD) (BLM 2003b), and updated in December 2003.

Specifically, the proposed project supports the following BLM policy:

> 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. 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. (BLM 2003b, 2-2 – 2-3)

Regulations under 43 CFR 1610.5 requires the proposed action to be in conformance with the terms and the conditions of the RMP as approved by the ROD signed September 29, 2003 (BLM 2003b) and updated in December 2003.

I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or

eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). The proposed activities are not located in an ACEC containing relevant and important cultural values. Cultural resource surveys). Cultural resource surveys were completed (NNHPD NO.: HPD-15-829) and (BLM Report Number: 2016(I)011.1F) Cultural resources were not identified within the project areas. No TCPs are known to exist in the APE.

There are no known historic properties within the APE. The Proposed Action will have no direct or indirect impacts on historic properties (no historic properties affected).

The proposed action will have no direct or indirect impact on historic properties (no historic properties affected). As discussed in the Cultural Resources section 3.7. (page(s) 25 thru 27 of EA).

The BLM fulfills its responsibilities under the National Historic Preservation Act (NHPA) through a number of agreements. The National Programmatic Agreement (NPA; 2012) between the BLM, Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers (NCSHPO) allows the agency to fulfill its NHPA responsibilities according to the provisions of the NPA in lieu of 36 CFR 800.3 through 800.7 regulations. The NPA, which applies to all BLM activities below specified thresholds, provides among other things, regulatory relief in many instances from the requirement for case-by-case review by State Historic Preservation Officers (SHPOs) and the ACHP, in exchange for managers' maintenance of appropriate staff capability and observance of internal BLM standards as set out in the 8100 Manual series.

The New Mexico BLM has a two-party protocol with the New Mexico SHPO (2014) specifically encouraged by the NPA. This protocol details how the New Mexico BLM and SHPO will regulate their relationship and consult. Specifically, this document outlines among other things, how and when consultation will be conducted between the BLM, SHPO, Tribes, and the public. The protocol also outlines when case-by-case SHPO consultation is or is not required for specific undertakings and the procedures for evaluating the effects of common types of undertakings and resolving adverse effects to historic properties. These common types of undertakings regularly include the common actions undertaken in the BLM FFO.

The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). The project is located within the newly discovered Potential Brack's Cactus and Aztec Gilia habitat. The proposed project is in accordance with the Aztec Gilia/Brack's Cactus Interim Guidance.

VI. Public Involvement

The Notice of Staking was made available for the public to review at the Farmington Field Office. No comments were received. The project was posted on the Farmington Field Office NEPA log www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_document_library/apd_ea_2015.html.

An initial on-site meeting was held for the proposed project on February 11, 2016. Attendees at the on-site meeting included WPX and BLM-FFO representatives, the dirt work contractor, the project surveyor, an archeological consultant, and an environmental consultant (EIS, LLC.).

A public invitation to the on-site meeting was posted online (http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_oil_and_gas/ffo_onsites.html); one private citizen attended. A BLM-FFO Interdisciplinary Team meeting was held on February 22, 2016, to discuss the proposed action. At the aforementioned meetings, potential issues of concern were identified by the BLM-FFO and EIS

VII. Administrative Review and Appeal

Under BLM regulations, this Decision Record (DR) is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this DR, with or without oral presentation, must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 301 Dinosaur Trail, Santa Fe, NM 87508, no later than 20 business days after this DR is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

This decision to authorize a right-of-way may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with the regulations contained in 43 CFR Part 4. Any appeal must be filed within 30 days of this decision. Any notice of appeal must be filed with Maureen Joe Acting Field Manager, Bureau of Land Management, Farmington Field Office, 6251 College Boulevard, Suite A, Farmington, NM 87402. The appellant shall serve a copy of the notice of appeal and any statement of reasons, written arguments, or briefs on each adverse party named in the decision, not later than 15 days after filing such document (see 43 CFR 4.413(a)). Failure to serve within the time required will subject the appeal to summary dismissal (see 43 CFR 4.413(b)). If a statement of reasons for the appeal is not included with the notice, it must be filed with the IBLA, Office of Hearings and Appeals, U. S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with Maureen Joe, Acting Farmington Field Office Manager.

Notwithstanding the provisions of 43 CFR 4.21(a)(1), filing a notice of appeal under 43 CFR Part 4 does not automatically suspend the effect of the decision. If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal.

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

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

In the event a request for stay or an appeal is filed, the person/party requesting the stay or filing the appeal must serve a copy of the appeal on the Office of the Field Solicitor: United States Dept. of the Interior, Office of the Solicitor, Southwest Regional Office, 505 Marquette Avenue NW, Suite 1800, Albuquerque, NM 87102

/s/Jeff Tafoya (for) 3/9/16

Maureen Joe
Acting Field Manager
Farmington Field Office

Date

United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-F010-2016-0208

WPX Energy Production, LLC's Proposed W Lybrook UT 707H, #708H, #709H, #747H, #748H, #749H Access Road and Pipeline Re-route

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Prepared for:

Bureau of Land Management—Farmington Field Office

Bureau of Indian Affairs – Navajo Region

U. S. Department of Interior – Federal Indian Minerals Office

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1. PURPOSE AND NEED FOR ACTION

1.1. Background

WPX Energy Production, LLC (WPX) proposes the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H access road and pipeline re-route. WPX has submitted a Sundry notice to re-route the on-lease access road and pipeline for approval. The re-routed road and pipeline is in response to the fencing of allotment NO-G-1310-1841, where the access and pipeline were originally proposed in the Applications for Permit to Drill (APDs) to the Bureau of Land Management – Farmington Field Office (BLM-FFO) for the proposed West Lybrook UT 707H, #708H, #709H, #747H, #748H, and #749H oil and natural gas wells. The Proposed Action is the approval of the Sundry notice by the BLM-FFO, located in Farmington, New Mexico.

The proposed access and pipeline are located on public lands managed by the BLM-FFO and Navajo Allotted lands administered by the Bureau of Indian Affairs (BIA), Navajo Regional Office Eastern Agency, and the Federal Indian Minerals Office (FIMO). The proposed access/pipeline would be confined to a 50-foot corridor. The allotment is currently being fenced, eliminating usage of roads through the property by nearby residences and WPX; as such, the re-route would follow the fence line around the northeast corner of the allotment to provide access to the West Lybrook UT Nos. 707H, 708H, 709H, 747H, 748H, and 749H oil and natural gas wells, as well as, access to the nearby residents home. The action area would be located within the BLM-FFO management area of San Juan County, New Mexico, approximately 36 miles south-southeast of the town of Bloomfield, New Mexico; 2.3 miles south-southeast of Nageezi, New Mexico; and 0.85 miles southwest of the intersect at County Road #7890 and U.S. Highway 550. Legal coordinates are shown in Table 1, below.

1.2. Purpose and Need for Action

The purpose of the following Proposed Action is to allow WPX reasonable access to BLM-managed lands and Navajo Indian Allotted lands to develop their existing Federal mineral leases administered by the BLM; as well as, their existing Navajo Indian Allotted mineral leases, issued to the applicant by the BIA and administered by the BLM.

The need for the action is the BLM and BIA's responsibility to respond to the Sundry Notice under the Mineral Leasing Act (MLA) of 1920, as amended (30 United States Code [USC] 181 et seq.), the Act of March 3, 1909 (1909 Act), and 25 Code of Federal Regulations (CFR) § 212 Leasing of Allotted Lands for Mineral Development. Per 43 Code of Federal Regulations (CFR) 3160 (Onshore Oil and Gas Operations), the BLM is required to respond to a APDs as well as subsequent Sundry Notices. It is the policy of the BLM, as derived from several laws, including the MLA and Federal Land Policy and Management Act of 1976 (FLPMA, 43 USC 1701 et seq.), to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

1.3. Decision to be Made

Based on the information in this environmental assessment (EA), the BLM-FFO and BIA will decide whether or not to approve the Sundry Notice, 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 BLM-FFO must determine if there are any significant environmental impacts associated with the Proposed Action 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 Sundry Notice with design features as submitted;

To approve the Sundry Notice with additional mitigations;

or

To deny the Sundry Notice.

1.4. Conformance with Applicable Land Use Plan(s)

The BIA and the BLM are joint lead agencies for the Proposed Action including Section 7 and Section 106 consultations. The Proposed Action is the result of oil and gas leases issued by the BIA on Allotted Indian Lands and is in conformance with the standard lease terms and conditions for Indian oil and gas leases as outlined in form AAO-81 for lease numbers NO-G 1401-1867, NO-G 1401-1870, NO-G 1401-1944, NO-G 1401-1942, NO-G 1310-1841 and NO-G-1402-1871 and the "*General Requirements for all Federal and Indian Oil and Gas leases"* administered by the BLM-FFO.

The Proposed Action is in conformance with the 2003 BLM-FFO Resource Management Plan (RMP). Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific EA tiers into and incorporates by reference the information and analysis contained in the BLM-FFO Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS; BLM 2003a). The RMP was approved by the September 29, 2003 Record of Decision (ROD; BLM 2003b), and updated in December 2003.

Specifically, the Proposed Action is in conformance with the following objectives:

> 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. 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. (BLM 2003b, 2-2 – 2-3)

This EA addresses site-specific resources and effects of the Proposed Action that were not specifically covered within the PRMP/FEIS as required by NEPA. The proposed project would not be in conflict with any local, county, or state plans.

1.5. Relationship to Statutes, Regulations or Other Plans

The proposed action would comply with all applicable federal, tribal, state, and local laws and regulations. The proponent would obtain the necessary permits for the Proposed Action. These laws and regulations include, but are not limited to the following:

- Antiquities Act of 1906, as amended (PL 52-209; 16 USC 431-433)
- American Indian Religious Freedom Act of 1978 (PL 95-431; 92 Stat. 469; 42 USC 1996)
- Archaeological Resources Protection Act of 1979 (PL 96-95; 93 Stat. 721; 16 USC § 470aa et seq.), as amended (PL 100-555; PL 100-588)
- Bald and Golden Eagle Protection Act of 1940, as amended (PL 86-70, PL 87-884, PL 92-535, PL 95-616; USC 668-668d)
- Clean Air Act, as amended (PL 88-206; 42 USC § 7401 et seq.)
- Clean Water Act, as amended (PL 107-303; 33 USC § 1251, et seq.)
- Colorado River Salinity Control Act, as amended (PL 93-320; 7 CFR Part 702)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (PL 96-510; 42 USC § 9601; 40 CFR Part 307)
- Endangered Species Act of 1973 (PL 93-205; 16 USC § 1531 et seq.)
- Executive Order 11988 Floodplain Management
- Executive Order 11990 Protection of Wetlands
- Executive Order 12898 Environmental Justice
- Executive Order 13007 Indian Sacred Sites
- Executive Order 13112 Invasive Species
- Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds
- Migratory Bird Treaty Act of 1918, as amended (16 USC §§ 703-712; 50 CFR Part 21)
- Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3048; 25 USC 3001; 43 CFR Part 10)

- New Mexico Oil and Gas Act (N.M. Stat. § 70-2-1–38) and related statutory provisions
- Paleontological Resources Preservation Act as part of the Omnibus Public Land Management Act (PL 111-011, Title VI, Subtitle D)
- Safe Drinking Water Act, as amended (PL 93-523; 42 USC 300F-300-9), 40 CFR Parts 144 and 147).
- Section 106 of the National Historic Preservation Act of 1966 (PL 89-665; 80 Stat. 915; 16 USC 470 et seq.), as amended (implemented under regulations of the Advisory Council on Historic Preservation, 36 CFR Part 800)
- The Act of March 3, 1909 (allotted land)
- Leasing of Allotted Lands for Minerals Development (25 CFR § 212)

The BIA is not required to comply with BLM regulations, policies, or plan. As such, BIA-managed lands would be managed under BIA regulations, policies, and plans and BLM management would not apply.

1.6. Scoping, Public Involvement, and Issues

1.6.1. Scoping and Public Involvement

The BLM-FFO publishes a NEPA log for public inspection. This log contains a list of proposed and approved actions within the BLM-FFO. The log is located on the BLM's New Mexico website (http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html).

An allottee meeting was held on July 27, 2015 at 9:30 AM at the San Juan College in Farmington, New Mexico. The meeting discussed the formation of the West Lybrook Unit, WPX's plans for development, and details about the unit hearing that would occur the following week. An initial on-site meeting was held for the proposed W Lybrook UT #705H, #706H, #745H, #746H; W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H; and Remote Facilities 23-8-18D project on August 12, 2015. A public invitation to the on-site meeting was posted online (http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_oil_and_gas/ffo_onsites.html); no private citizens or groups attended. A BLM-FFO Interdisciplinary Team meeting was held on September 8, 2015, to discuss the Proposed Action. An on-site meeting for the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H re-route was held on February 11, 2016. Attendees at the on-site meeting included BLM-FFO representatives, the dirt work contractor, the project surveyor, and an environmental consultant (EIS, LLC.). A BLM-FFO Interdisciplinary Team meeting was held on February 22, 2016, to discuss the Proposed Action. At the aforementioned meetings, potential issues of concern were identified by the BLM-FFO.

Based on the size and scale, routine nature, and potential impacts associated with the Proposed Action, no additional external scoping was conducted. No public comments were received for the Proposed Action.

1.6.2. Issues to be Analyzed

The following issues were identified during internal scoping as potential issues of concern for the Proposed Action. These issues will be addressed in this EA.

- How would the proposed project activities impact air resources?
- How would the proposed project activities impact upland vegetation?
- How would the proposed project activities impact the establishment and distribution of noxious weeds?
- How would the proposed project activities impact migratory bird species?
- How would the proposed project activities impact the following BLM Special Status Species: Aztec gilia (*Aliciella formosa*), Brack's hardwall cactus (*Sclerocactus cloveriae* var. *brackii*), Bendire's thrasher (*Toxostoma bendirei*), golden eagle (*Aquila chrysaetos*), and prairie falcon (*Falco mexicanus*)?

- How would the proposed project activities impact cultural resources?
- How would the proposed project activities impact public health and safety?
- How would the proposed project activities impact environmental justice communities?
- How would the proposed project activities impact transportation?

1.6.3. Issues Considered but Not Analyzed

The following issues were identified during scoping as issues of concern that would not be impacted by the Proposed Action or that have been covered by prior environmental review. These issues will not be analyzed in this EA.

Areas of Critical Environmental Concern (ACECs)

The nearest Area of Critical Environmental Concern (ACEC) to the Proposed Action is the North Road ACEC located 8 miles west (BLM 2014c).

U.S. Fish and Wildlife Service (USFWS)-Listed Species

As noted previously, cumulative effects of the RMP to federally listed species and their associated habitats were addressed in the PRMP/FEIS. Based on a review of species currently listed by the USFWS as occurring in San Juan County (USFWS 2015), as well as the location of the proposed project area and habitat within the proposed project area, the potential does not exist for USFWS-listed species to occur within the proposed project area. Therefore, there is no need for additional Section 7 consultation.

2. PROPOSED ACTION AND ALTERNATIVE

2.1. Alternative A: No Action

The “No-Action” alternative would deny the approval of the Sundry Notice causing the access road/pipeline not to be built and restricting access to the existing well pad and wells.

2.2. Alternative B: Proposed Action

The Proposed Action is the approval of a Sundry Notice by the BLM-FFO and BIA for a re-route of the access road and pipeline for the permitted W Lybrook UT #707H, #708H, #709H, #747H, #748H, and #749H well pad. The proposed project includes the construction, usage and reclamation of one access road and well-connect pipeline corridor. The construction for the proposed access/pipeline is expected to be one (1) to two (2) weeks. The access road will be utilized to access the West Lybrook UT Nos. 707H, 708H, 709H, 747H, 748H, and 749H oil and natural gas wells, as well as provide access for a nearby resident to their home. A technical alignment drawing associated with the proposed project can be found in Appendix B.

2.2.1. Location of Proposed Project Area

Maps of the proposed project area are provided in Appendix A. The proposed project area is plotted on the Lybrook NW, New Mexico, 7.5-minute USGS quadrangles and the 2011 New Mexico Resource Geographic Information System Program aerial photograph.

The Project is located on Navajo Indian Allotted lands, and lands managed by the BLM-FFO in San Juan County, NM. The proposed project would be located approximately 35 miles south-southeast of the town of Bloomfield, New Mexico; 1.9 miles southeast of Nageezi, New Mexico; and 950 feet southwest of U.S. Highway 550. The Project lies within the Escavada watershed boundary.

The general region surrounding the proposed project area is characterized by badlands, mesas, and relatively flat lowland valleys that are segregated by washes and dendritic ephemeral drainages. The proposed access/pipeline is located south of Kimbeto Wash and will cross a few small drainages. The route skirts around a gentle western facing slope of a small hill before descending to the west. The route of the proposed access/pipeline does not encounter any abrupt topographical changes with an approximate average slope of two percent. The area has an overall western aspect. The average elevation across the proposed route is 6,770 feet above mean sea level (AMSL). Legal land description of the proposed project is provided in Table 1, below.

Table 1. Legal Land Description for the Proposed Project

Township, Range	Section	Quarter-Quarter	Project Feature
Township 23 North, Range 9 West	12	Southeast ¼ of the Southeast ¼	West Lybrook UT #707H #708H #709H #747H #748H #749H Well Access and West Lybrook UT #707H Pipeline
Township 23 North, Range 8 West	18	Northwest ¼ of the Northwest ¼	West Lybrook UT #707H #708H #709H #747H #748H #749H Well Access and West Lybrook UT #707H Pipeline
Township 23 North, Range 8 West	7	Southwest ¼ of the Southwest ¼	West Lybrook UT #707H #708H #709H #747H #748H #749H Well Access and West Lybrook UT #707H Pipeline

2.2.2. Description of Proposed Project

For a detailed description of design features and construction practices associated with the Proposed Action, refer to the APDs and Sundry Notice on file at the BLM-FFO. A technical drawing associated with the proposed project provides additional details (Appendix B).

Design Features and Best Management Practices

WPX would adhere to the Conditions of Approval (COAs) attached to the approved Sundry Notice. The following general design features and best management practices (BMPs) would occur.

Control of Waste

- Liquid and solid wastes would be disposed of at an appropriate waste-disposal site. The proposed project area would be maintained in a sanitary condition. Hazardous substances would be handled and disposed of according to federal law. Waste resulting from construction activities would be removed from the proposed project area and disposed of in an authorized area, such as an approved landfill.

Protection of Paleontological Resources

- If a paleontological site is discovered, the BLM would be notified and the site would be avoided by personnel, personal vehicles, and company equipment. Workers would be informed that it is illegal to collect, damage, or disturb some such resources, and that such activities are punishable by criminal and/or administrative penalties.

- Any paleontological resource discovery by the Holder, or any person working on his behalf on public or Federal land, shall be immediately reported to the Authorized Officer. The Holder shall suspend all operations in the immediate area of such discovery until given written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant scientific values. The Holder will be responsible for the cost of the evaluation. The results of further investigation will dictate site specific stipulations for avoidance or salvage of any potentially significant paleontological resources. Any decision as to proper mitigation measures will be made by the Authorized Officer, after consultation with the Holder.

Protection of Cultural Resources

- All BLM/FFO and BIA/NNHPD cultural resources stipulations will be followed as indicated in the Cultural Resource Records of Review that is attached to the COAs in the APD, Sundry Notice and/or ROW Grant as the case may be. These stipulations may include, but are not limited to temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, 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. All employees, contractors, and sub-contractors of the project will also be informed 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. 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 then immediately notify the archaeological monitor, if present, or the BLM or BIA/NNHPD depending on land status. The BLM/BIA will then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., National Register, Native American Graves Protection and Repatriation Act, Archaeological Resources Protection Act), it will be protected in place until mitigating measures can be developed and implemented according to guidelines set by the BLM/BIA.

Protection of Flora and Fauna, including Special Status Species and Livestock

- Vegetation removed during construction, including trees that measure less than 3 inches in diameter (at ground level) and slash/brush, will be chipped or mulched and incorporated into the topsoil as additional organic matter. If trees are present, all trees 3 inches in diameter or greater (at ground level) will be cut to ground level and delimbed. Tree trunks (left whole) and cut limbs will be stacked. The subsurface portion of trees (tree stumps) will be hauled to an approved disposal facility.

- Should any active raptor nests be observed within one-third mile of the proposed project area or should any Special Status Species (listed by the USFWS or BLM) be observed within the proposed project area prior to or during project implementation, construction would cease and the BLM-FFO would be immediately contacted. The BLM-FFO would then ensure evaluation of the resource. Should a discovery be evaluated as significant (protected under the ESA, etc.), it would be protected in place until mitigation could be developed and implemented according to guidelines set by the BLM.

- Wildlife hazards associated with the proposed project would be fenced, covered, and/or contained in storage tanks, as necessary.

- Grazing permittees will be notified when construction is scheduled to begin. All hazards to livestock will be fenced or contained.

- All existing improvements (such as fences, gates, and bar ditches) will be repaired to previous or better than pre-construction conditions. Cut fences will be tied to H-braces prior to cutting and openings will be protected as necessary during construction to prevent the escape of livestock. A temporary closure will be installed the same day the fence is cut. Following reclamation, the fence will be reconstructed to BLM specifications.

- Backfilling operations will be performed within a reasonable amount of time to ensure that the trenches are not left open for more than 24 hours. If a trench is left open overnight, it will be temporarily fenced or a night watchman will be utilized. The excavated soils will be returned to the trenches, atop the pipe, and compacted to prevent subsidence. The trenches will be compacted after approximately 2 feet of fill is placed over the pipe and after the ground surface has been leveled.

- Escape ramps/crossovers will be constructed every 1,320 feet. The ends of the open trench will be sloped each night with a 4:1 slope.

- Established livestock and wildlife trails will be left in place as crossovers. In areas where active grazing is taking place, escape ramps/crossovers will be placed every 500 feet. Crossovers will be a minimum of 10 feet wide and not fenced.

- The end of the pipe will be plugged to prevent animals from crawling in.

- Before the trench is closed, it will be inspected for animals. Any trapped wildlife or livestock will be promptly removed and released at least 150 yards from the trench.

Protection of Topsoil

- The upper 6 inches of topsoil (if available) will be stripped following vegetation and site clearing. Topsoil will not be mixed with the underlying subsoil horizons and will be stockpiled as a berm along the perimeter of the well pad within the construction zone, separate from subsoil or other excavated material.

- Topsoil and sub-surface soils will be replaced in the proper order, prior to final seedbed preparation. Spreading shall not be done when the ground or topsoil is wet. Vehicle/equipment traffic will not be allowed to cross topsoil stockpiles. If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments will be added to the topsoil as advised by the WPX environmental scientist or appropriate agent/contractor.

Protection of the Public

- The hauling of equipment and materials on public roads would comply with Department of Transportation regulations. No toxic substances would be stored or used within the proposed project area. WPX would have inspectors present during construction. Any accidents involving persons or property would immediately be reported to the BLM-FFO. WPX would notify the public of potential hazards by posting signage, as necessary.

Prevention and Control of Weeds

- Prior to construction equipment entering the proposed project area, construction equipment would be inspected for noxious weeds and cleaned.

- It would be WPX's responsibility to monitor, control, and eradicate all invasive, non-native plant species within the proposed project area throughout the life of the project. WPX's weed-control contractor would contact the BLM-FFO regarding acceptable weed-control methods. WPX would be required to submit a current Pesticide Use Proposal for the location prior to any pesticide application. WPX's weed-control contractor must carry a current pesticide applicator' license and only use pesticides authorized for use on BLM lands. The use of pesticides would comply with federal and state laws, and used in accordance with their registered use and limitations. WPX's weed-control contractor would contact the BLM-FFO prior to using these chemicals and provide quarterly Pesticide Use Reports (PURs).

Protection of Air Resources

- The BLM's regulatory jurisdiction over field production operations has resulted in the development of BMPs designed to reduce impacts to air quality by reducing all emissions from field production and operations. Typical measures could include flaring hydrocarbons and gases at high temperatures in order to reduce emissions of incomplete combustion, requiring that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored, ensuring that compressor engines 300 horsepower or less have nitrogen oxide (NO_x) emissions limited to 2 grams per horsepower hour, revegetating areas not required for production facilities to reduce the amount of dust, and watering dirt roads during periods of high use in order to reduce fugitive dust emissions. Magnesium chloride, organic-based compounds, or polymer compounds could also be applied to roads or other surfaces to reduce fugitive dust. Neither petroleum-based products nor produced water would be used.

- BMPs for dust abatement and erosion control will be utilized to reduce fugitive dust for the life of the project, as necessary. Water application, using a rear-spraying truck or other suitable means, will be the primary method of dust suppression along the road.

Additional Design Features and BMPs

- The access road will be designed and constructed as a Resource Road in accordance with the BLM Gold Book Standards (BLM and USFS 2007) and BLM 9113-1 (Roads Design Handbook) and BLM 9113-2 (Roads National Inventory and Condition Assessment Guidance and Instructions Handbook). Construction will include ditching, draining, installing culverts, crowning and capping or sloping and dipping the roadbed, as necessary, to provide a well-constructed and safe road.

- Vehicles would be restricted to proposed disturbance areas and existing areas of surface disturbance, such as existing roads and well pads.

- No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If equipment would create ruts deeper than six inches, the soil would be deemed too wet for construction or maintenance.

- Worker safety incidents would be reported to the BLM-FFO as required under Notice to Lessees (NTL) -3A (USGS 1979). WPX would adhere to company safety policies, Occupational Safety and Health Administration regulations, and Department of Transportation regulations.

Proposed Project Phases

Construction

The BLM-FFO would be notified at least 48 hours prior to the start of construction. The construction phase for the access road and well-connect pipeline is expected to be one (1) to two (2) weeks.

The proposed access road and pipeline corridor would be cleared of vegetation and topsoil stripped, stockpiled and stored as discussed in "Design Features and Best Management Practices – Protection of Topsoil," above.

The proposed access roads would be leveled with a D-8 bulldozer to provide space and a level working surface for vehicles and equipment. Excavated materials from cuts would be used on fill as fill in order to establish a balanced surface area that utilizes native soil and materials available onsite.

The proposed access road would be designed and maintained in accordance with *The Gold Book* (BLM and USFS 2007) standards and BLM Manual 9113, Sections 1 and 2 (BLM 2011d and BLM 2011e). All construction activities and road features including clearing, cut-and-fill slopes, and drainage ditches would all take place within the 50-foot-wide pipeline/access road corridor. Sandstone will be used as surfacing material along the road if natural occurring binding material is not present in sufficient amounts within the existing soil and subsoil. If sandstone is needed for surfacing, the sandstone would be retrieved from a permitted location. A 14-foot-wide running surface with adequate crowning and drainage on both sides would be established. Culverts (24- to 48- inches in diameter) will be placed where necessary and will be identified on the as-built plats.

The proposed pipeline ties would be constructed simultaneously within the pipeline corridor. The proposed well-connect pipeline would be parallel to the proposed access road. The corridor would be cleared of vegetation and the topsoil would be stored as a windrow along the pipeline trench within the permitted corridor, in the same manner as described for the proposed access road.

Trenching activities would be conducted using a trencher or backhoe. Within the 50-foot-wide access road/pipeline corridor, the two pipeline trenches would be off-set from one another by 5 feet. One trench would contain an 8-inch steel natural gas/liquids line, and a 6-inch poly gas/liquids line. The second trench will have two 6-inch steel gas/liquids lines. In addition, a 6-inch poly water pipeline will be placed in either Trench 1 or 2. Where required, the pipeline trench would be 4 to 5 feet in depth. The trench would be 16 inches in width if a trencher is used or 24 inches in width if a backhoe is used.

Following trenching operations, pipe installation will include stringing, bending for horizontal or vertical angles in the alignment, welding pipe segments together, inspection, coating of joints, and lowering-into the trench using a side-boom tractor. When stringing pipe, one joint of pipe would be set back every quarter mile. Fine soil will then be sifted from the excavated subsoil to provide rock-free pipeline padding and bedding. Backfilling of soils will begin after a section of pipe has been successfully placed in the ditch and final inspection has been completed. Once the pipelines are installed, the pipeline corridor disturbances would be reclaimed to pre-construction contours, topsoil replaced and the area re-seeded.

Prior to the pipelines being placed in service, the pipes would be pressure tested.

Within 90 days of installation, aboveground structures not subject to safety requirements would be painted Juniper Green to blend with the surrounding landscape and reduce visual resource impacts.

Pipeline markers would be installed along the proposed pipeline corridor within line of sight, without voiding safety measures.

Sediment- and/or erosion control features would be installed, as necessary. Additional resource protection design features and mitigation associated with construction are listed in “Design Features and Best Management Practices,” above.

Interim Reclamation

If the permitted wells prove to be productive, a 14-foot-wide running surface and the bottoms of the bar ditches along either side of the access roads (approximately 0.36 acre, total) would remain disturbed for the lifetime of the project. The remainder of the disturbed access road corridors (0.35 acre) would be reclaimed during interim reclamation.

Interim reclamation would likely be initiated within 120 days after the last well on that W Lybrook UT #707H, #708H, #709H, #747H, #748H, & #749H well pad has been drilled. If drilling has not been initiated on this pad within 120 days of the pad being constructed, the operator will consult with the BLM to address a site-stabilization plan. The BLM-FFO would be notified at least 48 hours prior to the start of interim reclamation activities. Interim reclamation could occur simultaneously with production. Details of the interim reclamation process (including the seed mixture) are provided in the Surface Reclamation Plan (Appendix E).

During this phase, a bulldozer and a tractor with seeding capabilities would be used. Approximately four personnel would be required.

In areas that would be fully reclaimed, slopes would be re-contoured to pre-construction topographical contours, if possible. WPX would diminish the evidence of cuts, fills, and flat surfaces. In areas that are to be fully reclaimed or reseeded, stockpiled topsoil would be redistributed and the surface would be ripped and seeded. Sediment- and erosion-control features (including water diversions, silt traps, and culverts) would be installed, as necessary. The BLM-FFO Sagebrush Community Seed Mixture would be used.

Under the BLM-FFO Bare Soil Reclamation Procedures (BLM 2013b), monitoring reclaimed surfaces is required to document successful reclamation. Monitoring and reporting are discussed in the Surface Reclamation Plan (Appendix E).

Final Reclamation and Abandonment

Final reclamation of the access road would take place, unless the BLM-FFO or Indian Allottee considers the retention of the road necessary for the management of multiple uses of natural resources. This access road will provide access to the existing nearby residence, which is currently being fenced off. As such, it is unlikely it will be fully reclaimed from their driveway back to the existing county road. However, the short portion from their driveway to the W Lybrook UT #707H, #708H, #709H, #747H, #748H, & #749H well pad would be reclaimed after the plugging of the last well on the well pad. Details of the final reclamation process (including species included in the seed mixtures) are provided in the Surface Reclamation Plan (Appendix E). The goal of final reclamation would be to return disturbed areas associated with the proposed project to as close to pre-construction conditions as possible, by re-contouring and re-seeding to blend with the surrounding terrain. Portions of the proposed project area that were not fully reclaimed during interim reclamation would be cleared (if vegetated), re-contoured, covered with salvaged topsoil, and seeded. Sediment- and erosion-control measures would be implemented, as necessary. Water bars would be installed across the road, and dead-end ditches and earthen barricades would be constructed at the entrance to reclaimed areas. Measures would be taken to control sedimentation and erosion, as necessary.

Final reclamation would occur within any portion of the proposed pipeline corridor (such as locations of aboveground structures) that would be disturbed to bare soil during the abandonment phase. If final abandonment activities would disturb less than or equal to 0.1 acre to bare soil, the area(s) would be expected to revegetate naturally (no reclamation or monitoring activities would be required). If final abandonment activities would disturb more than 0.1 acre to bare soil, final abandonment reclamation activities would be the same as described for interim reclamation (discussed in the Surface Reclamation Plan [Appendix E]).

Under the BLM-FFO Bare Soil Reclamation Procedures (BLM 2013b), monitoring reclaimed surfaces is required to document successful reclamation. Monitoring and reporting are discussed in the Surface Reclamation Plan (Appendix E).

Surface Disturbance

The proposed access/pipeline would be constructed utilizing any area within an L-shaped access/pipeline corridor approximately 1,038-foot in length and 50-foot in width (1.18 acres). A drafted drawing of the project can be found in Appendix B. All areas within the 50-foot corridor are needed to meet the demands and requirements of transporting long equipment trailers and drilling equipment around the sharp corners. Upon interim reclamation, the road would be narrowed to a 14-foot-wide running surface with bar ditches along either side and aligned to accommodate day to day operations. The proposed pipeline would run parallel and adjacent to the access road. Approximately 0.82 acres would be fully reclaimed upon completion of all wells on the well pad.

Table 1. Surface Disturbance Calculations Associated with Proposed Project

Surface	Existing/Previously Permitted Surface Disturbance	New Surface Disturbance
Proposed Access/Pipeline Re-route		
BLM NW/4 NW/4, Sec. 18, T23N, R8W	-	**448' long x 50' wide** (0.51 acre)
Indian Allotted SW/4 SW/4, Sec. 7, T23N, R8W	-	**107' long x 50' wide** (0.12 acre)
Indian Allotted SE/4 SE/4, Sec. 12, T23N, R9W	-	**483' long x 50' wide** (0.55 acre)
Total Project Surface Disturbance	**-**	**1.18 acres**

Table 3. Project Disturbance Estimates for the Proposed Re-routed Access and Pipeline Corridor

Feature	Acreage		Description of Acreage Following Post-Construction Reclamation		
	Total (acres)	**New Disturbance (acres)**	**Fully Reclaimed (Reseeded and Recontoured) (acres)**	**Reseed Only (acres)**	**Long-term Disturbance (acres)**
W Lybrook UT 707H, 708H, 709H, 747H, 748H, & 749H Re-routed Access and Pipeline Corridor					
Access Road	0.71	0.71	0.35	-	0.36
Pipeline	0.47	0.47	0.47	-	-
Total	**1.18**	**1.18**	**0.82**	**-**	**0.36**

2.3. Alternatives Considered but Eliminated from Detailed Study

The proposed access and pipeline corridor was originally proposed with the W Lybrook UT #705H, #706H, #745H, #746H; W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H; and Remote Facilities 23-8-18D project. However, during the original onsite for the project the access and pipeline corridor was moved to follow the existing driveway across allotment NO-G-1310-1841 in order to utilize existing disturbance. Now that allotment NO-G-1310-1841 is being fenced off. The allottee will not grant access for the project. As a result, the access and pipeline corridor must be re-routed around the

allotment. No other reasonable alternatives to the Proposed Action have been developed that would result in significantly fewer impacts or any clear advantages over the Proposed Action. The proposed access road and proposed pipeline corridor follow the most economic and direct route based on the location of existing WPX infrastructure, existing disturbance, surface resources, and terrain.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1. Methodology

3.1.1. Direct and Indirect Impacts

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. Effects were analyzed assuming Design Features and Best Management Practices listed in Section 2.2.2 are implemented to mitigate impacts. The analysis area is defined for each resource and is typically a natural or human delineated boundary based on the resource being analyzed.

Under the No Action alternative, current land and resource issues within the proposed project area would continue; there would be no new impacts from oil and gas development. The No Action alternative will serve as the baseline for comparing the environmental impacts of the analyzed alternatives, and will not be further evaluated in this EA (BLM 2008b).

3.1.2. Cumulative Impacts

A Reasonably Foreseeable Development scenario (RFD) was prepared for the FFO in October 2014 (Engler, et al., 2014). The RFD identified high, moderate, and low potential regions for oil development of the Mancos-Gallup Formation. Within the high potential region, full development would include 5 wells per section, resulting in 1,600 completions. Within the moderate potential region, full development would include one well per section, resulting in 330 completions. Within the low potential region, full development would include one well per township, resulting in 30 well completions. Additionally, the RFD predicted 2,000 gas wells could be development in the northeastern corner of the FFO.

The following methods and assumptions were used to predict the potential impact of the development predicted in the RFD.

Past Oil and Gas Development

Past oil and gas wells were identified using Ongard. Following interim reclamation, the average well pad size for past development is 0.75 acres per well pad.

Present and Future Oil Development

Based on previous development, it was assumed that development of the high potential region would involve the twinning of well pads. This is the placement of two or more wells on one well pad. The assumption for the analysis is that the development of a section would include two twinned well pads and one single well pad, resulting in three well pads for five wells. In the moderate and low potential regions, it was assumed that development would involve single well pads. The Proposed Action is located in the high potential region.

The average well pad size for a twinned well pad was assumed to be 500 feet by 530 feet, or 6.08 acres. An additional 0.6 acres was added to account for any associated road or pipeline development, resulting 6.68 acres of short-term disturbance. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur, resulting in 1.5 acres of long-term disturbance.

The average well pad size for a single well pad was assumed to be 500 feet by 500 feet, or 5.74 acres. Again, an additional 0.6 acres was added to account for associated road or pipeline development, resulting in 6.34 acres of short-term disturbance. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur, resulting in 1.5 acres of long-term disturbance.

The Random Point Tool in ArcMap was used to randomly assign points representing well pads and associated disturbance based on the RFD assumptions: five wells per section in the high potential region, one well per section in the moderate potential region, and one well per township in the low potential region. This allowed both long-term and short-term disturbance from oil development of the Mancos-Gallup Formation to be calculated for the analysis areas used in this EA.

Present and Future Gas Development

The RFD predicted 2,000 wells could be developed in the gas prone area. The average well pad size was assumed to be 555 feet by 410 feet, or 5.22 acres. An additional 0.6 acres of disturbance was added to account for associated roads and pipelines, resulting in total disturbance of 5.82 acres. Following completion of the well, interim reclamation of the well pad and reclamation of any pipelines would occur, resulting in 1.5 acres of long-term disturbance.

The Random Point Tool in ArcMap was used to randomly assign points representing one well pad and associated disturbance. This allowed both long-term and short-term disturbance from gas development in the northeastern corner of the FFO to be calculated for the analysis areas used in this EA.

3.2. Air Resources

3.2.1. 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 fossil carbon 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 Resources Technical Report) (U.S. Department of Interior Bureau of Land Management, 2014). 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 (PM_{10} and $PM_{2.5}$), 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

The Air Resources 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. EPA's Green Book web page (U.S. Environmental Protection Agency, 2013) reports that all counties in the Farmington Field Office area are in attainment of all National Ambient Air Quality Standards (NAAQS) as defined by the Clean Air Act. The area is also in attainment of all state air quality standards (NMAAQS). The current status of criteria pollutant levels in the Farmington Field Office are described below.

"Design Values" are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. The 2012 design values for criteria pollutants are listed below in Table. There is no monitoring for CO and lead in San Juan County, but because the county is relatively rural, it is likely that these pollutants are not elevated. PM10 design concentrations are not available for San Juan County.

Table 4. Criteria Pollutant Monitored Design Values in San Juan County

Pollutant	2012 Design Concentration	Averaging Time	NAAQS	NMAAQS
O_3	0.071 ppm	8-hour	0.075 ppm[1]	
NO_2	13 ppb	Annual	53 ppb[2]	50 ppb
NO_2	38 ppb	1-hour	100 ppb[3]	
$PM_{2.5}$	4.7 µg/m^3	Annual	12 µg/m^3[3,4]	60 µg/m^3[3,6]
$PM_{2.5}$	14 µg/m^3	24 hour	35 µg/m^3[3,3]	150 µg/m^3[3,6]
SO_2	19 ppb	1-hour	75 ppb[5]	

Source: U.S. Environmental Protection Agency, 2014
[1] Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
[2] Not to be exceeded during the year
[3] 98th percentile, averaged over 3 years
[4] Annual mean, averaged over 3 years
[5] 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
[6] The NMAAQS is for Total Suspended Particulate (TSP)

In 2005, the EPA estimates that there was less than 0.01 ton per square mile of lead emitted in FFO counties, which is less than 2 tons total (U.S. Environmental Protection Agency, 2012). Lead emissions are not an issue in this area, and will not be discussed further.

Air quality in a given region can be measured by its Air Quality Index value. The air quality index (AQI) is reported according to a 500-point scale for each of the major criteria air pollutants, with the worst denominator determining the ranking. For example, if an area has a CO value of 132 on a given day and all other pollutants are below 50, the AQI for that day would be 132. The AQI scale breaks down into six categories: good (AQI<50), moderate (50-100), unhealthy for sensitive groups (100-150), unhealthy (>150), very unhealthy and hazardous. The AQI is a national index, the air quality rating and the associated level of health concern is the same everywhere in the country. The AQI is an important indicator for populations sensitive to air quality changes.

Mean AQI values for San Juan County were generally in the good range (AQI<50) in 2013 with 80% of the days in that range. The median AQI in 2013 was 42, which indicates "good" air quality. The maximum AQI in 2013 was 156, which is "unhealthy."

Although the AQI in the region has reached the level considered unhealthy for sensitive groups on several days almost every year in the last decade, there are no patterns or trends to the occurrences (Table). On 8 days in the past decade, air quality has reached the level of "unhealthy" and on two days, air quality reached the level of "very unhealthy". In 2009 and 2012, there were no days that were "unhealthy for sensitive groups" or worse in air quality. In 2005 and 2013, there was one day that was "unhealthy" during each year. In 2010, there were five "unhealthy" days and two "very unhealthy days."

Table 5. Number of Days classified as "unhealthy for sensitive groups" (AQI 101-150) or worse

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Days	3	6	9	18	1	0	12	9	0	1
Source: U.S. Environmental Protection Agency, 2013a										

Hazardous Air Pollutants

The Air Resources Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (U.S. Department of Interior Bureau of Land Management, 2014). The EPA conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP emissions by county in the U.S. The purpose of the NATA is to identify areas where HAP emissions result in high health risks and further emissions reduction strategies are necessary. A review of the results of the 2005 NATA shows that cancer, neurological and respiratory risks in San Juan County are generally lower than statewide and national levels as well as those for Bernalillo County where urban sources are concentrated in the Albuquerque area (U.S. Environmental Protection Agency, 2012).

Climate

The planning area is located in a semiarid climate regime typified by dry windy conditions and limited rainfall. Summer maximum temperatures are generally in the 80s or 90s (Fahrenheit) and winter minimum temperatures are generally in the teens to 20s. Temperatures occasionally reach above 100 degrees Fahrenheit 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 shows climate normals for the 30-year period from 1981 to 2010 for the Farmington, New Mexico, area.

Table 6. Climate Normals for the Farmington Area, 1981-2010

Month	Average Temperature (^{O}F [(1)])	Average Maximum Temperature (^{O}F)	Average Minimum Temperature (^{O}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: data collected at New Mexico State Agricultural Science Center - Farmington [(1)] degrees Fahrenheit				

Very recently, pioneering research using space-borne (satellite and aircraft) determination of methane concentrations have indicated anomalously large methane concentrations may occur in the Four Corners region (Kort, Frankenberg, Costigan, Lindenmaier, Dubey, & Wunch, 2014). A subsequent study (Schneising, Burrows, Dickerson, Buchwitz, Reuter, & Bovensmann, 2014) indicated larger anomalies over other oil and gas basins in the U.S. Methane is 34 times more potent at trapping greenhouse gas emissions than CO_2 when considering a time horizon of 100 years (Intergovernmental Panel on Climate Change, 2013). While space-borne studies can determine the pollutant concentration in a column of air, these studies cannot pinpoint the specific sources of air pollution. Further study is required to determine the sources responsible for methane concentrations in the Four Corners region; however, it is known that

a significant amount of methane is emitted during oil and gas well completion (Howarth, Santoro, & A.Ingraffea, 2011). Methane is also emitted from process equipment, such as pneumatic controllers and liquids unloading, at oil and gas production sites. Ground-based, direct source monitoring of pneumatic controllers conducted by the Center for Energy and Environmental Resources (Allen, et al., 2014) show that methane emissions from controllers exhibit a wide range of emissions and a small subset of pneumatic controllers emitted more methane than most. Emissions measured in the study varied significantly by region of the U.S., the application of the controller and whether the controller was continuous or intermittently venting. The Center for Energy and Environmental Resources had similar findings of variability of methane emissions from liquid unloading (Allen, et al., 2014a). In October 2012, USEPA promulgated air quality regulations controlling VOC emissions at gas wells. These rules require air pollution mitigation measures that reduce the emissions of volatile organic compounds. These same mitigation measures have a co-benefit of reducing methane emissions. Future ground-based and space-borne studies planned in the Four Corners region with emerging pollutant measurement technology may help to pinpoint significant, specific sources of methane emissions in the region.

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

3.2.2. Direct and Indirect Impacts

Air quality would temporarily 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 minor and short-term.

Cumulative Impacts

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 (U.S. Department of Interior Bureau of Land Management, 2014). 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 the short term construction activity. The very small increase in emissions from 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 (U.S. Department of Interior Bureau of Land Management, 2014) 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.

3.3. Upland Vegetation

3.3.1. Affected Environment

The analysis area for impacts to upland vegetation is the Escavada Wash watershed. The Escavada Wash watershed lies within the larger Arizona/New Mexico Plateau ecological region. This ecological region occurs primarily in Arizona, Colorado, and New Mexico; a small portion is located within Nevada. This ecological region encompasses approximately 45,870,500 acres (185,632 square kilometers), and the elevation ranges from 2,165 to 11,949 feet AMSL. The ecological region's landscapes include low mountains, hills, mesas, foothills, irregular plains, alkaline basins, some sand dunes, and wetlands. This ecological region 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 (*Artemisia tridentata*), rabbitbrush (*Ericameria nauseosa*), winterfat (*Krascheninnikovia lanata*), shadscale saltbush (*Atriplex confertifolia*), and greasewood (*Sarcobatus vermiculatus*); and grasslands of blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), green needlegrass (*Nassella viridula)*, and needleandthread grass (*Hesperostipa comata*). Higher elevations may support piñon pine and juniper woodlands. This ecological region includes the urban areas of Santa Fe and Albuquerque, New Mexico. Important land uses within this ecological region include irrigated farming, recreation, rangeland, wildlife habitat, and some natural gas production (Griffith, et al. 2006).

The Escavada Wash watershed encompasses approximately 147,176 acres with landscapes including hills, mesas, alkaline basins, and badlands. Vegetation communities mentioned above include shrublands dominated by big sagebrush (*Artemisia tridentate*), piñon-juniper woodlands along higher elevations, and sparsely vegetated badlands along the foothills and gullies.

3.3.2. Impacts from Alternative B (the Proposed Action)

The proposed project area vegetation is classified as sagebrush shrubland community intermixed with scattered trees on the elevated hills. The proposed project area vegetation is classified as a sagebrush shrubland community. There are approximately 7 piñon pine (*Pinus edulis*) and 21 Utah juniper (*Juniperus osteosperma*) trees located in the proposed project area. The dominant species throughout the entire project area is big sagebrush (*Artemisia tridentata*). Ground cover was visually estimated to be approximately 40 percent across the action area. No New Mexico Department of Agriculture Class A or Class B-listed species were identified within the proposed project area. Russian thistle (*Salsola tragus*) was observed to be established in areas of previous ground disturbance.

Direct and Indirect Impacts

During the construction phase of the proposed project, all vegetation within the 1.18 acre proposed project area could be cleared including approximately 28 trees. During interim reclamation, approximately 0.82 acres of the proposed project area would be fully reclaimed (recontoured and reseeded). The remaining 0.36 acres would remain as compacted, barren surface for the life of the proposed wells. During final reclamation, WPX would fully reclaim all portions of the proposed project area that were not fully reclaimed during interim reclamation.

During interim and final reclamation, the BLM Sagebrush Shrubland Community seed mixture would be utilized; the species included in these mixtures are listed in the Surface Reclamation Plan (Appendix E). Re-established vegetation would consist of native grass, forb, and shrub species included in the seed mixtures, as well as native species that are not deliberately planted. Following the reclamation process, the resulting vegetation community could differ from the native plant communities surrounding the proposed project area. Within reclaimed areas, it is not expected that the vegetation community would return to native conditions within 20 years (BLM 2003a, 4-18). The accumulation of fugitive dust on vegetation may impede vegetative growth and vigor. Impacts are likely to be low and moderate-term.

Cumulative Impacts

The analysis area and impact indicator for cumulative impacts is the same as for direct and indirect impacts. Past, present, and reasonably foreseeable future actions within the Escavada Wash watershed, which may impact vegetative cover, growth, and change in species resulting from surface disturbance include the following:

- Oil and gas development, including associated roads and pipelines
- Community development
- Livestock grazing
- Vegetation management

One hundred and five (105) oil and gas wells have been developed in the Escavada Wash watershed. These wells have resulted in a long-term disturbance of about 79 acres of surface disturbance. Based on the 326 potential wells assumed in the RFD (Engler, et al., 2014), oil and gas development in the Escavada Wash watershed may result in about 2,116 acres of short-term disturbance from potential future development, with approximately 1,627 acres of that being reclaimed. This results in about 490 acres of long-term surface disturbance from potential future oil and gas development in the Escavada Wash watershed. The total long-term disturbance for existing and potential oil and gas development in the Escavada Wash watershed would be approximately 568 acres. This disturbance would have the same impacts as described for direct and indirect impacts. The Proposed Action would contribute 0.36 acres to that total and represents 0.06% of the total past, present and future disturbed area and 0.0002% of the total analysis area of the cumulative impacts to upland vegetation.

Indirectly, fugitive dust or deposition and introduction of invasive species associated with existing roads, and wellpads in the immediate area could impact the vegetation within the spatial analysis area, and could continue to do so throughout the life of the proposed project. The proposed project would contribute to direct vegetation disturbance and fugitive dust and/or deposition.

Community development in the area is currently minimal and it is not expected to greatly increase in the reasonably foreseeable future based on the area's current infrastructure and rate of development. As housing and access roads are constructed and/or removed, vegetative cover and communities may be altered. Livestock grazing and level of intensity may also impact cover and species composition in the analysis area. Livestock grazing is closely managed by both land owners and land management agencies. Overstocking areas can greatly influence vegetative growth and vigor, and result in changes in communities if not appropriately managed, particularly during drought years. Livestock grazing is expected to continue at the same rate and in the same manner as it currently occurs. As such, impacts would be similar to those currently experienced and would not likely increase beyond the current state. Vegetation manipulation and management activities, such as sagebrush clearing and prescribed fires, impact vegetation and are often implemented by land managers. These activities are likely to occur at varying levels in the analysis area in the future, however, with a mixture of land ownership it is not possible to predict when and to what extent with any certainty. All these land uses are likely to contribute a minor component in impacts to vegetation.

3.4. Noxious Weeds and Invasive Species

3.4.1. Affected Environment

The analysis area for impacts from noxious weeds and invasive species is the Escavada Wash watershed. The Escavada Wash watershed lies within the larger San Juan Basin. In the San Juan Basin, invasive plants are frequently found in areas that have been disturbed by surface activities. Invasive species are generally tolerant of disturbed conditions, and often times out-compete native species. These plants may displace native plant communities and lead to the degradation of wildlife habitat. A total of 212 invasive and poisonous weeds have been identified on BLM-managed land (Heil and White 2000). The New Mexico Department of Agriculture (NMDA) has designated certain plants as state-listed noxious weeds and their current management classes for each species. This statewide list is maintained by the

NMDA. The BLM uses the New Mexico statewide list as the baseline document to establish their primary noxious weed species of concern. Invasive plant species are managed on BLM lands through cooperative agreements between the BLM and the San Juan County Soil and Water Conservation District. Additionally, BLM works closely with other federal and state agencies, management groups, private landowners, and industry cooperators to address invasive plant management by incorporation prevention and control measures on projects proposed on BLM lands (BLM 2014b). During the field surveys of the proposed project areas no noxious weeds listed by the USDA, NMDA, or BLM-FFO were found within the project area.

3.4.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

Disturbed soils from the proposed project may provide an opportunity for the introduction and establishment of non-native invasive species. During construction and operation, noxious weed sources could be introduced to disturbed areas from vehicles, equipment, people, wind, water, or other mechanisms. There is the potential for non-native invasive weeds to establish or spread in the area. WPX would be responsible for monitoring and controlling any non-native invasive weed species within the permitted area for the life of the project. The re-vegetation of the disturbed area would reduce the potential for non-native invasive weeds to establish. Impacts are likely to be low and moderate-term.

Cumulative Impacts

The analysis area and impact indicator for cumulative impacts is the same as for direct and indirect impacts. Past, present, and reasonably foreseeable future actions within the Escavada Wash watershed, which may impact the potential for introduction and establishment of noxious weed species resulting from surface disturbance include the following:

- Oil and gas development, including associated roads and pipelines
- Community Development
- Livestock grazing
- Vegetation management

One hundred and five (105) oil and gas wells have been developed in the Escavada Wash watershed. These wells have resulted in a long-term disturbance of about 79 acres of surface disturbance. Based on the 326 potential wells assumed in the RFD (Engler, et al., 2014), oil and gas development in the Escavada Wash watershed may result in about 2,116 acres of short-term disturbance from potential future development, with approximately 1,627 acres of that being reclaimed. This results in about 490 acres of long-term surface disturbance from potential future oil and gas development in the Escavada Wash watershed. The total long-term disturbance for existing and potential oil and gas development in the Escavada Wash watershed would be approximately 568 acres. The Proposed Action would contribute 0.36 acres to that total and represents 0.06% of the cumulative impacts to noxious weeds and invasive species.

Community development in the area is currently minimal and it is not expected to greatly increase in the reasonably foreseeable future based on the area's current infrastructure and rate of development. As housing and access roads are constructed and/or removed, ground disturbance from these activities provides an opportunity for noxious weeds to become established. Livestock grazing and level of intensity may also impact establishment and spread of noxious weeds in the analysis area. Livestock grazing is closely managed by both land owners and land management agencies. Overstocking areas can greatly increase the potential for noxious weeds to establish and take over an area if not appropriately managed, particularly during drought years when noxious weeds typically have a competitive advantage. Livestock grazing is expected to continue at the same rate and in the same manner as it currently occurs. As such, impacts would be similar to those currently experienced and would not likely increase beyond the current state. Vegetation manipulation and management activities, such as sagebrush clearing and prescribed fires, impact vegetation and are often implemented by land managers. These activities are likely to occur at varying levels in the analysis area in the future, however, with a mixture of land ownership it is not

possible to predict when and to what extent with any certainty. All these land uses are likely to contribute a minor component in impacts to the establishment of noxious weeds and invasive species.

3.5. Migratory Birds

3.5.1. Affected Environment

The analysis area for impacts to wildlife is the Escavada Wash watershed. The landscape found within the watershed is comprised of a mosaic of vegetative communities mentioned in Section 3.3 above. This landscape provides necessary habitat for a variety of migratory bird speciesThe proposed project area is dominated by big sagebrush and blue grama.

Executive Order (EO) 13186, dated January 17, 2001, calls for increased efforts to more fully implement the Migratory Bird Treaty Act of 1918. In keeping with this mandate, the BLM-FFO has issued an interim policy to minimize unintentional take, as defined by the EO, and to better optimize migratory bird efforts related to BLM-FFO activities. In keeping with this policy, a list of priority birds of conservation concern which occur in similar ecological regions similar to the proposed project area was compiled using the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPAC) (USFWS 2016). The U.S. Fish and Wildlife Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

The selected species have a known distribution in the BLM-FFO area and may be affected by various types of perturbations. These species and an evaluation of their potential to occur within the proposed project area are discussed in the BSR (Appendix C); a list of species identified within the proposed project area during the biological surveys is also provided.

Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

During the construction phase of the proposed project, all vegetation within the 1.18 acre proposed project area would be cleared. Approximately 0.36 acres would remain barren of vegetation for the long term. Reclaimed portions of the proposed project area would be converted to a reseed community following interim reclamation and final reclamation. The impacts to the vegetation communities are described in detail in Section 3.3 (Upland Vegetation). If interim and final reclamation are successful, sagebrush shrubland would become re-established within the proposed project area. However, as discussed in Section 3.3, the re-establishment of a mature, native plant community could require decades, and it is possible that the plant communities may not return to their original plant cover types within the action period of impacts considered (BLM 2003a, 4-19).

There is available, similar habitat in the surrounding area that wildlife could utilize. However, the clearing of vegetation and the transformation of the proposed project area to a reseed community would alter habitat and the landscape mosaic currently utilized by avian species, including priority bird species.

It is assumed that habitat loss and fragmentation likely reduce the carrying capacity for wildlife, including avian species, although the exact level of reduction cannot be quantified (BLM 2003a, 4-29). Habitat fragmentation and edge effects are generally reduced where practicable by utilizing and expanding existing disturbance. Much of the access road originally proposed for the West Lybrook UT Nos. 707H, 708H, 709H, 747H, 748H, and 749H followed existing disturbance. However, due to a nearby Indian Allottee fencing their allotment a portion of existing road will be inaccessible and, as such, WPX proposes this re-route of a section of access road and pipeline along the fence line before intersecting back to the initial staking on an existing road. The re-route will create a new corridor of fragmentation. However, it will parallel the newly constructed fence line. The proposed project would initiate 1.18 acres of new surface disturbance. Resulting disturbance from the action area would expand upon the existing corridor of fragmentation from the adjacent fence line and resource road to the west. Edge effects by way of noise

and activity from construction (short term edge effect) and day to day usage (long term edge effect) could cause indirect habitat loss by deterring species from utilizing available habitat adjacent to the action area.

The Proposed Action would affect approximately 1.18 acres of potential migratory bird habitat and result in the loss of approximately 28 piñon and juniper trees of varying ages and sizes. Habitat fragmentation or edge effects have been reduced where practicable by generally utilizing and expanding existing disturbance.

Due to the mobility of adult birds, they would be unlikely to be directly harmed by the proposed project. It is difficult to predict the effects of the proposed project on migratory birds. The increased activity, noise, and disturbed vegetation associated with the proposed project could result in the increased usage of the immediate area by some migratory bird species, while decreasing usage by other species. Studies have shown mixed impacts of oil and gas development on nesting migratory birds. According to a study by Ortega and Francis (2007), the presence of oil and gas compressors affected bird species differently; however, there was no difference in overall nest density on plots with and without compressors. A study by Holmes and King (2006) found that the sage sparrow had lower nest survival in an area with ongoing gas development; however, the Brewer's sparrow had higher nest survival rates in a developed gas field when compared with populations in an undeveloped control area.

Cumulative Impacts

The analysis area and impact indicator for cumulative impacts is the same as for direct and indirect impacts. Past, present, and reasonably foreseeable future actions within the Escavada Wash watershed, which may also impact habitat and migratory bird species resulting from surface disturbance include the following:

- Oil and gas development, including associated roads and pipelines
- Community Development
- Livestock grazing
- Vegetation management

One hundred and five (105) oil and gas wells have been developed in the Escavada Wash watershed. These wells have resulted in a long-term disturbance of about 79 acres of surface disturbance. Based on the 326 potential wells assumed in the RFD (Engler, et al., 2014), oil and gas development in the Escavada Wash watershed may result in about 2,116 acres of short-term disturbance from potential future development, with approximately 1,627 acres of that being reclaimed. This results in about 490 acres of long-term surface disturbance from potential future oil and gas development in the Escavada Wash watershed. The total long-term disturbance for existing and potential oil and gas development in the Escavada Wash watershed would be approximately 568 acres. The Proposed Action would contribute 0.36 acres to that total and represents 0.06% of the cumulative impacts to migratory bird habitat. The proposed project may contribute to the reduction of potential available habitat within the spatial analysis area. The intensity of indirect effects would be dependent upon the species, its life history, time of year and/or day and the type and level of human and vehicular activity occurring. This disturbance would have the same impacts as described for direct and indirect impacts.

Community development in the area is currently minimal and it is not expected to greatly increase in the reasonably foreseeable future based on the area's current infrastructure and rate of development. As housing and access roads are constructed and/or removed, habitat may be altered. Livestock grazing and level of intensity may also impact birds in the analysis area. Livestock grazing is closely managed by both land owners and land management agencies. Overstocking areas can greatly influence vegetative growth and vigor, and result increased competition for species and reduce cover if not appropriately managed, particularly during drought years. Livestock grazing is expected to continue at the same rate and in the same manner as it currently occurs. As such, impacts would be similar to those currently experienced and would not likely increase beyond the current state. Vegetation manipulation and management activities, such as sagebrush clearing and prescribed fires, impact bird habitat and are often implemented by land managers. These activities are likely to occur at varying levels in the analysis area in the future, however,

with a mixture of land ownership it is not possible to predict when and to what extent with any certainty. All these land uses are likely to contribute a minor component in impacts to migratory birds.

3.6. Special Status Species

3.6.1. Affected Environment

The BLM manages certain species which are not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. BLM Special Status Species include BLM Sensitive Species and BLM-FFO Special Management Species (SMS).

New Mexico BLM State Directors have developed a list of BLM Sensitive Species for the State of New Mexico (BLM 2011a, BLM 2011b, BLM 2011c, BLM 2012a). In accordance with BLM Manual 6840, the BLM-FFO has prepared a list of BLM-FFO SMS to focus species management efforts toward maintaining habitats under a multiple-use mandate (BLM 2008a, BLM 2008c). BLM-FFO SMS include some BLM Sensitive Species and other species for which the BLM-FFO has determined special management is appropriate (BLM 2008c). The authority for this policy and guidance is established by the ESA; Title II of the Sikes Act, as amended (16 USC 670a-670o, 74 Stat. 1052); FLPMA; and Department of Interior Manual 235.1.1A.

Based on known range and habitat, five (5) BLM Special Status Species have the potential to occur within the proposed project area. The Special Status Species with the potential to occur within the proposed and alternative project areas are as follows:

- Bendire's Thrasher: potential foraging and nesting habitat available
- Golden eagle (BLM SMS): potential foraging habitat available
- Prairie falcon: potential foraging habitat available
- Aztec gilia: within mapped potential habitat
- Brack's hardwall cactus: dead individuals present in Project area

3.6.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

Bendire's Thrasher

Impacts to Bendire's thrashers and pinyon jays would be similar to those described for migratory birds (Section 3.5.2 [Migratory Birds– Impacts from Alternative B (the Proposed Action)]).

Golden Eagle and Prairie falcon

These two BLM Special Status Species raptors could potentially utilize the proposed project area for foraging. Due to the mobility of adult birds and the lack of available nesting habitat in the immediate vicinity, it is unlikely that these raptors would be directly harmed by activities associated with the proposed project. Indirect effects associated with disturbance to foraging habitat are described in Section 3.5.2 (Migratory Birds - Direct and Indirect Impacts).

Brack's Hardwall Cactus and Aztec Gilia

No Aztec gilia were identified during the surveys of the proposed project area. The survey was completed outside of the blooming period (late April to mid-June) for this species. Additionally, individuals of this species are typically very small and difficult to identify outside of the blooming period. As such, it is possible that individuals could have been overlooked during the survey.

During the biological field survey three dead Brack's hardwall cactus were found in a small area along the margins of a small drainage at the northwestern most corner of the Northwest ¼ of the Northwest ¼ of Section 18 of Township 23 North, Range 8 West. The surrounding area was carefully surveyed but no live individuals were identified. Refer to the BSR (Appendix C) for a detailed discussion of survey results and a description of precautions taken to ensure the validity of the survey during winter months. The survey was completed outside of the blooming period (late April to mid-June) for this species. Additionally, individuals of this species are typically very small and difficult to identify outside of the blooming period. As such, it is possible that individuals could have been overlooked during the survey.

The proposed project would result in the disturbance of up to 1.18 acres of Aztec gilia/Brack's hardwall cactus habitat located within the outer boundary of the Nacimiento Formation. This acreage includes disturbance on both Navajo Indian Allotted lands and BLM lands. For the short-term, this acreage would not provide potential habitat for these species. Upon interim reclamation, a portion of this area will be reclaimed and it is possible that Aztec gilia and Brack's hardwall cacti could become established within these reclaimed areas. During final reclamation, WPX would fully reclaim all portions of the proposed project area that were not fully reclaimed during interim reclamation. In order to fully reclaim these areas WPX would need to first clear the vegetation in order to recontour the ground; during this process, it is possible that Aztec gilia and/or Brack's hardwall cacti that became established or reestablished within post-interim reclamation areas could be killed. The proposed project area does not appear to currently provide suitable habitat occupied by live individuals. Proposed disturbance would likely have no impact to individual cacti and minimal impact to potential habitat.

As discussed in Section 2.3 - Alternatives Considered but Eliminated from Detailed Study, the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H access road and pipeline were originally permitted along an existing access road. However, due to a large portion of the existing road being fenced off and inaccessible WPX proposes a new re-route to access the W Lybrook UT #707H, #708H, #709H, #747H, #748H, #749H well pad. WPX chose to re-route along the recently disturbed area next to the new fence line to consolidate disturbance and fragmention in such a way as to minimize impacts to Brack's hardwall cactus and Aztec gilia habitat to the extent practicable in accordance with the BLM-FFO guidance.

Cumulative Impacts

The analysis area is the portion of potential Aztec gilia/Brack's hardwall cactus habitat (Nacimiento Formation) within the Escavada Wash watershed. Past, present, and reasonably foreseeable future actions within the analysis area which may also impact BLM Special Status Species, through direct and effective habitat loss resulting from surface disturbance include the following:

- Oil and gas development, including associated roads and pipelines
- Livestock grazing
- Vegetation treatments
- Community Development
- Recreation

Approximately 90 oil and gas wells have been developed in the analysis area. These wells have resulted in a long-term disturbance of about 68 acres of surface disturbance. Based on the RFD (Engler, et al., 2014), oil and gas development in the analysis area may result in about 2,013 acres of short-term disturbance from potential future development, with about 1,561 acres of that being reclaimed. This results in approximately 452 acres of long-term surface disturbance from potential future oil and gas development in the analysis area. The total long-term disturbance for existing and potential oil and gas development in the analysis area would be about 520 acres. The Proposed Action would account for 0.36 acres of that total and represents 0.07% of the cumulative impacts to potential Aztec gilia/Brack's hardwall cactus. The proposed project may contribute to the reduction of potential available habitat within the spatial analysis area. The intensity of indirect effects would be dependent upon the species, its life history, time of year and/or day and the type and level of human and vehicular activity occurring.

Community development in the area is currently minimal and it is not expected to greatly increase in the reasonably foreseeable future based on the area's current infrastructure and rate of development. As housing and access roads are constructed and/or removed, habitat may be altered. Livestock grazing and level of intensity may also impact wildlife in the analysis area. Livestock grazing is closely managed by both land owners and land management agencies. Overstocking areas can greatly influence vegetative growth and vigor, and result in increased competition for wildlife if not appropriately managed, particularly during drought years. Livestock grazing is expected to continue at the same rate and in the same manner as it currently occurs. As such, impacts would be similar to those currently experienced and would not likely increase beyond the current state. Vegetation manipulation and management activities, such as sagebrush clearing and prescribed fires, impact wildlife habitat and are often implemented by land managers. These activities are likely to occur at varying levels in the analysis area in the future, however, with a mixture of land ownership it is not possible to predict when and to what extent with any certainty. All these land uses are likely to contribute a minor component in impacts to wildlife.

3.7. Cultural Resources

3.7.1. Affected Environment

The proposed project area is located within the archaeologically rich San Juan Basin of northwestern New Mexico. In general, the history of the San Juan Basin can be divided into five major periods: PaleoIndian (circa [ca.] 10,000 B.C. to 5,500 B.C.); Archaic (ca. 5,500 B.C. to A.D. 400); Basketmaker II-III and Pueblo I-IV (aka Anasazi; A.D. 1-1,540); and historic (A.D. 1,540 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 BLM-FFO PRMP/FEIS (BLM 2003a, 3-66 – 3-86) and will not be reiterated here. Additional information can also be found in an associated documented, the Cultural Resources Technical Report (Science Applications International Corporation 2002).

BLM Manual 8100, The Foundations for Managing Cultural Resources (2004) defines a cultural resource as *"a definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. (cf. "traditional cultural property"). Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit described in this Manual series. They may be but are not necessarily eligible for the National Register (a.k.a. "historic property").* 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, ceremonial/religious features, and roads and trails.

In the broadest sense cultural resources include sites, buildings, structures, objects, and districts/landscapes (NPS 1997). Cultural resources (prehistoric or historic) 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, ceremonial/religious features, and roads and trails. Traditional Cultural Properties (TCPs) are cultural resources that are eligible for the National Register of Historic Places (NRHP) and have cultural values, sometimes sacred, 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 (Parker and King 1998). Historically Native American communities are most likely to identify TCPs, although TCPs are not restricted to those associations. Some TCPs are well known while others may only be known to a small group or otherwise only vaguely known. Native American tribal perspectives on what is considered a TCP are not necessarily limited by a places National Register eligibility or lack thereof.

The National Register of Historic Places (NRHP; 36 CFR Part 60) is the basic benchmark by which the significance of cultural resources are evaluated by a federal agency when considering what effects its actions may have on those resources. To summarize, to be considered eligible for the NRHP a cultural resource must meet one or more of the following criteria: a) are associated with events that have

significantly contributed to the broad patterns of our history; or b) are associated with the lives of persons significant in our past; or c) embody distinctive characteristics of the type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or d) have yielded, or may be likely to yield, information that is important in a pre-history or history. The resource, as applicable, must possess one or more of the following aspects of integrity; location, design, setting, materials, workmanship, feeling, and association. In the event a determination of eligibility cannot be made, the resource is treated as eligible (a historic property).

Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800) requires federal agencies to consider what effect their licensing, permitting, funding or otherwise authorizing an undertaking, such as an APD or ROW, may have on properties eligible for the National Register. Pursuant to 36 CFR 800.16 (i), "Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." Effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative. Area of Potential Effect (APE) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is typically defined as areas to be directly disturbed and areas in immediate close proximity. Cultural resources are identified through a combination of literature review and pedestrian survey consistent with guidelines set forth in the Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities (BLM 2005). The APE for the Proposed Action is the road and pipeline area within 75'-175' of the exterior boundary of the fenced allotment being avoided.

On Navajo trust lands cultural resources are identified and reported through a combination of literature review and pedestrian and ethnographic survey consistent with guidelines set forth in the Navajo Nation Historic Preservation Department (NNHPD) Fieldwork and Report Standards and Guidelines (NNHPD 2010). BIA Compliance with Section 106 on Navajo trust lands is adhered to by making the final decisions and issuing final notices to proceed with undertakings based on NNHPD review and recommendations to the BIA-NRO Regional Director.

Cultural resources within the entire APE for the Proposed Action were identified by a literature review and an archaeological Class III level (100%) pedestrian survey by Western Cultural Resource Management, Inc. (Western) and reports were prepared and submitted to the NNHPD and BLM.

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

<u>Grace Begay Allotment Fence Line (WCRM[F]1350 [2014]; NNHPD 15-051; BLM 2015[I]031F):</u>

- This inventory covers adjacent allotment lands and portions of BLM being used for the reroute. One previously recorded site (NM-G-51-26/LA 87413), three newly recorded sites (NM-G-51-78/LA 180435, NM-G-51-79/LA 180436, and NM-G-51-80/LA180437) and four isolated occurrences (IOs) were documented for the entire alignment of fence along the perimeter of the Allotment. However, none of these sites or IOs are within the portion of the proposed project area APE.

<u>West Lybrook 707H Access Road Reroute (WCRM[F]1423 [2016]; BLM 2016[I]011.1F):</u>

- This inventory covers additional BLM lands needed for the reroute. A literature review conducted prior to the cultural resource inventory identified four previously recorded sites located within 0.25 mi of the project area. No sites in the vicinity of the project area are listed on the National

Register of Historic Places or State Register of Cultural Properties. No cultural resources were located during the survey.

The Class III inventory identified no cultural sites within the APE. No TCPs are known to exist in the APE.

3.7.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

There are no known historic properties within the APE. The Proposed Action will have no direct or indirect impacts on historic properties (no historic properties affected).

Cumulative Impacts

The Cumulative Impacts Analysis Area (CIAA) is the associated watershed(s).The United States is divided and sub-divided into successively smaller hydrologic units which are classified into six levels nested within each other, from the largest geographic area (region) to the smallest geographic area (subwatershed). The boundaries are distinguished by hydrographic and topographic criteria that delineate an area of land upstream from a specific point on a river, stream or similar surface waters (USGS 2013, NRCS 2013). Hydrologic units can be viewed as a naturally defined landscape and impacts to cultural resources in one part of that landscape could, theoretically, affect a broader understanding of the interrelationships between sites in the landscape as a whole. The smallest hydrologic unit area, typically from 10 to 40 K acres (15 to 62 mi^2; HUC 12) or combination thereof are used as the CIAA.

The cumulative spatial analysis area (CIAA) for cultural resources is the proposed project area and the Headwaters Kimbeto Wash subwatershed which total 26,784 acres. Based on New Mexico Cultural Resource Information System data (NMCRIS; July 2015), within the subwatershed there are 226 recorded sites and approximately 19% of the subwatershed (5,112 ac) have been inventoried for cultural resources by 209 unique investigations since 1975. The cultural inventory coverage for the CIAA is likely higher as not all survey data is digitally available (e.g., Navajo lands, surveys since July 2015). There are no properties listed on the National Register of Historic Places, New Mexico State Register of Cultural Properties, Chaco Protection Sites, World Heritage Sites, or National Historic Trails within the CIAA.

- What impacts would surface disturbance for the Proposed Action have on historic properties in the CIAA?

There will be no negative cumulative impact on cultural resources as no historic properties are present. There will be no known negative cumulative impact on the landscape that would affect the seven aspects of integrity (location, design, setting, materials, workmanship, feeling, association) of known historic properties. A positive cumulative effect is the additional scientific information yielded by the archaeological survey in terms of the amount of the landscape inventoried for cultural resources.

- What impacts would the project have on unknown (buried, not visible) historic properties in the CIAA?

Risks of impacting unknown (i.e., buried) historic properties is normally negligible as cultural resources “discoveries” during surface disturbing components of a Proposed Action are infrequent in the FFO. Since FY2000, 28 discoveries have occurred in association with 21,290 actions (e.g. road, well, pipeline, etc.), or 1:760. During that period 153,626 ac of land were inspected for cultural resources, with an average of 7.2 ac per action and one discovery per 5,472 ac per discovery. All authorizations (e.g., APDs, R-O-Ws) have stipulations, under penalty of law, requiring the reporting of and avoidance of further disturbing cultural discoveries during a proposed action. Where the risk of discoveries can be reasonably expected (e.g., ≤ 100' of a known historic property, or in environmental settings known or suspected to be conducive to buried sites), archaeological monitoring by a qualified and permitted archaeologist during initial disturbance (e.g., blading, trenching) is normally required. If buried historic properties are discovered, collaborative steps are taken to protect them in place or recover their important information.

3.8. Public Health and Safety

3.8.1. Affected Environment

The proposed project would comply with the use and disposal of hazardous materials as regulated primarily under RCRA outlined above in Section 1.5.6. No extremely hazardous substances (40 CFR 355) would be used during the Proposed Action. Hazardous substances that may be found at the site may include minimal quantities of materials that may be necessary for welding or gluing. Flammable or combustible substances such as fuels and aids/gels (corrosives) associated with vehicles and the welding processes may also be found at the site. These materials may include oil, fuel, hydraulic fluid, and coolants. These chemicals are subject to reporting under the Emergency Planning and Right-to-Know Act of 1968 and may be used, produced, stored, transported or disposed of in association with the proposed project. Releases of non-freshwater fluids would be promptly handled in accordance with applicable federal and state regulations. Waste disposal would be made in accordance with applicable federal and state regulations and at permitted facilities.

Non-hazardous solid waste generated at the proposed project area would be stored in appropriate containers and disposed of at an approved facility. Human solid and liquid wastes would be generated primarily during the construction phases of the project and would be contained within portable facilities at the site.

Worker safety is regulated under the Occupational Safety and Health Act of 1970 (OSHA), as amended (29 USC 651). Safety practices in accordance with OSHA would be followed at all times during the project. Standard safety procedures for completion of the proposed project would include pipeline markers, monitoring, and inspections that are required by federal and state regulations.

The proposed project area is fairly remote and roads in the area are generally unimproved dirt roads used to access natural gas facilities and a few remote residents in the area. These roads may become hazardous or impassable during periods of inclement weather. Exposure of the public to activities associated with the Proposed Action is limited by the remoteness of the location and proximity to areas where the general public may occur. The nearest town, Bloomfield (population 7,801 [U.S. Census Bureau 2015]), is approximately 35 road miles to the north-northwest, and U.S. Highway 550 is located approximately 950 feet to the northeast. There are no BLM SMA's managed for recreation areas located within the Escavada Wash watershed. There are multiple residences within 0.25-miles of the project area, with the closest residence being 540 feet to the northwest of the Proposed Action area.

Worker safety is regulated under the Occupational Safety and Health Act of 1970, as amended (29 USC 651).

All WPX employees maintain a safety and emergency response plan (WPX Emergency Response One Plan) at all times. This plan provides guidance on safety procedures, how to respond to an emergency, and the required notifications, along with all pertinent contact numbers. Additionally, all WPX contractors are required to maintain a safety and emergency response plan.

3.8.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

The proposed project would be located within an existing oil and gas field currently experiencing concentrated development. Risks to public health and safety associated with the Proposed Action include increased traffic on public roads, wildfire, pipeline leakage, rupture, fire, explosion, and operation of construction equipment. Additional public health and safety risks include spills or releases of wastes, chemicals, or hazardous materials.

Under the Proposed Action, increased use and frequency of construction vehicles, heavy equipment, chemicals and personnel in the area could result in a safety issue for the public. Transportation issues are

a primary safety concern. Vehicles associated with the oil and gas industry utilize the developed highway and county road systems. In addition, the oil and gas industry constructs and utilizes dirt access roads in the area. These roads, most of which are accessible by the public, are often hazardous, particularly during and following periods of inclement weather. Therefore, there would be an increased potential for traffic accidents. Dust associated with construction activities or travel on dirt access roads may result in poor visibility in the area. Following construction and drilling of the wells accessed by the proposed road, traffic levels would be similar to current levels; long-term effects on transportation would be positive due to the reduction of truck traffic from the piping of products from the location to a gathering system and the regular maintenance of the roads by the operators. Design Features and BMPs for dust abatement and erosion control (e.g. water application) would be utilized to reduce fugitive dust and adverse road conditions.

Material Safety Data Sheets (MSDS) are available at the project site at all times for all chemicals, compounds and/or substances which would be used during any phase of the Proposed Action. In the event of a release, notification would be made in compliance with CERCLA and the national BLM Notice of Lessees (NTL)-3A, as well as any state requirements. Design Features and BMPs outlined in Section 2.2.2. (Description of Proposed Project) would be followed to minimize potential impacts from hazardous and non-hazardous wastes. Adherence to company safety policies and BLM-FFO COAs would mitigate public health and safety hazards. The hauling of project equipment and materials on public roads would comply with all Department of Transportation regulations. All work associated with the Proposed Action would be performed in compliance with appropriate OSHA regulations.

Health and safety risks for construction workers include operation of heavy equipment, welding activities, and working in the vicinity of other utilities (primarily other oil and gas gathering pipelines and overhead power lines). Although unlikely, well explosions, blowouts and fire are considered possible risks. WPX maintains an emergency response plan and all personnel have been trained in industry standard safety practices to prevent and respond to emergencies. Personnel are trained and certified on a regular basis in order to be current on safety procedures and emergency response protocol. The Association of Mechanical Engineers (ASME) and American Petroleum Institute (API) issue standards for design, construction, installation, and maintenance of pressure vessels, fittings, piping, and pipelines. WPX personnel and their contractors would build, operate, and maintain all equipment and pipeline according to these standards, which are intended to minimize the potential for explosions and failure of the equipment.

The proposed project would affect transportation. During construction, the proposed project would result in increased traffic on area roads; some vehicles would be hauling heavy equipment. Therefore, there would be an increased potential for traffic accidents. Dust associated with construction activities or travel on dirt access roads may result in poor visibility in the area. The increased use of dirt access roads during muddy conditions may worsen the roads' conditions. Following construction and drilling, traffic levels would be similar to current levels; long-term effects on transportation would be positive due to the reduction of truck traffic from the piping of products from the location to a gathering system.

During construction and maintenance activities, the operation of heavy equipment poses potential safety concerns. During the operation of the proposed well-connect pipelines, facility failure (such as pipeline ruptures) could represent a potential danger to the public. Impacts are likely to be low and long-term.

Cumulative Impacts

The analysis area includes the proposed project area and the existing oil and gas field within the BLM-FFO regional management area. The general BLM-FFO region has been developed by the oil and gas industry for over six decades, which contributes to public health and safety concerns in the area.

Transportation issues are a primary safety concern. Vehicles associated with the oil and gas industry utilize the developed highway and county road systems. In addition, the oil and gas industry constructs and utilizes dirt access roads in the area. These roads, most of which are accessible by the public, are often hazardous, particularly during and following periods of inclement weather. The proposed project

would cumulatively reduce the amount of truck traffic from the multiple wells over time through the piping of all products from wells within the W Lybrook Unit to a central delivery point.

Given the fact that the Proposed Action would be located within an existing oil and gas field, direct and indirect cumulative impacts to public health and safety as well as to worker safety would not be measurably different when compared to those from past, present, and reasonably predicted future activities.

3.9. Environmental Justice

3.9.1. Affected Environment

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, requires that federal agencies identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. It focuses on environmental hazards and human health to avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Guidance on environmental justice terminology developed by the President's Council on Environmental Quality (CEQ 1997) is discussed below.

- Low-income population. A low-income population is determined based on annual statistical poverty thresholds developed by the US Census Bureau. In 2012, poverty level is based on total income of $11,720 for an individual and $23,283 for a family of four (US Census Bureau 2012a). A low-income community may include either a group of individuals living in geographic proximity to one another or dispersed individuals, such as migrant workers or Native Americans.
- Minority. Minorities are individuals who are members of the following population groups: American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic.
- Minority population area. A minority population area is so defined if either the aggregate population of all minority groups combined exceeds 50 percent of the total population in the area or if the percentage of the population in the area comprising all minority groups is meaningfully greater than the minority population percentage in the broader region. Like a low-income population, a minority population may include either individuals living in geographic proximity to one another or dispersed individuals.
- Comparison population. For the purpose of identifying a minority population or a low-income population concentration, the comparison population used in this study is the state of New Mexico as a whole

Low-income Populations

Income and poverty data estimates for study area counties from the US Census Small Area Poverty Estimates model indicate that the percent of the population living below the poverty level in the socioeconomic study area as a whole is slightly above that of the state (21.3 percent and 20.6 percent), but it is much higher than the national average of 12.1 percent (Table 12). Poverty levels ranged from 37.7 percent in McKinley County to 13.7 percent in Sandoval County. Only that of Sandoval County was below the state average.

Table 7. Study Area County Population in Poverty (2002-2012)

	McKinley County	Rio Arriba County	Sandoval County	San Juan County	Study Area Total	New Mexico	United States
Percent of Population	21,766	7,165	19,934	22,152	71,017	421,123	34,569,951

Table 7. Study Area County Population in Poverty (2002-2012)

	McKinley County	Rio Arriba County	Sandoval County	San Juan County	Study Area Total	New Mexico	United States
in Poverty 2002	30.2%	17.7%	11.1%	18.2%	21.3%	20.6%	12.1%
Percent of Population	27,296	8,806	18,502	25,802	80,406	327,444	48,760,123
in Poverty 2012	37.7%	22.0%	13.7%	20.3%	21.5%	17.7%	15.9%
Median Household Income 2002	$25,197	$30,557	$45,213	$34,329	N/A	$34,827	$45,409
Median Household Income 2012	$29,821	$36,900	$57,376	$45,901	N/ A	$42,828	$51,371
Classified as Low Income Population in 2012 based on CEQ guidelines?	No	No	No	No	No	NA	NA

Source: US Census Bureau 2013

Similarly, estimates from 2012 indicate that Sandoval and San Juan Counties had household median incomes ($57,376 and $45,901) that were above the state level of $42,828. McKinley County ($29,821) and Rio Arriba County ($36,900) were below that of the state in 2012 (Table 13). While no area communities meet the CEQ definition of a low-income population area (50 percent or higher), the highest poverty rates were seen in Bloomfield (29 percent), Espanola (26.3 percent), and Bernalillo (24.1 percent).

Table 8. Study Area Key Community Race/Ethnicity and Poverty Data

Community	% Population Racial or Ethnic Minority	Classified as Minority Population based on CEQ?	% of Individuals Below Poverty	Classified as Low-income Population based on CEQ?
Aztec	36.4%	No	14.4%	No
Bernalillo	78.8%	Yes	24.1%	No
Bloomfield	55.8%	Yes	29.0%	No
Espanola	91.6%	Yes	26.3%	No
Farmington	48.8%	No	15.5%	No
Gallup	76.9%	Yes	20.9%	No
Rio Rancho	46.7%	No	9.8%	No

Source: US Census Bureau 2012b
Note: American Community Survey estimates are based on data collected over a 5-year time period. The estimates represent the average characteristics of populations between January 2008 and December 2012 and do not represent a single point in time.

Census Tracts are geographic regions within the United States that are defined by the US Census Bureau in order to track changes in a population over time. Census Tracts are based on population sizes and not geographic areas. The average population of a Census Tracts is about 4,000 people, so rural areas that are sparsely populated may have very large Census Tracts while densely populated urban areas may have very small Census Tracts.

When broken down by Census Tract, 3 out of 87 tracts in the socioeconomic study area have greater than 50 percent of individuals living below the poverty line: Census Track 9440 in eastern McKinley County had an individual poverty rate of 54.6 percent; Census Tract 9405 in southwestern McKinley County had an individual poverty rate of 59.4 percent; and Census Tract 9409 in northwestern Sandoval County had an individual poverty rate of 51.9 percent (US Census Bureau 2012b). These 3 Census Tracts are all relatively large, indicating a sparsely populated, rural area.

Minority Populations

Based on 2008-2012 data, minorities made up 59.5 percent of the population in New Mexico, compared to 36.3 percent in the United States as a whole (Table 14). The proportion of minorities in the

socioeconomic study area (65.3 percent) substantially exceeded the United States and is slightly higher than the state average. At the county level, the population ranged from 89.7 percent minority in McKinley County to 52.8 percent in Sandoval County. Within relevant tribal nations, Native Americans represented the vast majority of the population. The largest minority groups were Hispanics/Latinos in Rio Arriba and Sandoval Counties and Native Americans in McKinley and San Juan Counties.

Table 9. Study Area County Population by Race/Ethnicity (2008-2012)

Population	McKinley County	Rio Arriba County	Sandoval	San Juan	Study Area	New Mexico	United States	Jicarilla Apache Nation	Navaho Nation	Ute Mountain Nation
Hispanic or Latino ethnicity of any race	9,744	28,714	46,334	24,496	109,288	952,569	50,545,275	382	2,958	99
	13.6%	71.4%	35.3%	19%	29%	46.3%	16.4%	11.6%	1.7%	6.0%
White alone	7,413	5,370	61,977	54,218	128,978	831,543	196,903,968	74	3,762	47
	10.3%	28.6%	47.2%	42.2%	34.67%	40.5%	63.7%	2.3%	2.2%	2.9%
Black or African American alone	353	149	2,704	794	4000	35,586	37,786,591	0	250	5
	0.5%	0.4%	2.1%	0.6%	1.08%	1.7%	12.2%	0%	0.1%	0.3%
American Indian or Alaskan Native alone	52,358	5,629	15,964	46,676	120,627	176,766	2,050,766	2,692	162,920	1,429
	72.8%	14.0%	12.2%	36.3%	32.43%	8.6%	0.7%	82.0%	94.3%	87.0%
Asian alone	506	173	1,685	464	2828	25,411	14,692,794	73	834	14
	0.7%	0.4%	1.3%	0.4%	0.76%	1.2%	4.8%	2.2%	0.5%	0.9%
Native Hawaiian and Other Pacific Islander alone	38	7	100	72	217	989	480,063	0	209	0
	0.1%	0%	0.1%	0.1%	0.06%	<.01%	0.2%	0%	0.1%	0%
Some Other Race	7	22	437	84	550	3,623	616,191	0	102	0
	<.01%	0.1%	0.3%	0.1%	0.15%	0.2%	0.2%	0%	0.1%	0%
Two or more Races	1,469	137	2,101	1,796	5,503	28,800	6,063,063	62	1,660	49
	2.0%	0.3%	1.6%	1.4%	1.48%	1.4%	2.0%	1.9%	1.0%	3.0%
Classified as Minority Population based on CEQ guidelines?	Yes	Yes	Yes	Yes		Yes	NA	Yes	Yes	Yes

Source: US Census Bureau 2012b
Note: American Community Survey estimates are based on data collected over a 5-year time period. The estimates represent the average characteristics of populations between January 2008 and December 2012 and do not represent a single point in time

Based on the CEQ definition of a minority population area (minority residents exceed 50 percent of all residents), Bernalillo, Bloomfield, Espanola, and Gallup all are considered minority communities.

When examined at the Census Tract level, there are 24 out of 87 tracts that have a minority population greater than 50 percent. These range from Census Tract 6.1 located just north of the city of Aztec with a minority population of 80.5 percent to Census Tract 107.17 located north of the city of Rio Rancho with a minority population of 50.2 percent (US Census Bureau 2012b). These Census Tracts are relatively small and are based around the city of Rio Rancho and the Aztec/Farmington/Bloomfield area.

Native American Populations

Data in Table 14 account for a substantial portion of the study area population in some areas, notably McKinley and San Juan Counties, where the population is 72.8 and 36.3 percent American Indian respectively. Three tribal governments have reservations within the planning area: the Jicarilla Apache Nation, the Navajo Nation, and the Ute Mountain Nation (Table 15). The Southern Ute Nation has lands just north of the planning area in the state of Colorado, but none within the planning area. Almost one half of the planning area is tribal lands. Each tribe maintains a general concern for protection of and access to areas of traditional and religious importance, and the welfare of plants, animals, air, landforms, and water on reservation and public lands. Policies established in 2006 by the BLM and US Forest Service, in coordination with federal tribes, ensure access by traditional native practitioners to area plants. The policy also ensures that management of these plants promotes ecosystem health for public lands. The BLM is encouraged to support and incorporate into their planning traditional native and native practitioner plant-gathering for traditional use (Boshell 2010).

Table 10. Tribal Nations in the Planning Area

Tribe	Acres in Planning Area	General Location
Jicarilla Apache Nation	739,600	The majority of the Jicarilla Apache Nation is located in western Rio Arriba County, but within the eastern portion of the planning area
Navajo Nation	860,900	A portion of the Navajo Nation extends into western San Juan County and into the western portion of the planning area
Ute Mountain Nation	103,500	A portion of the Ute Mountain Nation extends into the northern portion of San Juan County, just east of the Navajo Nation, and into the northern portion of the planning area
Unknown	196,300	Lands located in the southern portion of the planning area [Note to BLM: this is due to inconsistencies between US Census Bureau tribal areas dataset and BLM land status dataset.]
Source: BLM GIS 2014, US Census Bureau 2014		

3.9.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

As noted in the PRMP/FEIS, most activities, including oil and gas development on Indian Allotted lands in the San Juan Basin occur without influence of demographic or income values. They are primarily the response of various resource values and are balanced for overall public benefit. San Juan County, along with the other counties that make up the larger development area, has a high proportion of minority populations compared to the state and national percentages. San Juan County has a distinctly high percentage of American Indians, while Rio Arriba has a large Hispanic population. The poverty levels for all counties, except Sandoval County were higher than the state and national level. As such, the potential exists for minority and low-income populations to be affected by the Proposed Action.

Specific issues of concern outlined in the PRMP/FEIS include the potential for economic impacts (such as job losses or increases), potential for land use impacts (as outlined in previous sections), and the potential for conditions that pose a public health or safety risk. The installation of the proposed access road/pipeline would allow WPX to develop their leases and provide additional natural gas and oil for the national energy market. This would generate federal and state tax revenues as well as revenue for WPX, its contractors, and additional jobs, royalties, and revenues to local economies. The additional jobs and economic activity in the region from oil and gas development have the potential to benefit local communities and residents and is considered a positive effect. The ten wells that would be producted as a result of the Proposed Action would be part of an increase from the larger scale oil and gas development in the region. Potential land use impacts and public health and safety risks have been addressed in both previous sections of this document and/or the PRMP/FEIS. Project specific design features and best management practices (Section 2.2.2), as well as COAs attached to the approved

APDs and Sundry Notice help to reduce adverse impacts to the surrounding communities as they relate to land use and public health and safety. See PRMP/FEIS for further discussion of Environmental Justice (BLM 2003a).

Cumulative Impacts

The analysis area is the BLM-FFO regional management area. The Proposed Action would contribute to the effects of the local economy in the form of increased natural gas production, new jobs and increased revenues. Any additional well development, production and/or infrastructure in the area would result in incremental impacts to local economy. The energy industry is subject to boom and bust cycles. However, the continued development of these resources still represents a desirable economic engine. With the development of these resources being concentrated in Rio Arriba and San Juan counties that both have disproportionately minority population, benefits from growth in resource development both federal and non-federal interests would provide jobs and therefore benefit these groups (BLM 2003a, 4-129).

3.10. Transportation and Travel

3.10.1. Affected Environment

The project area is located in San Juan County, NM. The proposed area would be accessed utilizing U. S. Highway 550. U.S. Highway 550 carries a significant amount of high-speed traffic, consisting of both light and heavy vehicles. County Road 7890 utilized to access the site off of U.S. Highway 550 sees moderate traffic by oil and gas personnel and residents that live in the surrounding area.

3.10.2. Impacts from Alternative B (the Proposed Action)

Direct and Indirect Impacts

Under the Proposed Action, increased use of the area by construction vehicles and personnel could result in a safety issue for the public. The proposed new access re-route follows existing disturbance where practicable and will account for approximately 1038 feet of additional road in the area. For existing County Roads or roads that are considered collector roads, WPX will defer to the county or to the Roads Committee for maintenance determinations on collector roads. The BLM has designated Roads Committees for the maintenance of collector roads. The committees consist of all participating operators with projects along those subject roads. Roads will be maintained in the same or better condition as existed prior to the commencement of operations, and maintenance will continue until final abandonment and reclamation of the well location. Traffic impacts from routine maintenance personnel at the well site would be ongoing throughout the production life of the wells accessed by the proposed access road.

The Proposed Action would result in short-term increases in the volume of both heavy and light traffic during the construction and reclamation of the project. The action area is rural, but travelers of the area could be impacted in the short term by the construction of the access road and pipeline. These impacts would be reduced after completion. It is anticipated that two to three pick-up truck would travel the proposed access road to visit the associated well pad daily during the normal work week, resulting in road degradation, fugitive dust and equipment related noise. As discussed in Section 2.2.2 (Description of Proposed Project – Additional Design Features and BMPs), design features and BMPs would be implemented to reduce impacts of disturbance from vehicles and to increase public safety. The piping of all three products (oil, gas, & water) from the wells to an existing gathering system will reduce the amount of heavy truck traffic and result in a positive impact in comparison to the traditional trucking of oil and water products. Overall, impacts are likely to be low and short-term.

Cumulative Impacts

The analysis area is the BLM-FFO regional management area. The cumulative impacts of oil and gas development fluctuate as abandoned wells are reclaimed and the construction of new access roads and pipelines results in new surface disturbance. The impacts of increased roadway use, including dust generation and air, water and noise pollution would be incremental to the surrounding impacts to transportation networks in the area.

4. SUPPORTING INFORMATION

4.1. Tribes, Individuals, Organizations, or Agencies Consulted

Table 26 contains a list of tribes, individuals, organizations, and agencies invited to attend the on-site for the project.

Table 21. Tribes, Individuals, Organizations, and Agencies Invited to the On-Site

Name	Tribe, Organization, or Agency	Attended On-Site
Colleen Cooley	Dine Care	No
Thomas Singer	Western Environmental Law Center	No
Mike Eisenfeld	San Juan Citizens Alliance	No
Sarah White	Interested Public	No
Kyle Tisdale	Western Environmental Law	No
Samantha Ruscavage-Barz	WildEarth Guardians	No
Tim Ream	WildEarth Guradians	No
Victoria Gutierrez	Interested Public	No
Pete Drokers	Earthworks	No
Jeremy Nichols	WildEarth Guardians	No
Anson Wright	Chaco Alliance	No
Bruce Baizel	Earthworks	No
Tweetie Blancett	Interested Public	No
Lori Goodman	Dine Care	No
Penny Anderson	Western Resource Advocates	No
Samuel Sage	Counselor Chapter – Navajo Nation	No
Don Schrieber	Interested Public	No
Miya King-Flaherty	Sierra Club	No
	Nageezi Chapter- Navajo Nation	No
James Murphy	Resident	Yes
Harrilene Yazzie	Bureau of Indian Affairs	No

The BLM fulfills its responsibilities under the National Historic Preservation Act (NHPA) through a number of agreements. The National Programmatic Agreement (NPA 2012) between the BLM, Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers (NCSHPO) allows the agency to fulfill its NHPA responsibilities according to the provisions of the NPA in lieu of 36 CFR 800.3 through 800.7 regulations. The NPA, which applies to all BLM activities below specified thresholds, provides among other things, regulatory relief in many instances from the requirement for case-by-case review by State Historic Preservation Officers (SHPOs) and the ACHP, in exchange for managers' maintenance of appropriate staff capability and observance of internal BLM standards as set out in the 8100 Manual series.

The New Mexico BLM has a two-party protocol with the New Mexico SHPO (BLM-SHPO 2014) specifically encouraged by the NPA. This protocol details how the New Mexico BLM and SHPO will regulate their relationship and consult. Specifically, this document outlines among other things, how and when consultation will be conducted between the BLM, SHPO, Tribes, and the public. The protocol also outlines when case-by-case SHPO consultation is or is not required for specific undertakings and the procedures for evaluating the effects of common types of undertakings and resolving adverse effects to historic properties. These common types of undertakings regularly include the common actions undertaken in the BLM FFO.

BIA Compliance with the National Historic Preservation Act (NHPA) on Navajo trust lands is adhered to by making the final decisions and issuing final notices to proceed with undertakings based on Navajo Nation Historic Preservation Department (NNHPD) review and recommendations to the BIA-NRO Regional Director.

4.2. List of Preparers

This EA was prepared by EIS in conformance with the standards of and under the direction of the BLM-FFO. The following individuals assisted in the preparation of this EA:

- Roger Herrera, Environmental Protection Specialist - BLM-FFO
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- Jim Copeland, Archaeologist – BLM-FFO
- John Kendall, Wildlife Management Biologist – BLM-FFO
- Doug Mckim, Outdoor Recreation Planner - BLM-FFO
- Jeff Tafoya, Rangeland Management Specialist – BLM-FFO
- Heather Perry, Natural Resource Specialist – BLM-FFO
- Craig Willems, Environmental Protection Specialist – BLM-FFO
- Fred Harden – La Plata Archaeological Consultants
- Mindy Paulek, Senior Biologist – Energy Inspection Services
- Casey Haga, Biologist – Energy Inspection Services

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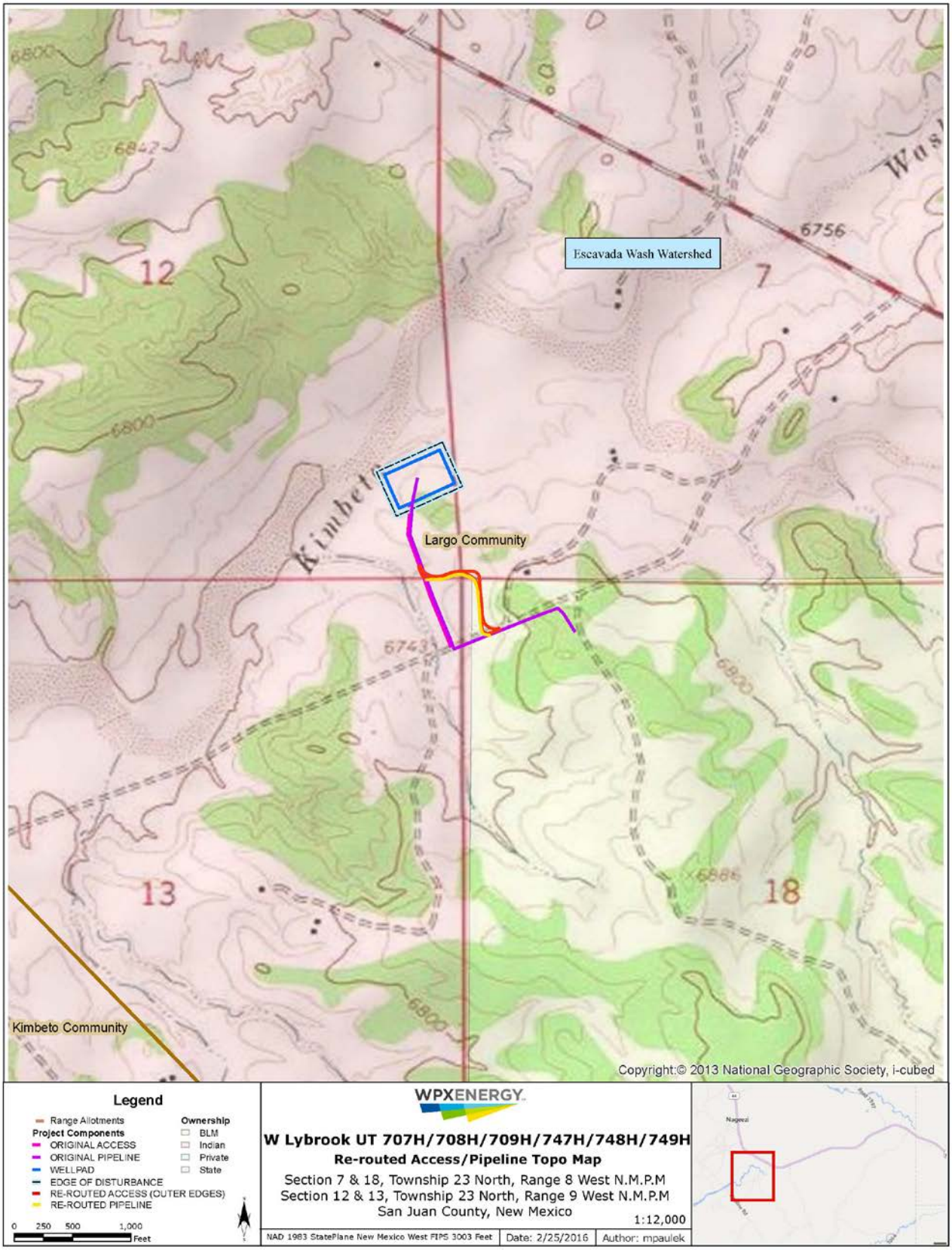
APPENDIX A. MAPS



Legend

Project Components
- Range Allotments
- ORIGINAL ACCESS
- ORIGINAL PIPELINE
- WELLPAD
- EDGE OF DISTURBANCE
- RE-ROUTED ACCESS (OUTER EDGES)
- RE-ROUTED PIPELINE

Ownership
- BLM
- Indian
- Private
- State

0 250 500 1,000 Feet

WPXENERGY

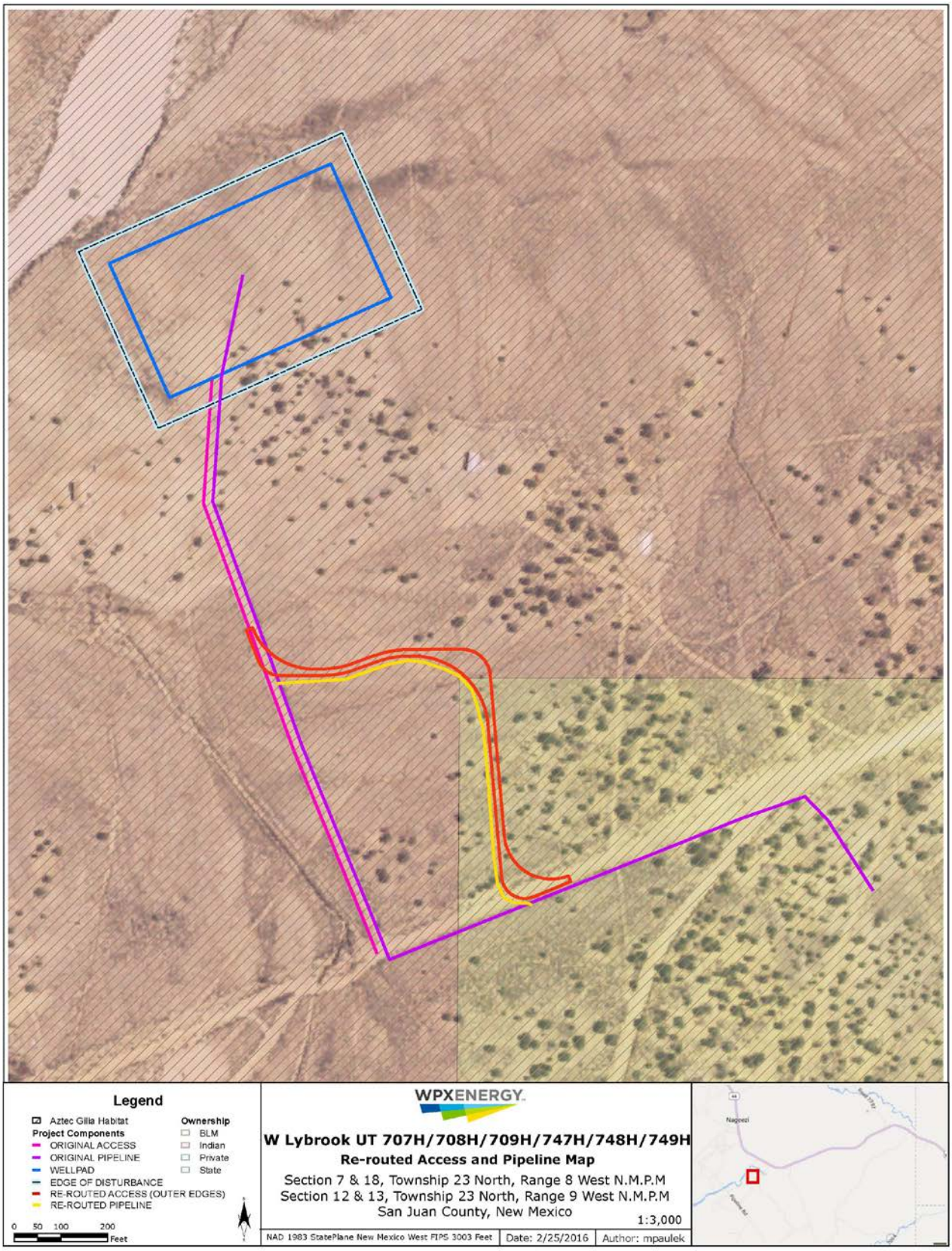
W Lybrook UT 707H/708H/709H/747H/748H/749H

Re-routed Access/Pipeline Topo Map

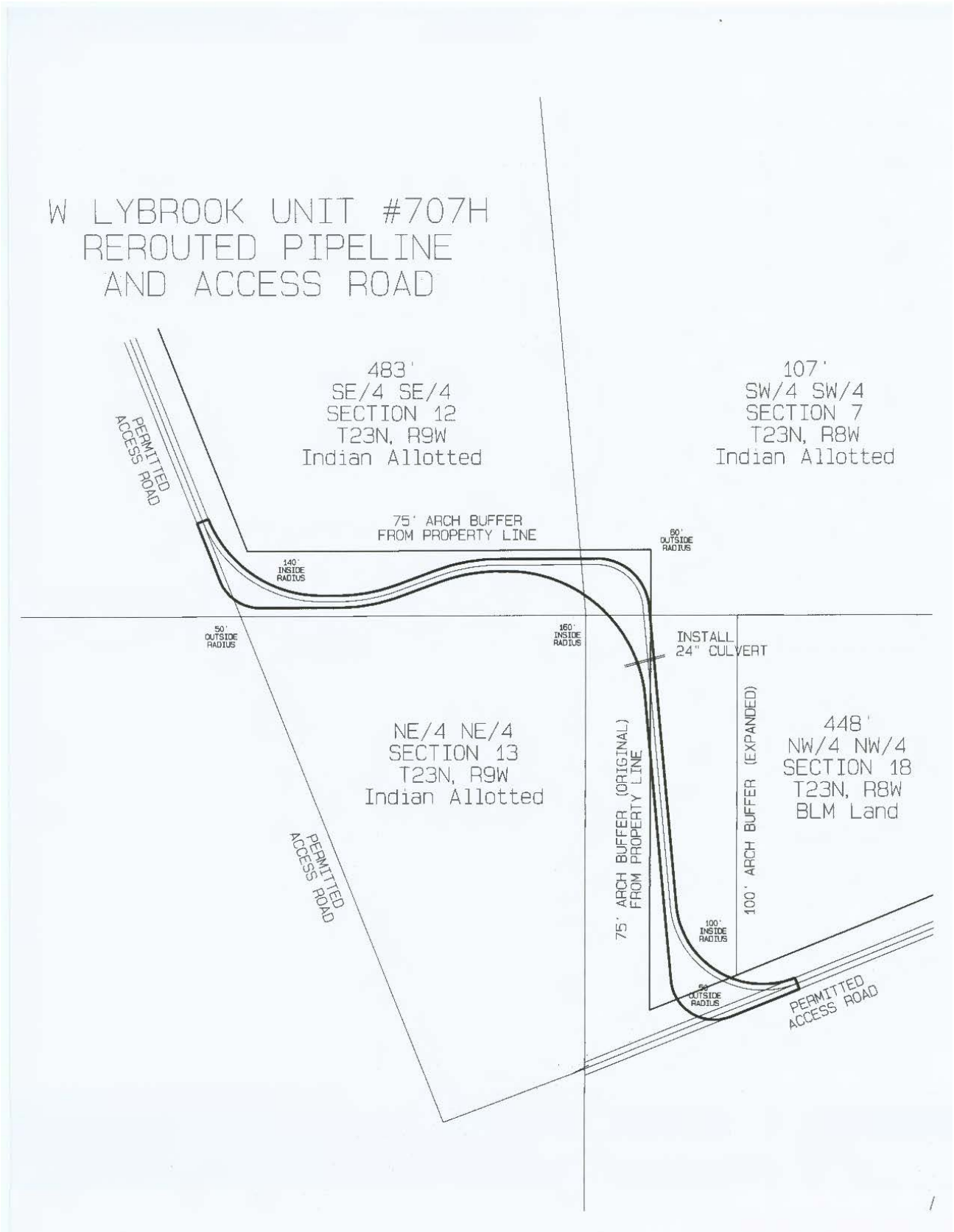
Section 7 & 18, Township 23 North, Range 8 West N.M.P.M
Section 12 & 13, Township 23 North, Range 9 West N.M.P.M
San Juan County, New Mexico

1:12,000

NAD 1983 StatePlane New Mexico West FIPS 3003 Feet | Date: 2/25/2016 | Author: mpaulek


Legend
Aztec Gilia Habitat
Project Components
ORIGINAL ACCESS
ORIGINAL PIPELINE
WELLPAD
EDGE OF DISTURBANCE
RE-ROUTED ACCESS (OUTER EDGES)
RE-ROUTED PIPELINE
Ownership
BLM
Indian
Private
State
0 50 100 200
Feet
WPXENERGY
W Lybrook UT 707H/708H/709H/747H/748H/749H
Re-routed Access and Pipeline Map
Section 7 & 18, Township 23 North, Range 8 West N.M.P.M
Section 12 & 13, Township 23 North, Range 9 West N.M.P.M
San Juan County, New Mexico
1:3,000
NAD 1983 StatePlane New Mexico West FIPS 3003 Feet
Date: 2/25/2016
Author: mpaulek
Nageezi

APPENDIX B. TECHNICAL ALIGNMENT DRAWING


W LYBROOK UNIT #707H
REROUTED PIPELINE
AND ACCESS ROAD
483'
SE/4 SE/4
SECTION 12
T23N, R9W
Indian Allotted
107'
SW/4 SW/4
SECTION 7
T23N, R8W
Indian Allotted
PERMITTED ACCESS ROAD
75' ARCH BUFFER FROM PROPERTY LINE
90' OUTSIDE RADIUS
140' INSIDE RADIUS
50' OUTSIDE RADIUS
160' INSIDE RADIUS
INSTALL 24" CULVERT
NE/4 NE/4
SECTION 13
T23N, R9W
Indian Allotted
448'
NW/4 NW/4
SECTION 18
T23N, R8W
BLM Land
75' ARCH BUFFER (ORIGINAL) FROM PROPERTY LINE
100' ARCH BUFFER (EXPANDED)
100' INSIDE RADIUS
90' OUTSIDE RADIUS
PERMITTED ACCESS ROAD
PERMITTED ACCESS ROAD

APPENDIX C. BIOLOGICAL SURVEY REPORT

APPENDIX D. PHOTOGRAPHS

Figure 1. Pre-disturbance photograph looking North from the take off point of the proposed access/pipeline re-route

Figure 2. Pre-disturbance photograph looking North-northwest at the crossing from BLM lands to Navajo Indian Allotted land

Figure 3. Pre-disturbance photograph looking East-southeast at the crossing from one Indian Allotment to another Indian Allotment

Figure 4. Pre-disturbance photograph looking east at the end of the proposed access/pipeline re-route where it intersects of with an existing road

APPENDIX E. SURFACE RECLAMATION PLAN