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05 March 2017

Federal Minor NSR Permit Coordinator
US EPA, Region 6
1445 Ross Ave., Suite 1200
Dallas, Texas 75202

Re: Lindrith Compressor Station, Minor Modification of Permit Number R6NM-03-R1
Lindrith, Rio Arriba County, New Mexico

Sir or Madam:

Whitenton Group, Inc. (WGI) Environmental Consultants was contracted to assist with completing the Evaluation of Threatened and Endangered Species and Historic Properties Form in support of the minor modification of Permit Number R6NM-03-R1 for the Lindrith Compressor Station in Lindrith, Rio Arriba County, New Mexico. The signed evaluation form is enclosed.

WGI determined the Lindrith Compressor Station proposed minor modifications qualified for Criterion A for Threatened or Endangered Species, based on the instructions provided in Appendix A of the evaluation form. In support of this finding, WGI has provided a Biological Assessment. The Biological Assessment was originally written in support of a previous permit modification in 2013. The results of the original field surveys in 2013 are still valid as the Lindrith Station has undergone no physical modifications since the 2013 field survey. WGI updated the Biological Assessment with project information provided by Enterprise in support of this evaluation. As the Biological Assessment demonstrates, no threatened or endangered species potential habitat or designated critical habitat was identified within the Action Area for this project. A copy of the Biological Assessment is enclosed for your review.

WGI determined the Lindrith Compressor Station's proposed minor modifications qualified for "No historic properties affected" for Historic Properties, based on the instructions provided in Appendix B of the evaluation form. The proposed modification

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is limited to increased throughput within existing infrastructure. No construction or other physical modification to the existing infrastructure is proposed. The increased throughput will result in an increase in condensate truck traffic; however, the truck traffic increase will utilize existing roadways. Since no earth disturbance is proposed, the project qualifies for "No historic properties affected". In support of this finding, a Cultural Resources Archival Review is enclosed, which demonstrates that no previously recorded cultural resource sites are within or immediately adjacent to the Lindrith Station, based on a search of the New Mexico Historic Preservation Division's Archaeological Records Management Section's online database.

Enclosed are the Evaluation of Threatened and Endangered Species and Historic Properties Form, the Biological Assessment, and the Cultural Resources Archival Review. Please do not hesitate to call me at 512.353.3344, if you have any questions or need additional information.

Sincerely,

Jayme Shiner Jecker PWS
Senior Ecologist, Vice President

Enclosures (3)

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Horizon™
Environmental Services, Inc.

May 5, 2017

Mr. Scott Jecker CWB, PWS
Whitenton Group, Inc., Environmental Consultants
3413 Hunter Road
San Marcos, Texas 78666
swjecker@whitentongroup.com

Re: Cultural Resources Archival Review
Proposed Lindrith Pumping Station Project
Rio Arriba County, New Mexico
HJN 110012.958 AR

Dear Scott,

Horizon Environmental Services, Inc. (Horizon) has completed the requested cultural resources archival review of the proposed Lindrith Pumping Station project in Rio Arriba County, New Mexico. The results are presented below.

Desktop archival research was conducted via the New Mexico Historic Preservation Division's (HPD) Archaeological Records Management Section's (ARMS) *New Mexico Cultural Resource Information System* (NMCRIS) online database of areas included within a 1.0-mile radius of the proposed project site. This research indicated the presence of 3 previously recorded archeological sites within 1.0 mile of the proposed project site (Table 1). No cemeteries or historic properties listed on the National Register of Historic Places (NRHP) are located within the archival review area. None of the previously recorded sites is located within or immediately adjacent to the Lindrith Pumping Station.

Several small cultural resources surveys have been conducted in the past within the archival search radius, though none of these surveys covered the Lindrith Pumping Station or immediately surrounding area.

In northern New Mexico, prehistoric archeological sites are commonly found in upland areas, along canyons, on alluvial terraces near stream and river channels, and historic-age sites may occur in virtually any physiographic environment. The proposed project area is situated in a dissected lowland setting near the confluence of the Cañada Larga and Escrito Canyon. Several ephemeral drainages traverse the larger archival study area, draining toward the northwest. Based on the physiographic setting, it is Horizon's opinion that there exists a moderate potential for previously unrecorded aboriginal cultural resources to exist within the study area.

Regarding historic-age resources, the Lindrith Pumping Station itself is shown on the 1965 US Geological Survey Tafoya Canyon, New Mexico, topographic quadrangle, which suggests that there may be standing structures or engineering features of historic age on the facility and in the surrounding area.

According to Section 106, 36 CFR §800, of the National Historic Preservation Act (NHPA) of 1966, if any federal agency permits, federal loans, or loan guarantees are required for the construction of the gathering line, efforts to identify and/or assess potential impacts to cultural resources may be required by permitting agencies. In addition, if the proposed ROW crosses any federal lands, such as lands owned and administered by the US Bureau of Land Management (BLM), the land-owning federal agency may require efforts to identify and assess potential impacts to cultural resources. Furthermore, as the project area is situated on the Jicarilla Apache Indian Reservation, any federal undertakings would require consultation with the Jicarilla Apache.

In addition, if the project is being sponsored by a political subdivision of the state, such as a city, county, or municipal utility district, or crosses any state-owned lands, the project would fall under the jurisdiction of the New Mexico Cultural Properties Act (Sections 18-6 through 8-6-23, NMSA 1978), as amended, and the Prehistoric and Historic Sites Preservation Act of 1989 (Sections 18-8-1 through 18-8-8, NMSA 1978), and efforts to identify and/or assess potential impacts to cultural resources may be required by the New Mexico HPD and the State Archeologist.

Should you have any questions, please do not hesitate to call me at (512) 328-2430.

Sincerely,

Jesse Owens, MA, RPA
Archeological Principal Investigator
Horizon Environmental Services, Inc.

References:

New Mexico Cultural Resource Information System. New Mexico Historic Preservation Division, Archaeological Records Management Section. <https://nmcris.dca.state.nm.us/NMCRISCTA/>. Accessed May 5, 2017.

Table 1. Previously Recorded Cultural Sites within 1.0 Mile of APE

Site Trinomial, Cemetery, or Historic Property	Site Type	NRHP Eligibility Status[1]	Distance/Direction from Centerline	Potential for Direct Impacts?[2]
157229	Historic-age trading post (mid-19th to mid-20th centuries)	Determined eligible	1.0 mile northwest	No
164401	Unknown site type	Undetermined	0.2 mile south	No
181273	Historic-age artifact scatter (early 19th century to modern)	Undetermined	0.8 mile northeast	No

[1] *Determined eligible/ineligible* = Site determined eligible/ineligible by SHPO
Recommended eligible/eligible = Site recommended as eligible/ineligible by site recorder and/or sponsoring agency but eligibility has not been determined by SHPO
Undetermined = Eligibility not assessed or no information available

NRHP National Register of Historic Places

SHPO State Historic Preservation Office

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Biological Assessment

Lindrith Compressor Station Project

Rio Arriba County, New Mexico

Prepared for

Enterprise Field Services, LLC

Prepared by

Whitenton Group, Inc.

July 2013
Revised October 2014
Updated May 2017

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Biological Assessment
Lindrith Compressor Station Project
Rio Arriba County, New Mexico

Prepared for
Enterprise Field Services, LLC
Lindrith, Rio Arriba County, New Mexico

Prepared by

Whitenton Group, Inc.
3413 Hunter Road
San Marcos, Texas 78666

WGI Project No. 1305 and 17306

July 2013
Revised October 2014
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WHITENTON group environmental consultants

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ACRONYMS AND ABBREVIATIONS

AHPS	Advanced Hydrologic Prediction Service
BA	Biological Assessment

CFR	Code of Federal Regulations
Ecosphere	Ecosphere Environmental Services
Enterprise	Enterprise Field Services, LLC
ESA	Endangered Species Act
EPA	Environmental Protection Agency
ISA	Integrated Science Assessment
LSHE	Listed Species Habitat Evaluation
NAAQS	National Ambient Air Quality Standards
NCDC	National Climatic Data Center
NHNM	Natural Heritage New Mexico
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
NWI	National Wetland Inventory
NRCS	Natural Resources Conservation Service
PSD	Prevention of Significant Deterioration
US	United States
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VOC	Volatile Organic Compound
WGI	Whitenton Group, Inc.

1.0 EXECUTIVE SUMMARY

Enterprise Field Services, LLC (Enterprise) currently operates a natural gas facility, known as the Lindrith Compressor Station, on the Jicarilla Apache Nation Lands in Rio Arriba County, New Mexico. Lindrith Station is located approximately 19 miles west of Lindrith, New Mexico. In December 1994, El Paso Natural Gas, the owner of the facility at the time, replaced three existing

compressor engines and downsized an existing glycol dehydration system. In 2007-2008, Enterprise, who had become owner of the Lindrith Station, replaced two engines at the station. In the May 2008 Title V permit revision application for the Lindrith Station, Enterprise proposed to install a vapor recovery unit. In April/May 2009, Enterprise proposed to replace three existing condensate tanks at the station with eight new tanks. Enterprise experienced significant operating issues with the new modifications and changed operations at the station to virtually eliminate condensate emissions. The final discharge stream was rerouted to the Chaco Station.

Enterprise is currently applying for a minor permit modification to Permit Number R6NM-03-R1 issued on November 4, 2015. Enterprise is seeking to increase condensate throughput within the existing facility resulting in an increase of volatile organic compound (VOC) emission units. No physical changes to the Lindrith Station will be required. This facility is currently and will remain a minor New Source Review source.

Since the Project Area is located within Jicarilla Apache Nation land, the Environmental Protection Agency (EPA) recommended a Biological Assessment (BA) be completed in support of the original permit application issued in 2015. This BA has been updated in support of the 2017 application for minor modification to Lindrith Station.

A BA was completed to evaluate the potential environmental effects of the existing project on federally-listed species and/or their potential habitat. Federally-listed species evaluated in this BA document include federally threatened, endangered, and candidate species. The BA included field surveys and an evaluation of potential environmental effects based on operations information and stormwater and wastewater information provided by Enterprise. No new construction or modifications are proposed at this time. Therefore, the BA is based on existing conditions.

The Project Area is based on the property boundary leased by Enterprise and includes the existing Lindrith Compressor Station and undeveloped land. No construction activities are proposed and no new earth disturbances will occur within in the 45-acre Project Area.

Federally-listed species considered in this BA include the Mexican spotted owl, Jemez Mountains salamander, least tern, southwestern willow flycatcher, Canada lynx, yellow-billed cuckoo, and New Mexico meadow jumping mouse. The Listed Species Habitat Evaluation (LSHE) field survey was conducted by Ecosphere Environmental Services (Ecosphere) within a one-mile radius of the Project Area. The LSHE included a pedestrian survey of the Project Area plus a 100-foot buffer

around the site, and a windshield survey of accessible habitats within a one-mile radius of the Project Area. Data were collected to describe resident vegetation communities and to assess the potential for occurrence of listed species.

The radius of the Action Area was determined based on guidance from the EPA. The Action Area has radius of 1 mile and includes four observed habitat types: grassland, mixed woodland, scrubland, and riparian. The habitats observed within the Action Area do not possess characteristics that are known to support any of the 7 federally-listed species considered in this BA. Per EPA guidance, threatened or endangered species habitat was not observed within a 1-mile radius of the Project Area; therefore, dispersion modeling was not included in the BA.

Based on the background research and the effects determinations described in Section 9.0 of this document, the Lindrith Compressor Station project will likely have no direct or indirect impact on federally-listed threatened or endangered species habitat.

Based on the information gathered for this BA, Whitenton Group, Inc. (WGI) biologists recommend that a finding of no effect be accepted for the following federally-listed threatened and endangered species: Mexican spotted owl, least tern, yellow-billed cuckoo, southwestern willow flycatcher, Canada lynx, New Mexico meadow jumping mouse, and Jemez Mountains salamander.

2.0 INTRODUCTION

Enterprise currently operates a natural gas facility, known as the Lindrith Compressor Station, on the Jicarilla Apache Nation Lands in Rio Arriba County, New Mexico. The Lindrith Compressor Station is a gas gathering compressor station. Information on modifications to the station, if any, prior to December 1994, is not readily available.

In December 1994, El Paso Natural Gas, the owner of the facility at the time, submitted a letter to EPA Region 6 with proposed modifications to the station, which included the replacement of three existing compressor engines and the downsizing of an existing glycol dehydration system. These modifications resulted in significant emission reductions. In August 1996, El Paso Field Services submitted a permit application to EPA to up rate the three existing engines at the station

and to increase the natural gas processing rate. These modifications would have likely resulted in a net emissions increase for select pollutants.

In April 2007, Enterprise, who had become owner of the Lindrith Station, submitted notification to the EPA notifying them of a "like kind" replacement of Engine A-03 at the station. In March 2008, Enterprise submitted notification to the EPA notifying them of a "like kind" replacement of Engine A-02 at the station. In the May 2008 Title V permit revision application for the Lindrith Station, Enterprise proposed to install a vapor recovery unit. In April/May 2009, Enterprise proposed to replace three existing condensate tanks at the station with eight new tanks. Enterprise also installed three new drain tanks, a new sump tank, a stabilizer unit, and a loading rack for condensate. Vapor from the stabilizer was to be routed to the compressor suction inlet and stabilized condensate was to be routed to the condensate tanks.

After implementing the tank replacements and associated changes, Enterprise encountered significant operating issues with the vapor recovery unit and stabilizer that were intended to recover VOCs from the condensate. Shortly thereafter, Enterprise changed operations at the station to virtually eliminate condensate emissions. The final discharge stream consisting of hydrocarbon liquids and vapors was rerouted past the discharge contact scrubbers and sent via pipeline to the Chaco Station 42 miles downstream for processing.

Enterprise is proposing to increase the allowable emission rate for the following emission units:

1. Increase the annual throughput for condensate tank battery from 20,000 barrels per year to 60,000 barrels per year;

2. Increase truck loading emissions from 20,000 barrels per year to 60,000 barrels per year to accommodate the increased throughput;

3. Increase Maintenance, Startup, and Shutdown emissions to accommodate the increase in the natural gas VOC content.

The proposed change in gas composition will add 72.98 tons per year of VOCs to the facility. This facility is and will remain a minor New Source Review source.

The project is located on Jicarilla Apache Nation land, approximately 19 miles west of Lindrith, New Mexico (Figure 1 - Appendix A). Since the Project Area is located within Jicarilla Apache

Nation land, the EPA recommended a BA be completed in support of the original permit application issued in 2015. This BA has been updated in support of the 2017 application for minor modification to Lindrith Station.

Listed species evaluated in this document include threatened, endangered, and candidate species. Federal agency regulations for listed species evaluated in this BA are described in Section 4.0. The purpose of this BA is to research, evaluate, analyze, and document the potential for direct and indirect effects, interdependent and interrelated actions, and cumulative effects on federally-listed species as a result of the existing Lindrith Compressor Station.

The Project Area is based on the property boundary leased by Enterprise and includes the existing Lindrith Compressor Station and undeveloped land. No construction activities are proposed and no new earth disturbances will occur within in the 45-acre Project Area. The radius of the Action Area was determined based on guidance from the EPA. The Action Area has radius of 1 mile.

This BA includes a listed species habitat evaluation of the Project Area, a windshield survey of all observable and accessible habitats within the Action Area, and an evaluation of potential effects based on operations information and stormwater and wastewater information provided by Enterprise. Per EPA guidance, threatened or endangered species habitat was not observed within the Action Area; therefore, dispersion modeling was not included in the BA.

Based on the review and analyses conducted in this BA, one of the following three "determinations of effect" on federally-listed endangered and threatened species and their habitats was recommended: "no effect," "may affect, not likely to adversely affect," or "may affect, likely to adversely affect." Each of these three possible determinations is described in Section 4.1. Species listed as proposed endangered will be treated as a listed endangered species for the purpose of this BA. No recommended determination of effect will be included for species listed as candidate.

3.0 ACTION AREA

The BA process requires identification of the project's "Action Area" within which the potential for effects on federally-listed species and their habitats are to be evaluated. "Action Area" is defined in 50 Code of Federal Regulations (CFR) Section 402.02 as "all areas to be affected directly

or indirectly by the Federal action and not merely the immediate area involved in the action." The radius of the Action Area was determined based on guidance from the EPA. Since no new construction is proposed, the facility is a minor New Source Review source, and the requested permit modification is minor, the Action Area with a radius of 1 mile was determined to be appropriate for due diligence. The limits of the Action Area were determined based on the Project Area footprint and a 1-mile radius around the Project Area.

This Action Area was utilized to analyze the potential effects to listed species and/or their habitat by the project and is demonstrated in Figures 2-5 (Appendix A). The results of the analysis of potential impacts to federally-listed species are presented in Section 9.0 below.

4.0 AGENCY REGULATIONS

4.1 ENDANGERED SPECIES ACT

The United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration - National Marine Fisheries Service (NOAA-NMFS) implement the Endangered Species Act (ESA) of 1973. "The purpose of the ESA is to protect and recover imperiled species and the ecosystems on which they depend." Imperiled species specifically includes those listed by the USFWS as threatened or endangered[1]. Candidate species are those "the USFWS has enough information to warrant proposing them for listing but is precluded from doing so by higher listing priorities[2]." Candidate species are not specifically protected by the ESA, but were evaluated in this BA.

Section 9 of the ESA prohibits the "take" of threatened and endangered species. "Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering[3]."

BAs include one of three recommended determinations of effect on federally-listed endangered and threatened and their habitat: "no effect," "may affect, not likely to adversely affect," or "may affect, likely to adversely affect." These three possible determinations, in accordance with

guidance offered by the USFWS for the purpose of Biological Assessments and Evaluations, are summarized below[4]. Species listed as proposed endangered will be treated as a listed endangered species for the purpose of this BA. A recommended determination of effects is not provided for candidate species.

1. No effect – A "no effect" determination means that there are absolutely no effects from the proposed action, positive or negative, to listed species. A "no effect" determination does not include effects that are insignificant (small in size), discountable (extremely unlikely to occur), or beneficial. "No effect" determinations do not require written concurrence from the Service unless the National Environmental Policy Act analysis is an Environmental Impact Statement.

2. May affect, not likely to adversely affect – A "may affect, not likely to adversely affect" determination may be reached for a proposed action where all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat (i.e., there cannot be a "balancing," where the benefits of the proposed action would be expected to outweigh the adverse effects – see below). Insignificant effects relate to the size of the effects and should not reach the scale where take occurs. Discountable effects are those that are extremely unlikely to occur. This conclusion is usually reached through the informal consultation process, and written concurrence from the Service exempts the proposed action from formal consultation.

3. May affect, likely to adversely affect - A "may affect, likely to adversely affect" determination means that all adverse effects cannot be avoided. A combination of beneficial and adverse effects is still "likely to adversely affect" even if the net effect is neutral or positive. Section 7 of the Endangered Species Act require that the federal action agency request initiation of formal consultation with the USFWS when a "may affect, likely to adversely affect" determination is made.

4.2 CLEAN AIR ACT REGULATIONS AND STANDARDS

The Clean Air Act requires air quality standards be maintained to protect public health and the environment. These standards are the National Ambient Air Quality Standards (NAAQS) and are regulated by the EPA. Ambient air is the air to which the general public has access, as opposed to air within the boundaries of an industrial facility. The NAAQS are concentration limits of pollutants in ambient air over a specific averaging time. The NAAQS are classified into two categories: primary and secondary standards. Primary standards are set to protect public health, including "sensitive" populations. Secondary standards are set to protect public welfare, including the environment[5].

The EPA has established NAAQS for six air pollutants, which are commonly referred to as "criteria pollutants". These six criteria pollutants are nitrogen oxides, ozone, sulfur oxides, particulate matter, carbon monoxide, and lead[5]. A geographic area whose ambient air concentration for a criteria pollutant is equal to or less than the primary standard is an attainment area. A geographic area with an ambient air concentration greater than the primary standard is a nonattainment area. A geographic area will have a separate designation for each criteria pollutant[6].

5.0 PROJECT DESCRIPTION

5.1 PROJECT PURPOSE AND LOCATION

The purpose of the project is to increase the condensate throughput for the existing Enterprise Lindrith Compressor Station, a natural gas compression and transmission facility with pressurized natural gas as its principal product. A process flow diagram for the existing station is provided as Figure 4-1 (Appendix B).

The project is located on the west side of the Jicarilla Apache Nation land, Rio Arriba County, New Mexico approximately 19 miles west of Lindrith, New Mexico (Figure 1 - Appendix A).

Project location information:

USGS Quad	Latitude/Longitude

Tafoya Canyon	36.310046, -107.396227

5.2 OPERATION AND MAINTENANCE INFORMATION

5.2.1 OPERATION DESCRIPTION

The existing Lindrith Compressor Station is a natural gas compressor station consisting of inlet separation, natural gas dehydration and gas. This station is also a transmission facility with pressurized natural gas as its principal product.

Natural gas from surrounding wells is received at the station via pipeline. The gas is routed to the Inlet Separator where liquids (condensate) are separated from the gas stream and routed to the condensate storage tanks. The gas then enters one of the three two-stage compressors. The compressors are driven by three 3,267-horsepower gas-fired engines.

The compressors previously discharged the natural gas to the Gas Cooler and then to the Discharge Scrubber Vessel where most of the condensate liquids were removed and routed to the condensate storage tanks in the Tank Battery. The Discharge Scrubber Vessel has been removed and the compressed gas now enters the pipeline directly from the compressor discharge. This process change significantly reduced the amount of VOC emissions from the condensate tanks. The hydrocarbon liquids are transported by truck. The compressed natural gas is transported by existing pipeline.

A simplified process flow diagram for the station described above is included as Figure 1 (Appendix B).

The maximum operating schedule is 24 hours per day, 7 days per week, and 52 weeks per year. Three personnel are required for operation.

5.2.2 WATER USE

No raw water is required to operate the Lindrith Compressor Station.

5.2.3 WASTEWATER

The Lindrith Compressor Station produces no wastewater.

5.2.4 STORMWATER

The Project Area is flat and the nearest waterbody is approximately 1 mile from the Project Area. Stormwater is expected to evaporate or be absorbed into the soil before it reaches any waterbodies.

Erosion and sedimentation controls will be utilized during operation as needed in accordance with Section 401 of the Clean Water Act.

5.2.5 OPERATION NOISE LEVELS

Project engineers estimate that noise levels during operation should be comparable to noise levels from operation and maintenance activities that currently take place at the Lindrith Compressor Station.

6.0 BACKGROUND INFORMATION

6.1 GENERAL ENVIRONMENTAL INFORMATION

This section provides applicable environmental characteristics for the general region in which the project is located.

6.1.1 GENERAL REGION INFORMATION

The Project Area is located in the Arizona/New Mexico Plateau ecoregion of New Mexico[7] which is in the Navajo section physiographic province of North America[8]. The area in which the project is located is typical for the Arizona/New Mexico Plateau ecoregion.

This region borders the Western Cordillera within the state of New Mexico. The Project Area is located on an alluvial fan between the confluence of the Cañada Larga River and the Cañon Largo River[9]. The general area is within the transition zone between the North American deserts and the forested mountains of the Southern Rockies. These ecosystems are home to an abundance of wildlife[10].

The Arizona/New Mexico Plateau ecoregion comprises the majority of the northwest corner of New Mexico and the northeast corner of Arizona. Due to rugged topography and arid climate, development has occurred primarily in valleys and along stream terraces. Although agricultural

practices are difficult, oil and gas activities associated with the Mancos shale play have prospered in the region[10].

The project is located in Rio Arriba County, which is in northern New Mexico on the Colorado state border.

6.1.2 LAND USE

The rugged and arid landscape of the San Juan Basin in the western part of Rio Arriba County was utilized for crop cultivation using techniques adapted to the dry environment of the region. Crop cultivation gave way to ranching and grazing when the area experienced oil and gas production development. The eastern part of the county has seen a rise and decline in timber and mining operations[10].

Based on the background review, the land use within the Project Area is currently industrial development. The remainder of the Action Area is mostly undeveloped.

6.1.3 CLIMATE

The climate station Lindrith 2 SE, New Mexico reports mean monthly temperatures that range from an average minimum of 11.5°F in January to an average maximum of 85.9°F in July. Average annual snowfall is 59.9 inches and average annual precipitation is 14.64 inches[11].

At the time of the background review in April 2013, the US Drought Monitor[12] indicated the Action Area is experiencing D2 Drought - Severe conditions. According to the National Weather Service/Advanced Hydrologic Prediction Service (NWS/AHPS), the area received approximately 0.01-0.25 inches of rain within the 30 days prior to the background review, 0.25-1.25 inches below normal[13].

The NOAA – National Climatic Data Center (NCDC) Palmer Hydrological Drought Index[14] reported results for Rio Arriba County and the State of New Mexico are shown in Table 1 below.

Table 1. Palmer Hydrological Drought Index Comparative Summary for January[14]

Year	Rio Arriba County	New Mexico
2005	mid-range	mid-range to extremely moist
2006	mid-range	moderate drought to mid-range

2007	mid-range	mid-range to extremely moist
2008	mid-range	mid-range to moderately moist
2009	mid-range	mid-range
2010	mid-range	moderate drought to mid-range
2011	mid-range	moderate drought to mid-range
2012	mid-range	extreme drought to mid-range

The NOAA – NCDC Palmer Hydrological Drought Index indicates that Rio Arriba County has not been impacted by significant drought conditions in the past eight years, while the majority of New Mexico has been impacted by significant drought conditions for four out of the past eight years. The watershed that contributes to the water resources in Rio Arriba County, New Mexico have not been impacted by significant drought over the past eight years; however at the time of the background review, the area was experiencing drought conditions[14].

6.1.4 TOPOGRAPHY

Rio Arriba County has rugged and varying terrain, with elevations ranging from 5,000-13,064 feet above sea level[10]. The topography of the project area is flat with an approximate elevation of 6,500 feet above sea level[15] (Figure 3 – Appendix A).

There is no available Federal Emergency Management Agency floodplain data for the Jicarilla Apache Nation tribal lands.

6.1.5 GEOLOGY

The predominant geologic formations found in the region are the Nacimiento Formation and the San Jose Formation of the Tertiary Period[16].

The geologic unit found within and surrounding the Project Area is listed and described below in Table 2.

Table 2. Geologic Units Summary[17]

Map Unit	Unit Name and Description	Rock Types
Tsj	San Jose Formation	Sandstone, shale, variegated shale

6.1.6 SOILS

The general soil composition found surrounding the Project Area consist of highly disturbed, gray sandy loam alluvium that is deep, and well drained[9].

The Natural Resource Conservation Service (NRCS) soil units mapped within and surrounding the Action Area are listed and described in Table 3 (Appendix C).

6.1.7 WATER RESOURCES

Rio Arriba County is arid with limited water resources. High mountain snows might be the single most important natural resource in the county acting as the primary water source for streams and replenishment of alluvial aquifers and acequias. Acequias are piping systems that deliver water for agricultural and domestic use. They are critical to irrigated lands providing water flow infrastructure from natural streams and also contribute to aquifer recharge, which is an important hydrologic function for maintaining water supply to domestic wells[10].

The San Juan River basin and the Blanco Canon watershed contribute water resources to the region of the Project Area. Other watersheds that contribute water resources into the adjacent areas are the Upper San Juan and the Rio Chama[18].

Water resources in the Action Area potentially include wetlands and streams. The Cañada Larga is approximately 1 mile north of the Project Area and the Cañon Largo is approximately 1 mile to the west. According to the USFWS National Wetland Inventory (NWI), various wetlands are associated with these streams[19].

The NWI data within and immediately adjacent to, the Project Area is demonstrated in Figure 4 (Appendix A)[19].

6.1.8 VEGETATION

The Near-Rockies Valleys and Mesas ecoregion consists primarily of piñon-juniper woodland and juniper savanna[7]. Lower elevation sagebrush-grassland mesas are dominated by an overstory of big sagebrush (*Artemisia tridentata*) and grassy understory consisting primarily of blue grama

(*Bouteloua gracilis*)[20]. Riparian vegetation in Rio Arriba County includes cotton wood (*Populus* spp.), willow (*Salix* spp.), and oak (*Quercus* spp.)[10].

6.2 FEDERALLY-LISTED SPECIES

6.2.1 CANDIDATE, THREATENED, OR ENDANGERED SPECIES LIST

The USFWS maintains a list of federally-listed species by county in New Mexico. Table 4 is a list of federal candidate, threatened, and endangered species with the potential to occur in Rio Arriba County according to the USFWS[21]. For the purposes of this BA, federally-listed species mentioned by this agency will be discussed. State-listed species are not included in this report.

According to the USFWS, there is no designated critical habitat for any of the federally-listed threatened and endangered species within at least 40 miles of the Action Area[22].

Table 4. Federally Listed Candidate, Threatened or Endangered Species for Rio Arriba County, New Mexico[21]

Common Name	Scientific Name	Species Group	USFWS List Status*
Mexican spotted owl	*Strix occidentalis lucida*	birds	T
least tern	*Sterna antillarum*	birds	E
southwestern willow flycatcher	*Empidonax traillii extimus*	birds	E
Canada lynx	*Lynx canadensis*	mammals	T
Jemez Mountains salamander	*Plethodon neomexicanus*	amphibians	E
yellow-billed cuckoo	*Coccyzus americanus*	birds	T
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	mammal	E

*E - Endangered, EXPN – Experimental Population (Non-Essential), T - Threatened, C - Candidate

6.2.2 THREATENED OR ENDANGERED SPECIES DESCRIPTIONS

A brief description of these species and their habitat requirements are included below.

Mexican Spotted Owl

Mexican spotted owl is a nocturnal carnivore and ranks among the largest owls in North America. These owls have dark eyes; white and brown spots on the abdomen, back, and head; and thin white bands on a brown tail. Overall, the Mexican spotted owl appears chestnut brown. They have an average height of 16-19 inches and an average length of 17 inches. Mexican spotted owls are a perch-and-dive predator typically feed on small to medium sized rodents, bats, birds, reptiles, and arthropods[23].

Nesting and roosting primarily occurs in closed-canopy forests and rocky canyons. Mexican spotted owls will utilize caves, cliff edges, tree cavities, or stick nests built by other birds for nest sites. The Douglas fir is the most common nest tree. Mating season is from February to March. One to three eggs are laid per clutch during March or April. Owlets usually disperse by early October[23].

Mexican spotted owls typically inhabitat mature, old-growth forests of white pine (*Pinus strobus*), Douglas fir (*Pseudotsuga menziesii*), and ponderosa pine (*Pinus ponderosa*); steep slopes; and canyons with rocky cliffs. They prefer high, closed canopies at an elevation of 5,000-7,000 feet. The understory often contains the above coniferous species as well as maple (*Acer* spp.), boxelder (*Acer negundo*), Gambel oak (*Quercus gambelii*), and New Mexico locust (*Robinia neomexicana*). Little is known about the preferred foraging habitat. These owls reportedly use a wider variety of forest conditions for foraging than roosting[23].

Least Tern

Interior least terns are small migratory birds, measuring about 8-9.5 inches long with a 20 inch wingspan. Sexes appear similar; with a black-capped crown, white forehead, grayish back and dorsal wing surface, white undersurface, legs are a variation of orange and yellow colors depending on the sex, and a black-tipped bill whose color also varies depending on sex[24].

Nesting habitat typically includes bare sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs[25]. Sand and gravel bars within wide unobstructed river channels or open flats along shorelines of lakes and reservoirs are favorable nesting areas. Man-made sites, such as ash disposal areas, may

also be used if preferred nesting habitat has become scarce. Interior least terns nest in colonies at locations that are usually at higher elevations away from the water's edge. This is a result of high water flow with little exposure of sandy areas when nesting begins. The size of nesting areas depends on water levels and the extent of associated sandbars[25]. Interior least terns typically begin laying eggs in late May with females laying 2-3 eggs. Both parents incubate the eggs, lasting approximately 20-22 days[25]. Breeding season is usually complete by late August[25].

Least terns are piscivorous, feeding in shallow waters of rivers, streams and lakes. Least terns may also feed on crustaceans, insects, mollusks and annelids. Fishing typically occurs close to the riverine colony; however terns nesting at sand and gravel pits and other artificial habitats may fly up to 2 miles to fish[24].

Historically, the birds nested throughout the inland river systems of the United States and wintered along the Central American coast and the northern coast of South America from Venezuela to northeastern Brazil[25]. Today, the interior least tern can be found on most major river systems in the US, but restricted to river segments that are less disturbed[25].

Southwestern Willow Flycatcher

The Southwestern Willow Flycatcher is a subspecies of the willow flycatcher. It is an olive-gray bird about 5.75 inches long with a white throat and a yellow-gray rump. It is generally paler than other species of willow flycatchers. These birds feed on insects in multilayered riparian zones. They forage above and within the canopy, along the patch edge, in openings within the forest, above water, and glean from tall trees or herbaceous ground cover[26].

The Southwestern willow flycatcher breeds in late spring in Arizona, New Mexico, southern California, southern Nevada and Utah, and possibly western Texas. Three to four eggs are laid in late May or early June with the young fledging in early July. The birds winter in the rainforests of Mexico, Central America, and northern South America[26].

The flycatcher breeds in patchy to dense riparian areas along streams or other wetlands, close to surface water or underlain by saturated soil. They are primarily found in lower elevation riparian areas but can occur from near sea level to nearly 8500 feet. Common

vegetation in nesting habitat includes willow, baccharis (*Baccharis* spp.), box elder, stinging nettle (*Urtica* spp.), blackberry (*Rubus* spp.), cottonwood (*Populus* spp.), arrowweed (*Tessaria sericea*), salt cedar (*Tamarix ramosissima*), and Russian olive (*Eleagnus angustifolia*). Nesting habitat ranges from 6-98 feet in thickets of trees and shrubs. At higher elevations, lower stature thickets (6.5-13 feet) are preferred, while at lower and middle elevations tall stature habitats in riparian forests are preferred. Typical nest sites have dense foliage from the ground level up to approximately 13 feet above ground, although dense foliage may exist only at the shrub level or as a low dense canopy. Typical nest sites have a dense canopy, but nests may also be found in a tree at the edge of a habitat patch with sparse canopy cover[26, 27].

Jemez Mountains Salamander

The Jemez Mountains salamander is one of only two salamander species in the Jemez Mountains. This salamander has a slender body up to 4.5 inches in length and short limbs. Adults are brown with brass-colored flecks while the tail and throat are lighter in color. Approximately 19 distinct grooves line the side of the salamander's moist body[28]. This salamander routinely feeds on insects and small invertebrates such as mites and spiders[28].

The Jemez Mountians salamander mates from July through August with development of eggs between then and the following spring. Females yield eggs every other year and they are thought to be laid underground and begin hatching in July[28].

Distribution of this species has been limited to localities in the Jemez Mountains found in Sandoval, Los Alamos, and Rio Arriba Counities[28]. This salamander prefers shady, wooded areas with an elevation of 7,500-9,500 feet. Presence of fallen trees in coniferous forests, stabilized talus slopes, and a cover of damp soil and plant debris contribute to ideal habitat for this species[28].

Canada Lynx

The Canada lynx is a medium-sized cat about 30-35 inches in length. It has long legs, black-tipped tail and large feet for traversing snow covered ground. Adult males weigh 22 pounds on average while adult females are slightly smaller. In the United States, the Canada lynx inhabits conifer-hardwood forests that support snowshoe hares, its primary

prey. Snowshoe hare require dense, horizontal vegetative cover 3-10 feet above ground or snow level[29].

The home range for a single lynx can be from 12-83 square miles. Consequently, a population of lynx requires large boreal forest habitat including appropriate forest types, snow depths, and high densities of snowshoe hare[29].

Distribution of Canada lynx in North America is correlated with distribution of boreal forest. The southernmost extent of habitat in the United States includes the northern and southern Rockies and the northern Cascade Mountains. In these areas, the boreal forest habitat transitions into other vegetation communities and becomes more fragmented, resulting in fewer snowshoe hares and lower densities of lynx[29].

Canada lynx numbers in the contiguous United States are believed to be influenced by population dynamics in Canada. Emigration from Canadian populations suggests the importance of maintaining connectivity of boreal habitat to ensure continued population health for Canada lynx in the United States[29].

Yellow-billed Cuckoo

The yellow-billed cuckoo is a slender, elusive bird up to 12.5 inches in length and a wingspan of approximately 17 inches. The lower bill is yellow with a black upper bill curving slightly downward. The head, neck, and back are brown with white belly, breast, and chin. There are two columns of white spots on the underside of the tail. The feet have two toes that face forward and two toes that face behind the bird[30].

Yellow-billed cuckoos mate with one partner per year. Eggs are laid when insects and other prey are most abundant. A greater abundance of prey results in higher yields of eggs. Prey consists of insects, bird eggs, snails, small frogs, lizards, and berries[30].

The yellow-billed cuckoo prefer habitat of riparian corridors, open woodlands with dense undergrowth, overgrown orchards and pastures, moist thickets or willow groves along stream banks. They range from South America, through Central America, and into North America. Winters are spent in South America and summers are spent in North America[30].

New Mexico Meadow Jumping Mouse

The New Mexico meadow jumping mouse is a 7-10 inch long, generally nocturnal rodent with a tail that comprises most of the mouse's total length. It has a grey to brown back and yellow to brown under parts[31]. This mouse has long, well developed hind legs that contribute to its exceptional jumping ability[32].

The New Mexico meadow jumping mouse hibernates 8 months out of the year beginning around October and lasting until May. During this time the mouse relies on accumulated fat reserves stored during the growing season. Its diet consists of seeds, fruits, and insects[32].

This subspecies of jumping mouse occurs nowhere outside of New Mexico, Arizona, and southern Colorado. This mouse is a habitat specialist, nesting in dry soils, but requiring persistent emergent herbaceous wetlands and scrub shrub wetland at elevations of about 8,000 feet. It especially prefers microhabitats of tall dense sedges with moist soil along permanent waters. It can maintain a home range of 0.37 to 2.7 acres[31].

6.2.4 NEW MEXICO BIOTICS DATABASE RESULTS

A records review of the New Mexico Biotics Database was completed for the Action Area and surrounding areas by the Natural Heritage New Mexico (NHNM) on June 7, 2013. No element of occurrence is located within at least 2 miles of the Action Area[33].

7.0 LISTED SPECIES HABITAT EVALUATION

Ecosphere completed a LSHE on April 29, 2013 to determine if habitat within the Action Area was likely to support any of the federally-listed species potentially occurring in Rio Arriba County. The field surveys included a pedestrian survey of the facility plus a 100-foot buffer around the perimeter. The field surveys also included a windshield survey of all observable and accessible habitats within the Action Area. Data were collected to describe water sources, prominent topographic features such as cliffs or slickrock, wetlands, suitable species habitat and the potential for occurrence of listed species. All plant and wildlife species and signs of wildlife observed during the survey were recorded and photographed. The dominant habitats observed within the

Action Area are described below and demonstrated in Figure 5 (Appendix A). Photographs of the Action Area are included as Appendix D.

7.1 PLANT COMMUNITIES OBSERVED

The dominant habitats observed in the areas surrounding the Action Area include: grassland, mixed woodland, scrubland, and riparian.

Grassland – This habitat is comprised of sagebrush grasslands that occur on the valley sides below rocky outcrops and above the major drainages. The community type is dominated by big sagebrush, with an understory mostly of blue grama and galleta (*Pleuraphis jamesii*).

Mixed woodland – This habitat is comprised of piñon-juniper woodlands containing piñon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*). This habitat is primarily located on the side slopes and tops of rocky ridges and mesas in the Action Area. Mixed in the woodland are a few scattered ponderosa pine trees on cooler aspects. Generally, the woodland understory in the Action Area is minimal and constrained by the amount of sandstone outcrops and rock litter.

Scrubland – Sagebrush grasslands in the Action Area grade into salt desert scrubland depending on elevation, soil type, and proximity to drainages. The salt desert scrubland community type contains greasewood (*Sarcobatus vermiculatus*), broom snakeweed (*Gutierrezia sarothrae*), and Russian thistle (*Salsola tragus*).

Riparian – This habitat is comprised of patchy areas of arroyo riparian vegetation found along intermittently dry creeks. The arroyos in this area contain thin, linear disjunct patches of saltcedar, rubber rabbitbrush (*Ericameria nauseosa*), saltgrass (*Distichlis spicata*), and common reed (*Phragmites australis*).

7.2 LISTED SPECIES HABITAT ANALYSIS

No mixed conifer forests suitable for Mexican spotted owl are present in the Action Area. In addition to lacking coniferous forest, the Action Area does not contain the preferred rock substrate for the Jemez Mountains salamander.

No boreal or montane forests providing suitable habitat for Canada lynx are located within the Action Area.

No mixed riparian forests with dense understory suitable for the yellow-billed cuckoo exist in the Action Area.

The mountainous areas with dry soil and riparian vegetation preferred by the meadow jumping mouse were not observed within the Action Area.

Riparian habitat is present in Cañon Largo and Cañada Larga. The riparian habitat consists of patches of shrub and herbaceous plant communities. These streams lack perennial flow. Suitable habitat for the southwestern yellow flycatcher is not present due to the lack of perennial flow and size, structure, and density of riparian vegetation.

The least tern is restricted to environments with perennial water sources. There are no environments with perennial water sources in the Action Area.

8.0 AIR QUALITY ANALYSIS

Enterprise completed detailed pollutant emission calculations for the project in connection with its Prevention of Significant Deterioration (PSD) permit amendment[34]. The Emission Point Summary in Appendix E was provided in the application that Enterprise submitted to the EPA for the Lindrith Station's PSD permit amendment.

Per EPA guidance, threatened or endangered species habitat was not observed within the Action Area; therefore, dispersion modeling information was not included in the BA.

The Action Area is described in Section 3.0 and is shown in Figures 2-5 (Appendix A). The Action Area has a radius of approximately 1 mile and includes four observed habitat types: grassland, mixed woodland, scrubland, and riparian. None of the habitat types present within the Action Area is expected to be routinely utilized by federally threatened or endangered species.

9.0 EFFECTS OF THE PROPOSED ACTION

This section presents the results of the analysis of potential effects on federally-listed species as a result of the project. The following potential effects sources are included in the analysis: air quality, water quality, noise pollution, infrastructure-related disturbance, human-related disturbance, and federally-listed species effects. This analysis is based on total emissions data provided by Enterprise, background review and field survey data collected by WGI and Ecosphere, and literature review and research of potential effects of known pollutants on flora and fauna.

9.1 AIR QUALITY EFFECTS

9.1.1 EMISSIONS

Enterprise completed detailed emission calculations for the Lindrith Compressor Station project in accordance with the Air Permit amendment requirements[34]. An emission point summary is provided as Appendix E.

Enterprise currently utilizes control technology and/or lowest achievable emission rate technology as applicable to control emissions from the project and thus minimize impacts to the surrounding environment to the maximum extent practicable.

The project will require an increase in condensate truck use. The emissions are included in the emission point summary and are a component of a minor modification. Emissions resulting from gasoline and diesel-fueled vehicles and equipment during operation and maintenance are considered negligible.

9.1.2 FUGITIVE DUST

No construction activities are proposed for the Lindrith Compressor Station at this time. Fugitive dust emissions will increase with the increase in condensate truck traffic. Since the increase in truck traffic will be minimal, the area has limited development, and no additional projects are planned at this time, fugitive dust emission increase during operation and maintenance are considered negligible.

9.1.3 IMPACTS OF AIR EMISSIONS ON FLORA AND FAUNA

The current secondary NAAQS provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings[5]. Air pollution effects vary greatly between regions due to differences in biota, climate, geochemistry, and hydrology. Because of this variation, models were developed by the EPA and were based on ecosystems that are considered the most sensitive to nitrogen and/or sulfur deposition effects. For more information regarding these case studies and analysis, refer to the EPA's Risk and Exposure Assessment for Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur[35]. For the purposes of this BA, the most conservative and appropriate information was used to analyze potential impacts within the Action Area.

There is sufficient evidence to infer a causal link between nitrogen/sulfur deposition and the resulting acidification and its effects on biota[36]. The data presented in Table 5 below is taken directly from EPA's Integrated Science Assessment (ISA) for Oxides of Nitrogen and Sulfur detailing select exposure rates and related ecological effects. Nitrogen and sulfur deposition may adversely affect aquatic and terrestrial nutrient balances, acidification, availability of methyl mercury, and net primary production. This may result in declines in species fitness and richness, changes in species competition, increased susceptibility to stress/disease, habitat degradation, alterations to fire regimes, et cetera.

Table 5. Relationships Between Deposition Levels and Ecological Effects[36]

Kg Nitrogen/Hectare/Year	Ecological Effect
~1.5	Altered diatom communities in high elevation freshwater lakes and elevated nitrogen in tree leaf tissue high elevation forests in the western U.S.
3.1	Decline of some lichen species in the western U.S.
4	Altered growth and coverage of alpine plant species in the western U.S.
5	Onset of decline of species richness in grasslands of the U.S. and U.K.
5.5-10	Onset of nitrate leaching in Eastern forests of the U.S.
5-10	Multiple effects in tundra, bogs, and freshwater lakes in Europe
5-15	Multiple effects in arctic, alpine, subalpine and scrub habitats in Europe

The current secondary NAAQS were largely based on the data and models presented in the EPA's ISA and Risk and Assessment publication seeking to minimize these impacts. Since the project will remain below the PSD threshold, the project concentrations are expected to have no significant impact on flora or fauna.

9.2 WATER QUALITY EFFECTS

9.2.1 WASTEWATER AND STORMWATER

Erosion and sedimentation controls will be utilized as needed to protect water quality during the operation of the Lindrith Compressor Station. The Project Area is flat and the nearest waterbody is approximately 1 mile from the Project Area. Stormwater is expected to evaporate or be absorbed into the soil before it reaches any waterbodies. No effects to federally-listed species are anticipated as a result of non-contact, non-point source stormwater from the project.

The Lindrith Compressor Station does not produce any wastewater. No effects to federally-listed species are anticipated as a result of wastewater from the project.

9.3 NOISE EFFECTS

No changes to the compressor station are proposed; therefore, the noise levels currently being emitted by the project will not change.

No noise effects to federally-listed species are expected as a result of the operation of the project.

9.4 INFRASTRUCTURE-RELATED EFFECTS

The Project Area is currently industrial infrastructure for the existing Lindrith Compressor Station, the majority of which is concrete, caliche, or asphalt. No federally-listed species habitat was observed within the Project Area. No impacts to federally-listed species as a result of the infrastructure of the Lindrith Compressor Station are anticipated.

9.5 HUMAN ACTIVITY EFFECTS

Operation of the Lindrith Compressor Station will not require additional human activity atypical of maintenance activities that have historically occurred at the station.

No additional effects to federally-listed species are expected as a result of human activity associated with the Lindrith Compressor Station.

9.6 FEDERALLY-LISTED SPECIES EFFECTS

9.6.1 FEDERALLY-LISTED SPECIES

9.6.1.1 Mexican Spotted Owl

Potential to Occur in the Action Area

Mexican spotted owls are associated with deep, cool canyons where they nest at 5,000-7,000 feet in elevation. Typically, they inhabit mature, old-growth forests of white pine, Douglas fir, and ponderosa pine where water is readily available. Roosting and nesting habitat is characterized by the presence of large trees, uneven-aged tree stands, moderate to high canopy closure, and downed logs or snags[37]. Foraging habitat encompasses a wide variety of forest conditions, canyons, and riparian areas.

No habitat with the potential to support the Mexican spotted owl was observed within the Action Area. The nearest critical habitat for the Mexican spotted owl is approximately 21 miles northeast of the Action Area in Carson National Forest[22]. The closest known record of a Mexican spotted owl is located approximately 170 miles northeast near Pueblo, Colorado in the San Isabel National Forest[38]. The nearest known occurrence last observed in 1993 was in the Carson and Santa Fe National Forests greater than 25 miles to the east and southeast of the Action Area[23].

Mexican spotted owls are not likely to occur within the Action Area for this project.

Potential Effects to Mexican Spotted Owl

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No Mexican spotted owl habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The Mexican spotted owl will not be directly affected by activities associated with the Lindrith Compressor Station project.

Determination of Effect

The proposed action will have no effect on the Mexican spotted owl.

9.6.1.2 Least Tern

Potential to Occur in the Action Area

Least terns feed in shallow waters of rivers, streams and lakes. They nest on sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs. Man-made sites, such as ash disposal areas, may also be used as nesting habitat. Nesting locations are usually at the higher elevations away from the water's edge[25].

No habitat with the potential to support the least tern was observed within the Action Area.

No habitats with the potential to support the least tern are located within at least 50 miles of the Action Area. The USFWS-designated critical habitat for the least tern has not been determined[22]. The closest known record of a least tern is located approximately 53 miles northeast near Farmington, New Mexico on the San Juan River[39].

The least tern is not likely to occur within the Action Area for this project.

Potential Effects to Least Tern

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No least tern habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The least tern will not be directly affected by activities associated with the Lindrith Compressor Station project.

Determination of Effect

The proposed action will have no effect on the least tern.

9.6.1.3 Southwestern Willow Flycatcher

Potential to Occur in the Action Area

The Southwestern willow flycatcher's breeding habitat consists of patchy to dense riparian areas along streams or other wetlands, typically at lower elevation. Nesting habitat is characterized by the presence of willow, baccharis, box elder, stinging nettle, blackberry, cottonwood, arrowweed, saltcedar, and Russian olive. Typical nest sites have dense surrounding foliage and dense canopy cover[40, 27].

No habitat with the potential to support the southwestern willow flycatcher was observed within the Action Area. USFWS-designated critical habitat nearest the project area is located approximately 73 miles east[22]. The closest known observations of southwestern willow flycatcher is located approximately 90 miles east near the Sante Fe National Forest[39].

Southwestern willow flycatcher is not likely to occur within the Action Area for this project.

Potential Effects to Southwestern Willow Flycatcher

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No Southwestern willow flycatcher habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The Southwestern willow flycatcher will not be directly affected by activities associated with the Lindrith Compressor Station project.

Determination of Effect

The proposed action will have no effect on the Southwestern willow flycatcher.

9.6.1.4 Jemez Mountains Salamander

Potential to Occur in the Action Area

The Jemez Mountains salamander is found in mixed conifer forests ranging from 6,998-10,990 feet in elevation. It is typically found underground in moist soils although it does not require standing

water during any life stage. It is restricted to Sandoval, Los Alamos, and Rio Arriba counties, New Mexico around the rim of the collapsed caldera (large volcanic crater)[41].

No habitat with the potential to support the Jemez Mountains salamander was observed within the Project Area.

USFWS proposed critical habitat for the Jemez Mountains salamander is located approximately 42 miles southeast of the Project Area. The closest known observation of the Jemez Mountains salamander is more than 5 miles east of the Project Area in the western Jemez Mountains[41].

The Jemez Mountains salamander is not likely to occur in the Action Area for this project.

Potential Effects to Jemez Mountains Salamander

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No Jemez Mountains salamander habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The Jemez Mountains salamander will not be directly affected by activities associated with the Lindrith Compressor Station project.

Determination of Effect

The proposed action will have no effect on the Jemez Mountains salamander.

9.6.1.5 Canada Lynx

Potential to Occur in the Action Area

Canada lynx occur in boreal, sub-boreal, and western montane forests, consisting of coniferous and mixed-coniferous species. Snowshoe hares are the primary prey of Canada lynx, thus lynx are found in habitats that support snowshoe hares. This includes early successional stages that promote a dense, multi-layered understory for maximum cover and browse opportunities[42].

No habitat with the potential to support the Canada Lynx was observed within the Action Area.

USFWS critical habitat is not yet designated for this species[22]. Although potential habitat for Canada lynx is present within New Mexico, there are no known records of Canada lynx occurring in the state[42].

Canada lynx are not likely to occur with the Action Area for this project.

Potential Effects to Canada Lynx

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No Canada lynx habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The Canada lynx will not be directly affected by activities associated with the Lindrith Compressor Station project.

9.6.1.6 Yellow-billed Cuckoo

Potential to Occur in the Action Area

Potential habitat within the Action Area would be limited to summer (i.e., breeding) habitat. They inhabit open woodlands with dense undergrowth, in overgrown orchards and pastures, or in willow groves and moist thickets along stream banks[30].

No habitat with the potential to support yellow-billed cuckoos was observed within the Action Area. Observed arroyo riparian habitat was a narrow, fragmented corridor dominated by saltcedar and was not suitable for yellow-billed cuckoos.

The closest recorded observation of yellow-billed cuckoos is in Chaco Culture, New Mexico, approximately 35 miles southwest of the Project Area[39].

Yellow-billed cuckoos are unlikely to occur within the Action Area for this project.

Potential Effects to Yellow-billed Cuckoo

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No yellow-billed cuckoo habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The yellow-billed cuckoo will not be directly affected by activities associated with the Lindrith Compressor Station project.

9.6.1.7 New Mexico Meadow Jumping Mouse

Potential to Occur in the Action Area

The New Mexico meadow jumping mouse nests in dry soils but uses moist, streamside, dense riparian/wetland vegetation. It is known only to use persistent emergent herbaceous wetlands and scrub-shrub wetlands. Specifically, it prefers patches of tall dense sedges on moist soil along the edge of permanent water[31].

No habitat with the potential to support the New Mexico meadow jumping mouse was observed within the Action Area. No persistent surface waters were noted in the Action Area.

USFWS critical habitat is not yet designated for this species[22]. The nearest known location for New Mexico jumping was in the Jemez Mountains, approximately 30 miles to the east of the Project Area[43].

New Mexico meadow jumping mice are not likely to occur within the Action Area for this project.

Potential Effects to New Mexico Meadow Jumping Mouse

The New Mexico meadow jumping mouse is not likely to occur within the Action Area for this project.

No new construction is proposed for the Lindrith Compressor Station. The station does not produce wastewater. No New Mexico meadow jumping mouse habitat was observed in the Action Area; therefore, no effects from air emissions are expected.

The New Mexico meadow jumping mouse will not be directly affected by activities associated with the Lindrith Compressor Station project.

10.0 CONCLUSIONS

This section is a summary of WGI's recommended determination of effect for all federally-listed species, a description of any interdependent and interrelated actions, and a description of any anticipated cumulative effects resulting from the project.

10.1 DETERMINATION OF EFFECT

The recommended determinations of effect for all federally-listed species with the potential to occur within habitat located within Rio Arriba County are summarized below in Table 6.

Table 6. Determination of Effect Summary

Federally Listed Species	Determination of Effect
Mexican spotted owl	No Effect
least tern	No Effect
southwestern willow flycatcher	No Effect
yellow-billed cuckoo	No Effect
Canada lynx	No Effect
New Mexico meadow jumping mouse	No Effect
Jemez Mountains salamander	No Effect

10.2 INTERDEPENDENT AND INTERRELATED ACTIONS

No new construction activities are proposed for the Lindrith Compressor Station at this time. Therefore, no additional interdependent or interrelated actions are proposed.

10.3 CUMULATIVE EFFECTS

The project site is located within a remote area with limited development.

WGI is not aware of any projects planned for the areas surrounding the Lindrith Compressor Station at this time.

Since the area has limited development and no additional projects for this area are anticipated, no cumulative effects resulting from the proposed project are anticipated.

10.4 CONSERVATION MEASURES

Enterprise plans to utilize Best Available Control Technology to control the project emissions and thus minimize impacts to the surrounding environment to the maximum extent practicable.

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12.0 LIST OF PREPARERS

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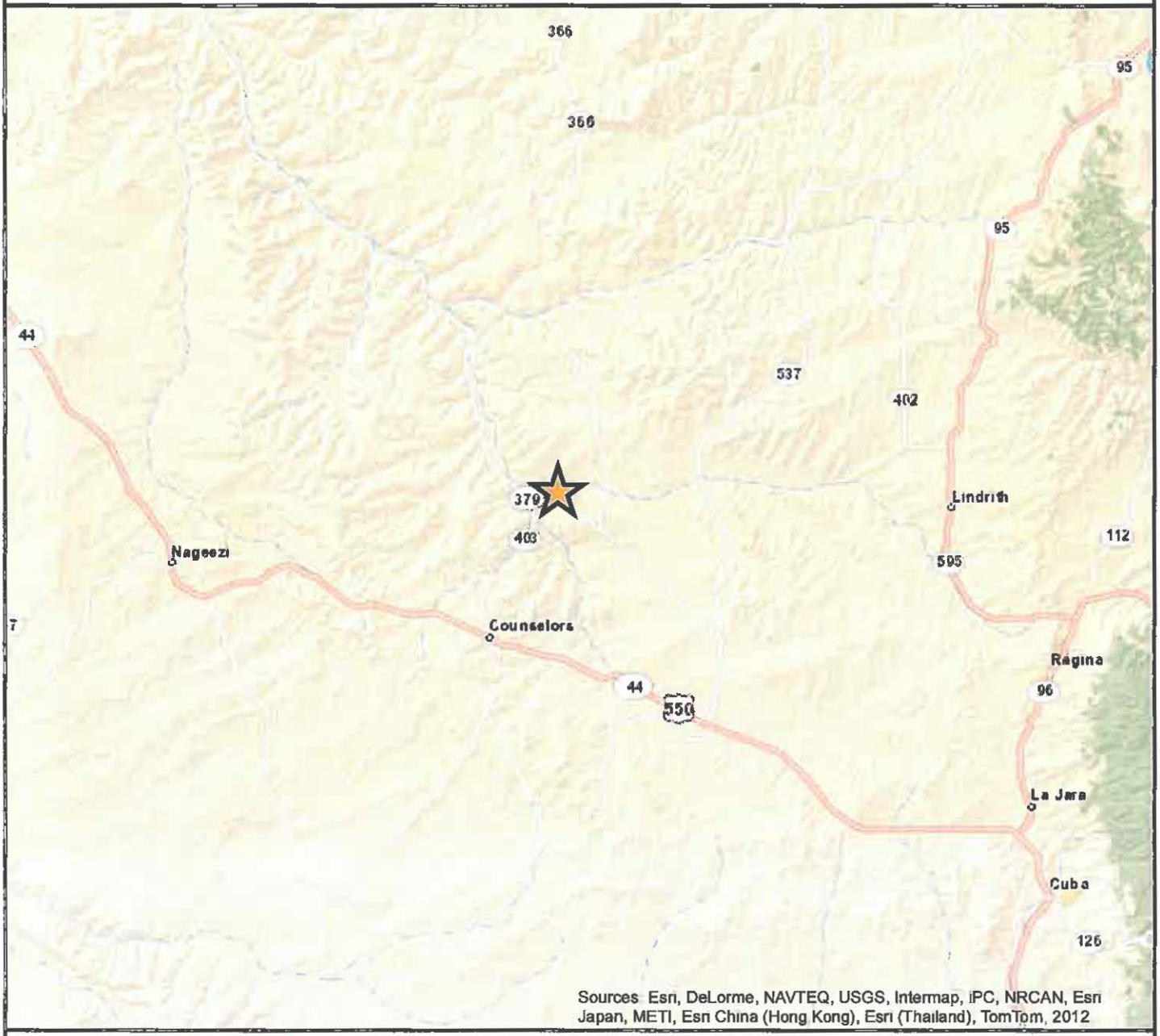
APPENDIX A

FIGURES

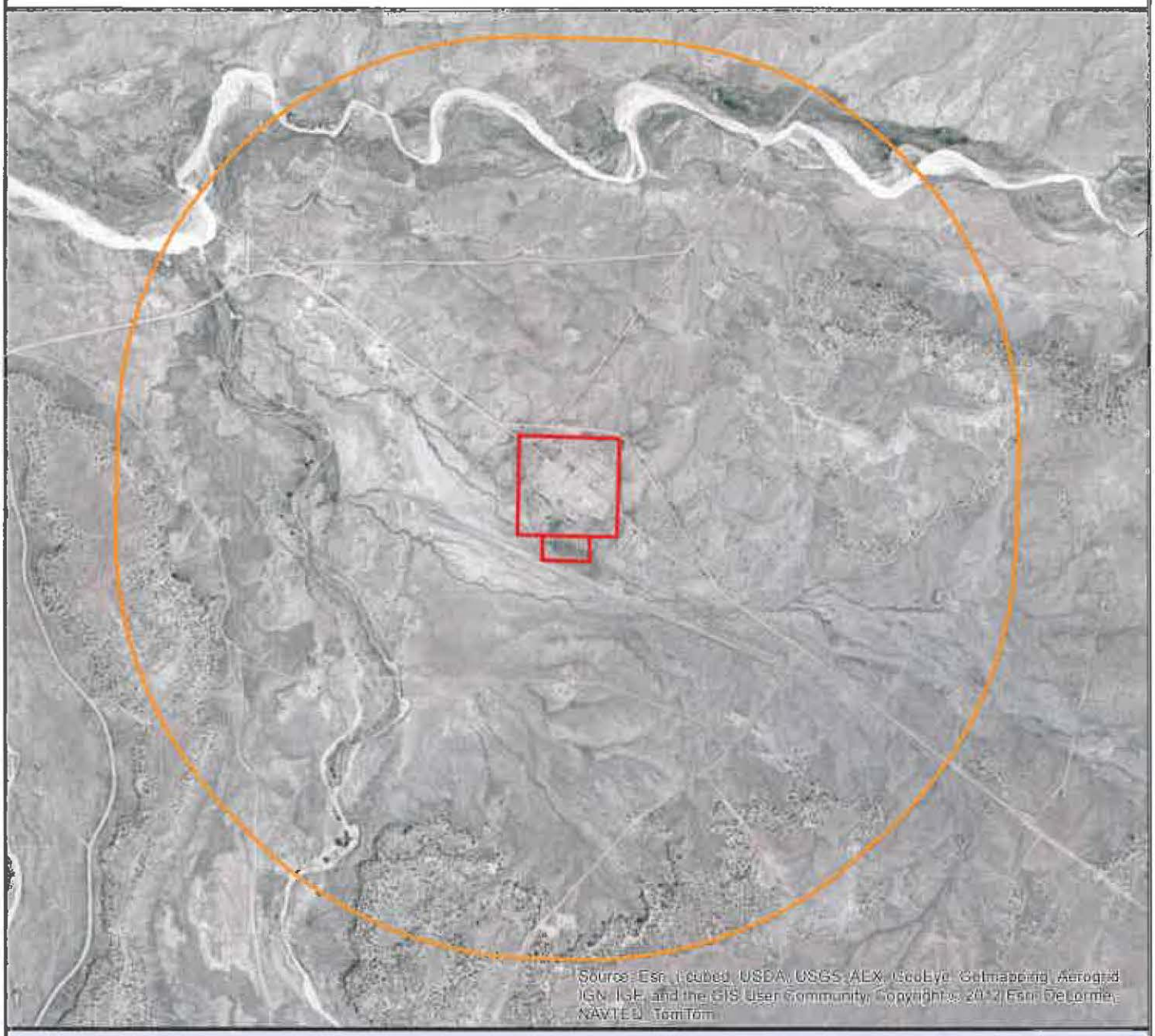
Figure 1
Project Location
Lindrith Compressor Station Project
Rio Arriba County, New Mexico



Project Location

Background Resources: ESRI Streets Basemap	Surveyor(s): Ecosphere Environmental Services	Project Number and Information: 1305 Lindrith Compressor Station Project Biological Assessment	WHITENTON GROUP environmental consultants 3413 Hunter Road San Marcos Texas 78666
GPS and Coordinate Type: UTM NAD 1983 Zone 13 North	Map Created: Mark Pillion 4/13/2013		Miles 0 7.5 15 N

Figure 2
Project and Action Areas - Aerial Imagery
Lindrith Compressor Station Project
Rio Arriba County, New Mexico

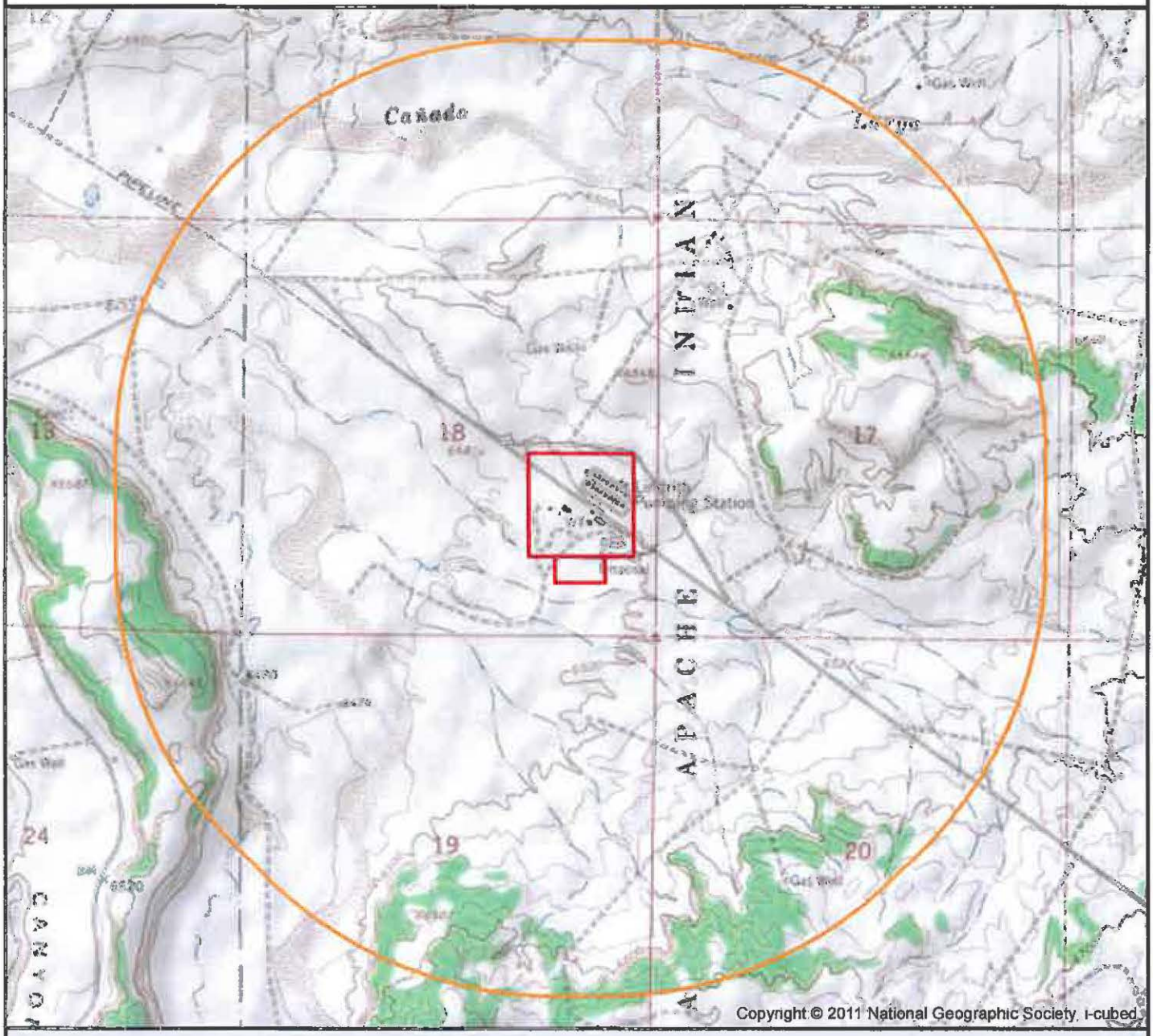


Project Area (~45 Acres)

Action Area (~1 Mile Radius)

Background Resources: Bing Aerial Imagery	Surveyor(s): Ecosphere Environmental Services	Project Number and Information: 1305 Lindrith Compressor Station Biological Assessment	WHITENTON group environmental consultants 3413 Hunter Road San Marcos Texas 78666
GPS and Coordinate Type: UTM NAD 1983 Zone 13 North	Map Created: Mark Pillion 4/13/2013		Feet 0 1,500 3,000

Figure 3
Project and Action Areas - Topographic Map
Lindrith Compressor Station Project
Rio Arriba County, New Mexico

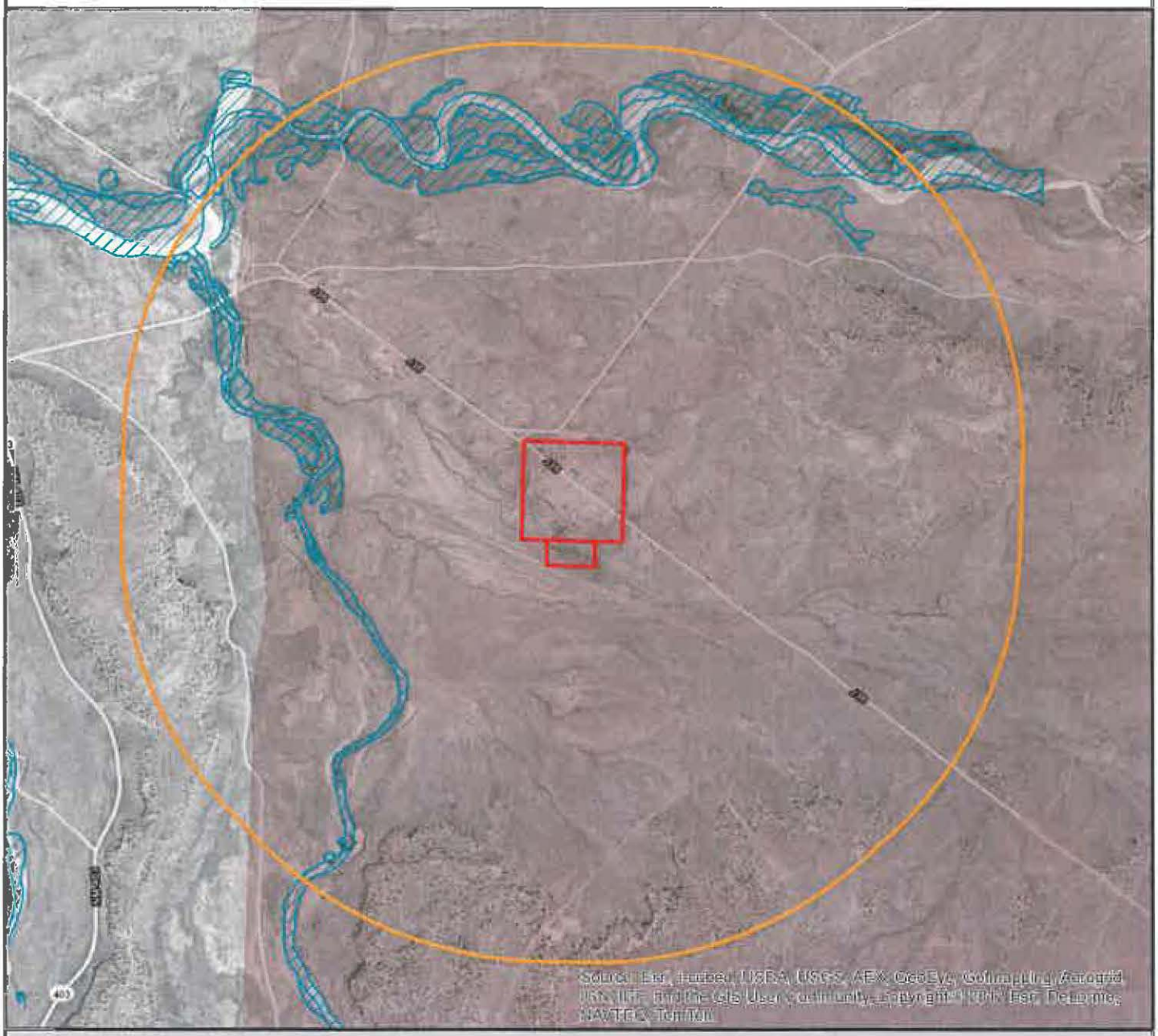


Project Area (~45 Acres)

Action Area (~1 Mile Radius)

Background Resources: National Geographic Society Topographic Basemap by ESRI	Surveyor(s): Ecosphere Environmental Services	Project Number and Information: 1305 Lindrith Compressor Station Biological Assessment	WHITENTON GROUP environmental consultants 3413 Hunter Road San Marcos Texas 78666
GPS and Coordinate Type: UTM NAD 1983 Zone 13 North	Map Created: Mark Pillion 6/10/2013		Feet 0 2,000 4,000 N

Figure 4
National Wetland Inventory Data
Lindrith Compressor Station Project
Rio Arriba County, New Mexico



Project Area

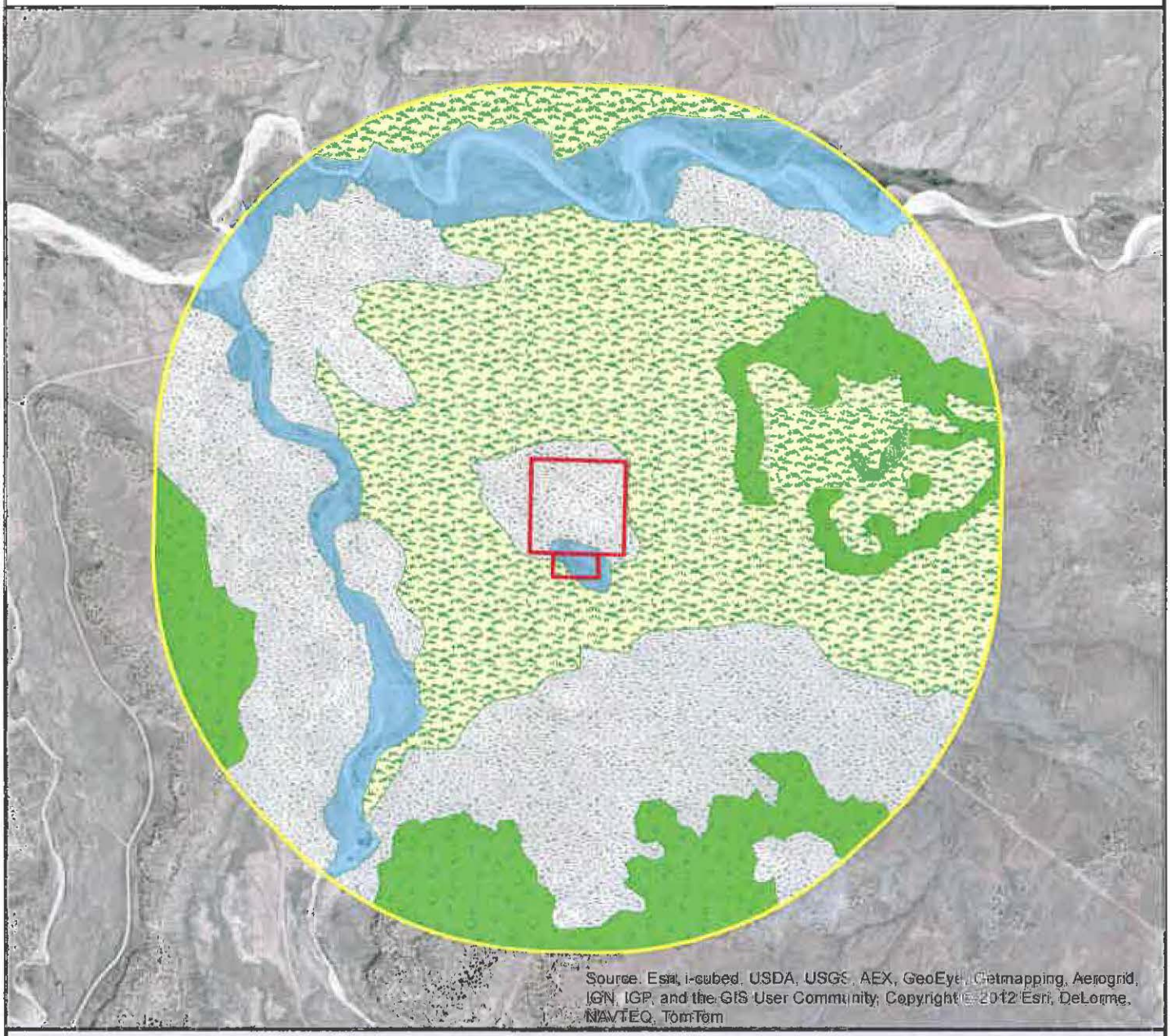
Action Area

NWI Polygon

Jicarilla Apache Land

Background Resources: Bing Aerial Imagery USFWS NWI Data US Census Bureau	Surveyor(s): Ecosphere Environmental Services	Project Number and Information: 1305 Lindrith Compressor Station Biological Assessment	WHITENTON group environmental consultants 3413 Hunter Road San Marcos Texas 78666
GPS and Coordinate Type: UTM NAD 1983 Zone 13 North	Map Created: Mark Pillion 4/13/2013		Feet 0 1,500 3,000 N

Figure 5
Observed Habitats
Lindrith Compressor Station Project
Rio Arriba County, New Mexico



Project Area
Action Area
Sagebrush Grassland
Salt Desert Scrub
Pinion Juniper Woodland
Arroyo Riparian Vegetation

Background Resources: ESRI Aerial Imagery Basemaps	Surveyor(s): Ecosphere Environmental Services	Project Number and Information: 1305 Lindrith Compressor Station Biological Assessment	WHITENTON group environmental consultants 3413 Hunter Road San Marcos Texas 78666
GPS and Coordinate Type: UTM NAD 1983 Zone 13 North	Map Created: 06/20/2013 by: Ecosphere Edited: 06/21/2013 by : M. Pillion	NOTE: Vegetation classes delineated from field note descriptions and aerial photography. Actual vegetation boundaries may vary.	Miles 0 0.25 0.5 N

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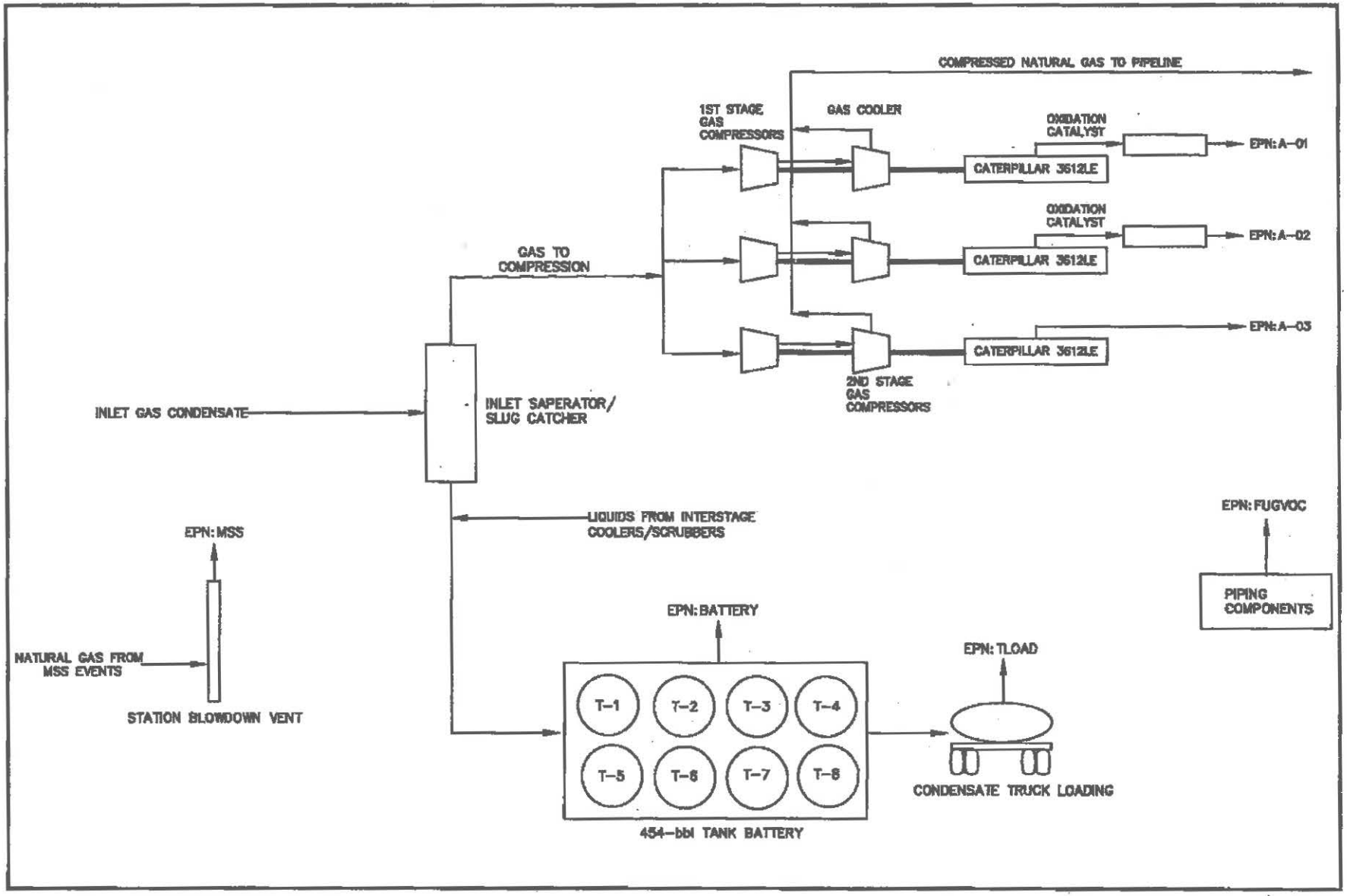
APPENDIX B

FLOW DIAGRAM



PROCESS FLOW DIAGRAM LINDRITH COMPRESSOR STATION ENTERPRISE FIELD SERVICES, LLC 36.31170, -107.08664 LINDRITH, NEW MEXICO			
	Designed By	WY	Date 6/09/16
	Drawn By	WY	6/09/16
	Checked By	LDC	6/10/16
	Approved By	LDC	6/10/16
	PROJECT NO. FLOWDIAGRAM.DWG		
	Figure No. 1		
	Sheet 1 of 1		

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APPENDIX C

TABLE 3

Table 3
NRCS Soils Data

NRCS Map Unit Symbol	NRCS Map Unit Name	NRCS Map Unit Characteristics	USDA Classification				NRCS Hydric Soil
			Depth	Drainage	Permeability	Landform	
Rio Arriba County, New Mexico							
9	Pinavetes-Florita complex	2-10% slopes	very deep	excessively drained	rapid to very rapid	dunes, hills	no
10	Elias-Canyada-Sparank complex	saline, sodic 0-3% slopes	very deep	well drained	moderately slow to moderately rapid	stream terraces	no
13	Doakum-Betonnie fine sandy loams	0-8% slopes	deep and very deep	well drained	moderately rapid to rapid	swales on dunes, knolls	no
32	Doakum very fine sandy loam	1-6% slopes	deep and very deep	well drained	moderately rapid to rapid	plains	no
69	Pinavetes-Florita complex	2-10% slopes	very deep	excessively drained	rapid to very rapid	dunes, fans	no
70	Blancot-Councelor-Tsosie complex	0-5% slopes	very deep	well drained	moderately rapid to rapid	valley sides, drainageways, fans	no

NRCS Map Unit Symbol	NRCS Map Unit Name	NRCS Map Unit Characteristics	USDA Classification				NRCS Hydric Soil
			Depth	Drainage	Permeability	Landform	
Rio Arriba County, New Mexico							
103	Orlie fine sandy loam	1-8% slopes	very deep	well drained	moderately rapid	mesas, fan remnants	no
110	Vessilla-Menefee-Orlie complex	1-30% slopes	very shallow, shallow, and very deep	well drained	very low to moderately rapid	breaks, mesas	no
220	Skyvillage-Eslendo-Rock outcrop complex	3-35% slopes	shallow and very shallow	well drained	very slow to moderately rapid	ridges, knolls, escarpments, breaks	no
240	Riverwash	0-3% slopes	-	-	rapid to very rapid	floodplains, streams	-

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APPENDIX D

PHOTOGRAPHIC LOG

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PHOTOGRAPHIC LOG 1

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: East view of the Lindrith Compressor Station and surrounding scrubland habitat.

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: North view of the Lindrith Compressor Station and surrounding scrubland habitat.

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: South view of the Lindrith Compressor Station and surrounding scrubland habitat.

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PHOTOGRAPHIC LOG 2

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: West view of the Lindrith Compressor Station and surrounding scrubland habitat.

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: Scrubland habitat and distant badlands geomorphology.

Lindrith Compressor Station Project

04/29/2013

Rio Arriba County, New Mexico

View: Scattered Pinyon and Juniper along rocky outcrop.

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APPENDIX E

SUMMARY OF EMISSIONS

Table B-1
Project Emissions Summary (Criteria Pollutants) from Increased Condensate Throughput
Lindrith Compressor Station
Enterprise Field Services LLC

ID	Emissions Source	Description	VOC	HAPs	Condensate Throughput
			tpy	tpy	Bbl/yr
Limits in Current Permit Number R6NM-03-R1					
TBATTERY	Tanks	Condensate Storage	87.39	1.07	20,000
TLOAD	Truck Loading	Truck Loading	2.23	0.07	20,000
MSS	MSS	Maintenance, Startup, Shutdown	25.00	0.64	n/a
		Total	64.62	1.78	

Proposed Permit Limits					
TBATTERY	Tanks	Condensate Storage	102.63	1.32	60,000
TLOAD	Truck Loading	Truck Loading	4.98	0.14	60,000
MSS	MSS	Maintenance, Startup, Shutdown	29.98	0.59	n/a
		Total	137.59	2.05	