



CDH Consulting, LLC  
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August 29, 2022

U.S. Environmental Protection Agency  
Region 6  
Attn: Ms. Erica LeDoux, MC: ARPE  
Tribal Air Permits – New Mexico  
1201 Elm Street, Suite 500  
Dallas, TX 75201

RE: Part 1 Registration Form  
ESA/NHPA Screening Document  
Federal Implementation Plan for True Minor Sources  
In Indian Country in the Oil & Gas Production Sector  
Largo Canyon West Pad #8  
DJR Operating, LLC  
Rio Arriba County, New Mexico

Ms. LeDoux:

On behalf of DJR Operating, LLC, CDH Consulting is submitting the enclosed Part 1 Registration form and ESA/NHPA Screening document for the above referenced facility.

As shown in the screening document, there are no T&E Species or critical habitat, nor any historic properties affected. These statements are supported by the attached Environmental Assessment (EA) and Biological Survey Report (BSR) prepared in conjunction with the BLM, BIA, and a 3<sup>rd</sup> party consultant. The attached letter from the BIA supports the “no cultural resources affected” determination. Additionally, the BLM has issued the two APDs for the wells associated with the project, showing acceptance and approval of the EA.

If you have any questions or comments, please feel free to contact me at (303) 594-7951 or [cmartinez@CDHConsult.com](mailto:cmartinez@CDHConsult.com).

Sincerely,

Chris Martinez  
Air Quality Engineer



United States Environmental Protection Agency  
<https://www.epa.gov/tribal-air/tribal-minor-new-source-review>  
April 29, 2019

**Part 1: Submit 30 Days Prior to Beginning Construction -- General Facility Information**

**FEDERAL IMPLEMENTATION PLAN FOR TRUE MINOR SOURCES IN INDIAN  
COUNTRY IN THE OIL AND NATURAL GAS PRODUCTION AND NATURAL  
GAS PROCESSING SEGMENTS OF THE OIL AND NATURAL GAS SECTOR  
Registration for New True Minor Oil and Natural Gas Sources and Minor  
Modifications at Existing True Minor Oil and Natural Gas Sources**

Please submit information to:

[Reviewing Authority] EPA Region 6  
Address 1201 Elm Street, Suite 500  
Phone] Dallas, TX 75201

**A. GENERAL SOURCE INFORMATION (See Instructions Below)**

1. Company Name <b>DJR Operating, LLC</b>		2. Source Name <b>Largo Canyon West Pad #8</b>	
3. Type of Oil and Natural Gas Operation Upstream production well pad and tank battery		4. New Minor Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
		5. Minor Source Modification? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6. NAICS Code <b>211120</b>		7. SIC Code <b>1311</b>	
8. U.S. Well ID(s) or API Number(s) [if applicable] <b>30-039-31403, 30-039-31404</b>			
9. Area of Indian Country <b>Jicarilla Apache</b>	10. County <b>Rio Arriba</b>	11a. Latitude <b>36.305060</b>	11b. Longitude <b>-107.303723</b>

**B. CONTACT INFORMATION (See Instructions Below)**

<b>1. Owner Name</b> <b>DJR Operating, LLC</b>	Title
Mailing Address <b>1 Road 3263, Aztec, NM 87410</b>	
Email Address	
Telephone Number <b>(505) 444-0289</b>	Facsimile Number
<b>2. Operator Name</b> (if different from owner)	Title
Mailing Address	
Email Address	
Telephone Number	Facsimile Number
<b>3. Source Contact</b> <b>Michael Hespe</b>	Title <b>Regulatory Engineer</b>
Mailing Address <b>1 Road 3263, Aztec, NM 87410</b>	
Email Address <b>mhespe@djrlc.com</b>	
Telephone Number <b>(505) 444-0289</b>	Facsimile Number

<b>4. Compliance Contact</b> <b>Same as Source</b>		Title	
Mailing Address			
Email Address			
Telephone Number		Facsimile Number	

### C. ATTACHMENTS

Include all of the following information as attachments to this form:

- ☒ Narrative description of the operations.
- ☒ Identification and description of all emission units and air pollution generating activities (with the exception of the exempt emissions units and activities listed in §49.153(c).
- ☒ Identification and description of any air pollution control equipment and compliance monitoring devices or activities that are expected to be used at the facility.
- ☒ Estimated operating schedules.
- ☐ If satisfying the requirements under §49.104(a)(1), documentation that another federal agency has complied with its requirements under the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA) when authorizing the activities for the facility/activity covered under this registration. The appropriate documents shall clearly show that the other federal agency had met its obligations under both the ESA and NHPA. A simple reference to a Record of Decision or other final decision document will not be acceptable. Examples of acceptable documentation would be a letter from the U.S. Fish and Wildlife Service field office (for ESA) or a historic preservation office (for NHPA) stating they agree with the assessment conducted by the other federal agency for the subject project and that the requirements of those statutes have been met. The documentation shall be submitted within the Part 1 registration.
- ☒ If satisfying the requirements under §49.104(a)(2), documentation demonstrating that you have completed the required screening procedures specified for consideration of threatened or endangered species and historic properties. (The procedures are contained in the following document: “Procedures to Address Threatened or Endangered Species and Historic Properties for the Federal Implementation Plan for True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector,” <https://www.epa.gov/tribal-air/final-federal-implementation-plan-oil-and-natural-gas-true-minor-sources-and-amendments>.)
- ☐ Other.





## Largo Canyon West 8

### Part 1 Registration Attachments

#### **Narrative Description**

The facility is an onshore oil & gas production installation. Produced fluids (oil, gas, and water) are removed from the well bore either naturally or using artificial lift technologies. Fluids travel to a heater treater where they are heated and separated. Gas is used onsite to fuel the heaters and compressor engines and vapor recovery unit (VRU) engines and the excess gas is metered and sold through a pipeline operated by a gas gathering company. Some gas may be used for gas lift in the wells. Oil from the separator flows to vapor recovery towers (VRT) prior to entering atmospheric storage tanks. Water from the separators enters separate atmospheric storage tanks. Flash gases from the oil and water tanks are routed through a vent system to an enclosed combustor to be destroyed. The oil and water are removed from their respective tanks by tanker truck.

#### **Equipment List (Emission Units)**

The facility consists of the following equipment:

- 6 – 400 bbl Oil Tanks
- 2 – 400 bbl Water Tank
- 8 – 0.25 MMBtu/hr Tank Heaters
- 2 – 0.75 MMBtu/hr Heater Treater Heaters
- 1 – Vapor Recovery Tower (VRT)
- 2 – 380 hp Cummins KTA19 Compressor Engines
- 2 – 118 hp Cummins G8.3 VRU Engines
- 1 – Emissions Combustor (make/model TBD)

#### **Air Pollution Equipment**

The facility will utilize an enclosed combustion device to control the emissions from the storage tanks. Thief hatches will be closed except when actively being used to gauge tank levels, or maintenance activities. Fugitive components will be monitored as described in NSPS Subpart OOOOa as applicable.

#### **Operating Schedule**

The facility will operate year-round (24/7/365) with the exception of maintenance and unexpected downtime.

#### **ESA/NHPA Documentation**

Please see the following pages for the documentation pertaining to the screening procedures used to satisfy §49.104(a)(2) for Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA). However, with the issuance of the APD by the BLM, it is assumed the EA prepared by the BIA/BLM/3<sup>rd</sup> party environmental consultant, has been accepted and approved.

# Procedures to Address Threatened and Endangered Species and Historic Properties for the Federal Implementation Plan for True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector

## Section 1: Contact Information

Business name: DJR Operating, LLC	Site address: Largo Canyon West Pad #8 SESW Section 18, T24N-R4W Rio Arriba County, NM
Send all correspondence regarding this evaluation to (mailing address): 1 Road 3263 Aztec, NM 87410	Contact for this notification: Name: Michael Hespe Phone: (505) 444-0289 Email: mhespe@djrlc.com

## Section 2: Evaluation of Threatened and Endangered Species and Historic Properties

### 1. Threatened or Endangered Species

Please indicate under which criterion in Appendix A you satisfy after evaluating the effects on threatened or endangered species as a result of your construction, modification or operation of your new or modified minor source of air pollutants. Be sure to include all documentation identified in Appendix A with this evaluation.

☒ A   ☐ B   ☐ C   ☐ D   ☐ E

### 2. Historic Properties

Please indicate under which criterion in Appendix B you satisfy after evaluating the effects to historic properties as a result of your construction, modification or operation of your new or modified minor source of air pollutants? Be sure to include all documentation identified in Appendix B with this evaluation.

☒ No historic properties affected   ☐ No adverse effects   ☐ Adverse effects

## Section 3: Signature

Name: <u>Michael Hespe</u> (Signature)	Name: <u>Michael Hespe</u> (Print or Type)
Title: <u>Regulatory Engineer</u>	Date: <u>8/24/2022</u>



# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Southwest Regional Office

1001 Indian School Road NW

Albuquerque, New Mexico 87104

In Reply Refer To:  
620-Division of Environmental, Safety,  
And Cultural Resources Management  
Jicarilla 2021-033

February 19, 2021

Mr. Paul Lehrman  
DJR Operating, LLC  
No. 1 Road 3263  
Aztec, New Mexico 87410

Dear Mr. Lehrman:

We have reviewed a cultural resources survey report dated December 17, 2020, and entitled, "The Cultural Resources Inventory of DJR Operating LLC's Proposed Largo Canyon West 8 Well Pad with the ELK 140H and ELK 142H Well Heads, G-Tank Pad, Staging Area, Access Road, and Well Tie Pipeline, Jicarilla Apache Nation, Rio Arriba County, New Mexico." This was prepared by Mr. Jason Meininger, Archeologist, Division of Conservation Archaeology and is numbered Report 20-DCA-006. We understand that you also have a copy of this report.

This report describes a cultural resources survey of a proposed activity that has the potential to impact significant cultural resources on Jicarilla Apache Nation lands, and is considered an "undertaking" under regulation 36 CFR 800.1(y) of Section 106 of the National Historic Preservation Act (NHPA; 54 USC 300101 *et. seq.*). This survey was performed as part of the Federal requirement for compliance with the NHPA to identify and evaluate any effects to historic properties as a result of this undertaking.

No significant cultural resources were identified during the requisite survey. Five isolated occurrences were located but these do not represent significant properties and need not be considered further. Pursuant to 36 CFR 800.4(d)(1), we have determined that for the proposed undertaking no historic properties will be affected that are listed on or eligible for listing on to the National Register of Historic Places. Any new project areas, easements or improvements to existing easements, which are outside of the currently defined project area, shall require additional survey, review and consultation. The Jicarilla Apache Tribal Historic Preservation Officer concurs with our determination and expresses no concerns regarding sensitive cultural or traditional areas.

The proposed undertaking complies with the provisions of Section 106 of the National Historic Preservation Act subject to the following stipulations:

1. All land-altering activities shall be confined to the area surveyed for cultural resources, and the project sponsor shall control the action of its agents at the job site to ensure that no archaeological sites are disturbed or damaged. Any work outside the surveyed project boundaries would violate this compliance notification and the project may be subject to work stoppage. Site disturbance or damage to sites on

tribal land is a violation of the Archaeological Resources Protection Act (16 U.S.C. § 470ee) which prohibits the excavation, removal, damage, alteration or defacement, or attempt to excavate, remove, damage, alter or deface any archaeological resources [cultural resources] located on Federal or Indian Lands. Both criminal and civil penalties may be assessed (16 U.S.C. §§ 470ee and 470ff) for violations.

2. If subterranean cultural resources or human remains are encountered, all land-altering activities shall cease within 50 feet of the discovery and the Jicarilla Apache Nation and the Bureau of Indian Affairs (BIA), Regional Archeologist, shall be notified immediately for consultation on the treatment of the discovery.

Failure to follow these stipulations may result in project suspensions and costly delays. The responsibility of project sponsors is to notify employees and subcontractors of the project boundaries and stipulations. Any change in the type of development activities, change in project boundaries, or addition of new project areas, easements or improvements to existing easements, which are outside of the currently defined project area, shall require additional survey, review, and consultation.

This letter serves as the official Federal notification that National Historic Preservation Act Section 106 compliance with the above-described stipulations has been completed for the subject project. It does not constitute approval of rights-of-way, leases, or concurrence in the proposed activities by the BIA. This compliance is one of several legal requirements that must be completed before BIA approval of its own undertakings, or approval of rights-of-way, easements, or other land use contracts for land modifying projects.

If you have any questions, please contact Mr. Peter McKenna, Archeologist, Division of Environmental, Safety, and Cultural Resources Management, at (505) 563-3411.

Sincerely,



Patricia L. Mattingly  
Regional Director

cc: Superintendent, Jicarilla Agency, Attn: Branch of Realty  
Jicarilla Apache Oil & Gas Administration  
Dr. Jeffrey Blythe, Jicarilla Apache Tribal Historic Preservation Officer

# Environmental Assessment

DJR Operating, LLC  
Largo Canyon West Pad #8 Well Pad, G-Tank,  
Staging Area, Access Road, and Pipeline Project



**Prepared for:**

**U.S. Department of the Interior – Bureau of Indian Affairs Jicarilla Agency**



**Sections 18 and 19, Township 24 North, Range 4 West, New Mexico Principal Meridian**

**Rio Arriba County, New Mexico**

**Jicarilla Lease #42**

**December 2021**

Resource	Rationale for Not Further Discussing in Detail
Threatened and endangered species	There is no suitable habitat for any federally threatened or endangered species in the proposed project area. There would be no effects to any federally listed species or designated critical habitat. A Biological Survey Report (BSR) was prepared for the Proposed Action and is provided in Appendix C.
Socioeconomics	While all mineral development impacts localized economic opportunities, the Proposed Action will not impact socioeconomic opportunities in the area to a level relevant for impacts analysis in this EA.
Hazardous waste	The development of this project would result in the generation of waste, including solid and hazardous materials. Typical waste associated with oil and gas development includes produced water, hydrocarbons, and completions fluids, among others. No chemicals subject to reporting under the Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds would be used, produced, stored, or disposed of annually in association with the Proposed Action. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of in association with the Proposed Action. Design features have been identified to minimize or avoid effects from solid and hazardous wastes.
Resource/land-use patterns	The Proposed Action would not adversely affect existing land use patterns for residents of the Jicarilla Apache Nation. The project area does not contain fisheries or permanent water resources, woodlands or saleable timber, or active farmlands, or other agricultural activities. The project area is not a known recreation destination.
Wilderness	The project area is not located within a designated wilderness area.
Noise	Noise from the Proposed Action would last approximately 2 months. The action is located approximately 1.2 miles northeast of a single residence. The action is not located near any businesses. Increased noise from the Proposed Action is not expected to adversely impact any residents living on the Jicarilla Apache Nation lands. Once operation begins, noise levels would generally return to background levels.
Transportation network	The Proposed Action would not measurably increase the transportation network on the Jicarilla Apache Nation.
Indian Trust assets	Indian Trust Assets, or resources, are defined as legal interests in assets held in trust by the United States (US) Government for Native American Indian tribes or individual tribal members. Examples of Indian Trust Assets are lands, minerals, water rights, other natural resources, money, or claims. There would be no adverse impacts to Indian Trust Assets from implementing the Proposed Action.



# Environmental Assessment

DJR Operating, LLC  
Largo Canyon West Pad #8 Well Pad, G-Tank,  
Staging Area, Access Road, and Pipeline Project



**Prepared for:**

**U.S. Department of the Interior – Bureau of Indian Affairs Jicarilla Agency**



**Sections 18 and 19, Township 24 North, Range 4 West, New Mexico Principal Meridian**

**Rio Arriba County, New Mexico**

**Jicarilla Lease #42**

**December 2021**

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## ACRONYMS

APD	Permit to Drill
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best management practices
BSR	Biological Survey Report
CFR	Code of Federal Regulations
COA	conditions of approval
DJR	DJR Operating, LLC
EA	Environmental Assessment
FFO	Farmington Field Office
IDT	interdisciplinary team
JOGA	Jicarilla Oil and Gas Administration
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMPIF	New Mexico Partners in Flight
NMPM	New Mexico Principal Meridian
PL	Public Law
PM <sub>2.5</sub>	particulate matter equal to or less than 2.5 microns in diameter
PM <sub>10</sub>	particulate matter equal to or less than 10 microns in diameter
SUPO	Surface Use Plan of Operations
US	United States
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WATERS	Water Administration and Technical Engineering Resource System

## 1. Introduction

---

DJR Operating, LLC (DJR) is proposing to develop the Canyon Largo West Pad #8 well pad, G-tank, staging area, access road, and pipeline project on the Jicarilla Apache Nation in Rio Arriba County, New Mexico. DJR has submitted Applications for Permit to Drill (APDs) to the Bureau of Land Management (BLM) and the Jicarilla Oil and Gas Administration (JOGA) for the Elk #140H and #142H wells to access DJR's existing Jicarilla #42 mineral lease. DJR has also submitted a Surface Use Plan of Operations (SUPO) to the JOGA and the Bureau of Indian Affairs (BIA) to construct the well pad, G-tank, staging area, access road, and pipeline.

This Environmental Assessment (EA) addresses the potential impacts from implementing the Proposed Action as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law [PL] 91-90, 42 United States Code [U.S.C.] 4321 et seq.). The BIA and the BLM, as agents for the Secretary of the Interior, are responsible for administering the leasing and development of oil and gas resources where the surface estate is held in trust by the federal government for the benefit of the Indian people (25 Code of Federal Regulations [CFR] 211).

The BLM is designated to manage the federal mineral program and is responsible for managing oil and gas on Tribal lands (25 CFR 225). BLM regulations (43 CFR 3160) establish procedures for obtaining approval for an APD on existing onshore federal and Tribal oil and gas leases. The BIA administers the surface management for oil and gas development on Tribal land. The JOGA is responsible for the diligent development of the Tribe's oil and gas resources (Jicarilla Apache Nation Code Title 18). The JOGA coordinates these efforts with the BIA, BLM, and Office of Natural Resources Revenue.

### 1.1 Purpose and Need

The purpose of the Proposed Action is to allow DJR access to Jicarilla Apache Nation land (Jicarilla #42 mineral lease) to construct, operate, maintain, and terminate the well pad, G-tank pad, staging area, pipeline, an access road and to drill, operate, and produce the Elk #140H and #142H oil/natural gas wells. The existing Jicarilla #42 lease is a binding legal contract that allows DJR to develop the mineral estate. Approved APDs issued by the BLM Farmington Field Office with concurrence by the BIA, would authorize DJR to construct the well pad and other infrastructure, and drill, operate, and produce the two proposed wells.

The need for the Proposed Action is the BLM's requirement to respond to DJR's APDs per Onshore Oil and Gas Operating Regulations (43 CFR 3160); the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et seq); and the Act of March 3, 1909 (25 U.S.C. 396).

### 1.2 Proposed Action Location

The proposed project would be located on the Jicarilla Apache Nation in Rio Arriba County, New Mexico. The proposed project is located approximately 2.4 miles west of New Mexico 537 State Highway and approximately 11 miles northeast of Counselor, New Mexico, as shown on Map 1 in Appendix A. The proposed project's legal description is:

### **Well pad, G-tank pad, and staging area**

SE ¼ SW ¼ and Lot 4 Section 18, Township 24 North, Range 4 West

### **Access road and pipeline**

NW ¼ NW ¼ (Lot 1) Section 19 and SW ¼ SW ¼ (Lot 4) Section 18 Township 24 North, Range 4 West, New Mexico Principal Meridian (NMPM), Rio Arriba County, New Mexico

Map 2 shows the proposed project's location on the Otero Store, New Mexico, United States Geological Survey 7.5-minute quadrangle map. The project area is shown on recent aerial imagery on Map 3. Survey plats (C-102s, pad layout for drilling and completions, road, pipeline, G-tank, staging area, etc.) for the Proposed Action are in Appendix B, attached hereto.

## **1.3 Decision to be Made**

In accordance with NEPA, the Bureau of Indian Affairs (BIA) and Jicarilla Apache Nation (JAN) are responsible for determining if a proposed project might have a significant impact on tribal land. If the parties decide that the project's effects would not be significant, the BIA will accept the EA and sign a Finding of No Significant Impact (FONSI) that will enable the proposed project to proceed. The Federal action(s) that require BIA approval are the APDs and associated SUPOs.

The BIA is the surface managing agency for the Proposed Action. The BLM Farmington Field Office (FFO) will decide whether or not to approve the Elk #140H and #142H wells and issue the APDs associated with the Proposed Action, and if so, under what terms and conditions. The BIA and JOGA will decide whether or not to approve the SUPO for the Proposed Action. When an APD is approved by the BLM, with the concurrence of the BIA and JOGA, it is subject to all conditions of approval (COAs) and the SUPO. The COAs are both standard and site-specific mitigation measures developed to protect the rights and uses of others and avoid and/or reduce the impacts on the natural, cultural, and social resources on tribal lands and minerals.

## **1.4 Land Use Plan Conformance**

This EA tiers to the BIA Programmatic Environmental Assessment for Leasing, Exploration and Development of Oil and Gas Resources on the Jicarilla Apache Reservation, dated May 31, 1994 (BIA 1994). There are no county or local land-use planning ordinances that preclude the permitting of the Proposed Action. The Proposed Action would not conflict with any local, county, or state plans ordinances.

## **1.5 Regulatory Compliance**

A variety of laws, regulations, executive orders, and other requirements apply to federal actions and form the basis of the analysis presented in this EA. NEPA requires federal agencies to consider the potential environmental consequences of proposed actions and enhance the environment through well-informed federal decisions. The Council of Environmental Quality (CEQ) was established under NEPA to implement regulations (40 CFR 1500) and to oversee federal policy in this process.

### 1.5.1 Permits

The permits required for the Proposed Action are approved APDs to construct the well pad and other infrastructure and drill the two oil/natural gas wells. All of the Proposed Actions are located entirely within the boundaries of the Jicarilla #42 mineral lease.

### 1.6 Scoping and Issues

The project's interdisciplinary team (IDT) was comprised of the BIA, JOGA, and BLM resource specialists. The IDT evaluated the proposed action during the on-site visit on October 20, 2020. The team was integrally involved in the internal scoping to identify potential issues, understand the proposal, and develop the purpose and need. Issues evaluated by the IDT and determined not to require detailed analysis in this EA are provided in Table 1-1.

**Table 1-1. Issues Not Analyzed in Further Detail in the Environmental Assessment**

<b>Resource</b>	<b>Rationale for Not Further Discussing in Detail</b>
Geologic setting	There are no unique geologic features in the project area. The geologic setting would not be affected.
Mineral resources	No solid mineral resources or mining operations exist within the proposed project area. Depending on the success of oil and gas well drilling, non-renewable natural gas and/or oil would be extracted and delivered to market. Production of oil or gas would result in the irretrievable loss of these resources (i.e., they would no longer be available for future development). The 1994 programmatic environmental assessment committed these resources for oil and gas development on the Jicarilla Apache Nation.
Climate/greenhouse gases	It is currently not feasible to know with certainty the net impacts from the Proposed Action on climate. The inconsistency in results of scientific models used to predict climate change at the global scale, coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level. When further information on climate impacts is known, such information would be incorporated into the BIA's planning and NEPA documents as appropriate.
Floodplains and wetlands	There are no floodplains or wetlands in the project area. There are no perennial streams, seeps, or springs in the project area.
Visibility	Visibility is generally very good in the project area. Particulate matter associated with vehicle traffic on dirt and gravel roads can be a source of medium-range visibility impairment. Dust emissions would be controlled on the roads and locations, as necessary, with the application of water.
Noxious weeds	Standard noxious and invasive weed design features and additional design features included in the SUPO and as part of the project design features fully mitigate impacts, including the potential spread and establishment of noxious or invasive weeds within the project area.

Resource	Rationale for Not Further Discussing in Detail
Threatened and endangered species	There is no suitable habitat for any federally threatened or endangered species in the proposed project area. There would be no effects to any federally listed species or designated critical habitat. A Biological Survey Report (BSR) was prepared for the Proposed Action and is provided in Appendix C.
Socioeconomics	While all mineral development impacts localized economic opportunities, the Proposed Action will not impact socioeconomic opportunities in the area to a level relevant for impacts analysis in this EA.
Hazardous waste	The development of this project would result in the generation of waste, including solid and hazardous materials. Typical waste associated with oil and gas development includes produced water, hydrocarbons, and completions fluids, among others. No chemicals subject to reporting under the Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds would be used, produced, stored, or disposed of annually in association with the Proposed Action. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of in association with the Proposed Action. Design features have been identified to minimize or avoid effects from solid and hazardous wastes.
Resource/land-use patterns	The Proposed Action would not adversely affect existing land use patterns for residents of the Jicarilla Apache Nation. The project area does not contain fisheries or permanent water resources, woodlands or saleable timber, or active farmlands, or other agricultural activities. The project area is not a known recreation destination.
Wilderness	The project area is not located within a designated wilderness area.
Noise	Noise from the Proposed Action would last approximately 2 months. The action is located approximately 1.2 miles northeast of a single residence. The action is not located near any businesses. Increased noise from the Proposed Action is not expected to adversely impact any residents living on the Jicarilla Apache Nation lands. Once operation begins, noise levels would generally return to background levels.
Transportation network	The Proposed Action would not measurably increase the transportation network on the Jicarilla Apache Nation.
Indian Trust assets	Indian Trust Assets, or resources, are defined as legal interests in assets held in trust by the United States (US) Government for Native American Indian tribes or individual tribal members. Examples of Indian Trust Assets are lands, minerals, water rights, other natural resources, money, or claims. There would be no adverse impacts to Indian Trust Assets from implementing the Proposed Action.

## 2. Alternatives including the Proposed Action

### 2.1 Alternative A—No Action

Under this alternative, the BLM would not approve the proposed APDs. DJR would retain the lease rights and may continue to submit future APDs. Oil and natural gas would not be extracted by the proposed wells and production from the Jicarilla Lease #42 would continue at its current rate. Surface disturbance would not occur, and current uses in the area would continue. No mitigation measures would be required.

### 2.2 Alternative B—Proposed Action

Under the Proposed Action, the BLM would approve the APDs as submitted with design features and applicable mitigation measures developed from this analysis. If approved, DJR would drill, complete, operate, maintain, reclaim, and eventually plug two oil and/or natural gas wells (Elk #140H and #142H) from the Largo Canyon West Pad #8 well pad. The Proposed Action includes the construction, use, and reclamation of a well pad and construction zone, staging area, G-tank pad, access road, and well-connect natural gas pipeline. The disturbance from the project is summarized in Table 2-1.

**Table 2-1. Surface Disturbance Associated with the Largo Canyon West Pad #8**

<b>Project Feature</b>	<b>Summary Description</b>	<b>Surface Disturbance (acres)</b>	<b>Interim Reclamation (acres)</b>	<b>Final Reclamation (acres)</b>
Well pad and construction zone	The well pad would be approximately 535 feet by 560 feet, including a 50-foot temporary use area around the perimeter of the well pad.	6.633	4.433	2.2
Access Road	An approximately 1,834.92-foot-long road would be constructed to connect the pad to an existing road.	1.264	0	1.264
G-Tank Pad	An approximately 300-foot by 270-foot G-tank would be located adjacent to the southern well pad boundary.	1.721	1.721	0
Staging Area	An approximately 150-foot by 535-foot staging area would be located adjacent to the eastern well pad boundary.	1.842	1.842	0
Pipeline	A 1,649.45-foot-long pipeline would be constructed adjacent to the access road.	1.514	1.514	0
<b>Total</b>		<b>12.974</b>	<b>9.510</b>	<b>3.464</b>

For well pad construction, the maximum fill would be approximately 3 feet on the corner (#2), and the maximum cut would be 4 feet on the southeast corner (#5). The construction zone would be used for



slope development and topsoil storage and would be entirely reclaimed during interim reclamation. Production facilities and areas for well operations would occupy approximately 2.2 acres on the well pad and remain disturbed for the project's duration. A teardrop 14-foot-wide driving surface would be used to access the well heads and production facilities during operation. The remainder of the well pad would be reclaimed at interim reclamation.

All vehicles would stay within existing roads. The proposed 1,835-foot-long access road would be designed and constructed to include ditching, draining, installing culverts, crowning and capping, or sloping and dipping the roadbed to provide a well-constructed and safe road. The maximum road width would be 30-feet overall with a 14-foot road running surface. Maintenance activities would continue until final abandonment and reclamation are completed.

## **2.3 Drilling and Completions**

Construction of the access road, well pad, G-tank pad, and staging area, and drilling and the completion of the two wells is anticipated to last approximately 3 to 4 weeks. The G-tank would house a 156-foot diameter aboveground storage tank, pumps, and other ancillary equipment needed for drilling and completion operations. A lay-flat line would be installed from the G-tank area to the well pad entirely within the disturbed area during completion operations. Water from the G-tank would be pumped to the well pad via the lay-flat line. The lay-flat line would be removed once completion operations are finished. The G-tank and staging areas would be reclaimed during interim reclamation. The Surface Reclamation Plan is provided in Appendix D, attached hereto.

### **2.3.1 Pipeline**

The pipeline would be designed and constructed following the approval guidelines in the COAs. After completing clearing and grading activities, the trenching activities would be conducted using a trencher or track hoe. The pipeline trench would be a minimum of 3 feet in depth. Backfilling operations would be performed within a reasonable amount of time to ensure that the trench is not left open for more than 24 hours. If a trench is left open overnight, it would be fenced with a temporary fence. After the pipe has been welded and coated, a backhoe and or side-boom tractor would be used to place the pipe into the trench. After trenching and pipe placement in the trench, the soils excavated from the trenches would be returned and compacted to prevent subsidence.

### **2.3.2 Production**

During production, equipment and facilities placed on the well pad would include the wellheads, metering units, gas lift systems, reciprocating compressors, vapor recovery units, separators, separator heaters, and enclosed combustion devices. Oil storage tanks and water storage tanks would be the well pad. Well equipment and facilities would be painted Juniper Green (as approved at the on-site) to reduce visual impacts.

## **2.4 Alternatives Considered but Eliminated from Further Analysis**

No other alternatives were identified that would create less disturbance and still achieve the Proposed Action's purpose and need.

### **3. Affected Environment and Environmental Consequences**

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This section describes the environment that would be affected by implementing the alternatives described in Chapter 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues.

Under the no action alternative, the Proposed Action would not be implemented. The no action alternative would result in the continuation of the current land and resource uses in the analysis area. This alternative will not be evaluated further in this EA.

Impacts can be either long term (permanent, residual) or short term (incidental, temporary). Short-term impacts affect the environment for only a limited time, and the environment usually reverts rapidly to the pre-construction condition.

#### **3.1 Land Resources**

##### **3.1.1 Topography and Soils**

The proposed project is located on a broad flat terrace above Cañada Largo Wash. The project lies on a slight northwestern aspect of 0 to 2 degrees. The elevation of the project area is about 6,650 feet above mean sea level. There are no prominent topographical features in or near the project area.

Two major soil-mapping units occur within the proposed project area— Elias-Canyada-Sparank complex, saline, sodic, 0 to 3 percent slopes; and Doakum-Betonne fine sandy loams, 0 to 8 percent slopes (NRCS 2020).

The surficial geology in the project area is composed of alluvium stream deposits from the Holocene Period (Mytton 1983).

##### **3.1.2 Environmental Consequences**

The Proposed Action would include clearing and grading the proposed well pad, access road, and pipeline corridor. These activities would cause modification to the topography of the proposed project area. No unique topography would be impacted by the Proposed Action. Impacts on topography would be long term, as the modifications would be present for the project's life.

Construction would result in temporary displacement, compaction, and mixing of soils. A portion of the well pad and the access road (approximately 3.46 acres) would remain as bare, compacted soil for the life of the project (approximately 30 years) and subject to an undetermined amount of wind and water erosion until areas are completely reclaimed. Compaction of the soils during the construction and operation of the proposed project, coupled with the implementation of mitigation measures described below, would limit soil impacts from erosion. The most susceptible period for soil erosion impacts is during construction when strong winds or precipitation events during soil-disturbing activities could mobilize soils. The impact on soils would be localized and short to long term. Any leaks or spills of hazardous substances could compromise the productivity of affected soils. Decreased soil productivity could hinder reclamation efforts and leave soils further exposed to erosional processes.

### 3.1.3 Mitigation

Implementation of proper soil salvage, storage, and reclamation will retain adequate infiltration and permeability rates that will allow for maintenance of soil moisture, which is necessary for plant growth and vigor, and minimize surface runoff. The top 6 inches of soil and brush would be stripped and stockpiled separately for use in reclamation. Within areas to be reseeded, stockpiled topsoil would be evenly redistributed, in the proper order, before final seedbed preparation. Disturbed areas would be re-contoured to blend with the surrounding landscape, emphasizing restoration of the existing drainage patterns and landform to pre-construction conditions, to the extent practicable. No fill material would be required to level the well pad.

During drilling and completion operations of the wells, any spilled petroleum products would be cleaned up immediately. Should petroleum be absorbed into the soil, the stained area would be removed and disposed of at a permitted disposal site. Waste material at the site, such as human waste, trash, garbage, would be removed and deposited at a permitted disposal facility.

## 3.2 Water Resources

### 3.2.1 Surface Water

There are no perennial streams, springs, seeps, or wetlands within the proposed project area. A shallow ephemeral drainage enters the well pad along the western boundary. Another shallow ephemeral drainage is located parallel to a portion of the proposed access road and pipeline route. Neither of these drainages exhibited a defined bed and bank or ordinary high water mark. These drainages are shallow, disconnected, and moderately vegetated with alkali sacaton (*Sporobolus airoides*) and blue grama (*Bouteloua gracilis*). Cañada Largo Wash is located approximately 0.45 mile north of the project area.

### 3.2.2 Groundwater

Primary groundwater resources in and near the project area are associated with the Uintas-Animas aquifer. In the eastern half of the San Juan Basin, this aquifer consists of the San Jose Formation, the Nacimiento Formation, and the Ojo Alamo Sandstone. The San Jose Formation is the uppermost significant bedrock formation and primarily consists of permeable, coarse, arkosic sandstone inter-layered with mudstone. The Nacimiento Formation and Ojo Alamo Sandstone primarily consist of permeable conglomerate and medium to very coarse sandstone layered with relatively impermeable shale and mudstone. Water within the San Juan Basin portion of the Uinta-Animas aquifer is fresh to moderately saline. Two El Paso Natural Gas Company wells that were drilled in the Nacimiento Formation are reported to produce 16 to 100 gallons of water per minute (Stone et al. 1993).

A search of the New Mexico State Engineers Office – Water Administration and Technical Engineering Resource System (WATERS) database for the proposed project lease site and vicinity (1-mile radius) was performed. There is no record of a well located approximately 1-mile from the proposed project area.

### **3.2.3 Environmental Consequences**

While there are no perennial surface water resources in the project area, there may be impacts to surface water quality from precipitation runoff during construction activities until successful revegetation has been attained. Construction of the Proposed Action would also increase the amount of impermeable surface area and surface water runoff rate, which could result in soil erosion. Overall, with the implementation of best management practices (BMPs), hydrologic and surface water quality impacts would be long term.

Potential impacts resulting from hazardous substances spilled during construction and drilling or vehicles entering and exiting the project area would be short term. There would be long-term potential impacts from the Proposed Action on water quality associated with industrial materials and fluids' storage on the proposed well pad. The Proposed Action is not expected to result in any adverse hydrologic or groundwater quality impacts with the implementation of mitigation measures and BMPs.

No impacts to surface water or freshwater-bearing groundwater aquifers are expected to occur from hydraulic fracturing of the proposed wells. Potential impacts to groundwater resources could occur from the proposed wellbores. The potential for impacts to groundwater from the wellbores would be long term for the life of the wells.

During operation, the proposed pipeline could potentially leak or rupture, which could impact groundwater quality. Potential impacts to groundwater quality from leaks or ruptures during pipeline operation would be long term.

### **3.2.4 Mitigation**

Following completions, areas not required for production operations will be re-contoured, reseeded, and reclaimed to minimize sediment transfer. DJR will implement revegetation at the direction of the JOGA/BIA APD COAs. These measures will help prevent surface erosion and sediment transport into surrounding drainages.

The proposed wells would be drilled using a closed-loop system to contain all drill cuttings and fluids. All chemicals stored on-site would be properly contained using BMPs. Containment structures will be sufficiently impervious to prevent a discharge to waters of the US, such as containment dikes, containment walls, drip pans, or equivalent protective structures, and would be installed and maintained. Any spills of non-freshwater fluids would be cleaned up immediately and removed to an approved disposal site per federal and state regulations.

Adherence to the APD COAs and other mitigation measures such as well casing, cementing, and other approved drilling and completion methods would avoid effects on groundwater quality.

The proposed pipeline would be tested to ensure integrity before operation. Cathodic protection systems would be installed to protect the pipe from corrosion.

## **4. Air Resources**

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### **4.1.1 Air Quality**

The Jicarilla Apache Reservation is considered a Class II air quality area, which allows moderate air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

The Clean Air Act requires the US Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The USEPA has set NAAQS for seven principal pollutants (“criteria” air pollutants): (1) carbon monoxide, (2) nitrogen dioxide, (3) ozone, (4) particulate matter equal to or less than 10 microns in diameter (PM<sub>10</sub>), (5) particulate matter equal to or less than 2.5 microns in diameter (PM<sub>2.5</sub>), (6) sulfur dioxide, and (7) lead.

Ozone is not a direct emission pollutant—that is, it is not emitted directly into the air). Still, it is the result of chemical reactions between a group of highly reactive gases called nitrogen oxide(s) and volatile organic compounds (VOCs), which are organic compounds that vaporize (i.e., become a gas) at room temperature when exposed to sunlight (USEPA 2018a). Ozone and nitrogen oxides are criteria air pollutants and therefore regulated under the NAAQS; VOCs are not regulated because ozone is not a direct emission.

Particulate matter (also known as particle pollution) is a mixture of solid particles and liquid droplets in the air. Particulate matter varies in size: PM<sub>10</sub> refers to particulate matter 10 micrometers or less in diameter (commonly considered “dust”). PM<sub>2.5</sub> refers to particulate matter that measures 2.5 micrometers or less (i.e., fine particles), which are the main cause of reduced visibility (haze) in the U.S. (USEPA 2018b).

### **4.1.2 Environmental Consequences**

Drilling of the proposed Elk#140H and #142H oil/natural gas wells would result in emissions from the operation of internal combustion engines and emissions of particulates, specifically PM<sub>10</sub> associated with fugitive dust resulting from drilling and operations of vehicles and equipment on unpaved roads. These emissions would be temporary (3 to 4 weeks), rapidly disperse, and then minimized by applying air resource-protection design features. As such, the development of the Elk#140H and #142H oil/natural gas wells are unlikely to contribute to a violation of air quality regulations.

Operation of the Elk#140H and #142H oil/natural gas wells would result in annual increased criteria pollutant emissions, including increased particulate matter (fugitive dust) from operational road traffic, exhaust emissions from equipment, compressor engines, generators, and flares, and VOCs resulting from oil storage activities. This incremental increase would not be expected to result in exceeding the NAAQS for any criteria pollutants in the project area.

### 4.1.3 Mitigation

Areas not required for production operations would be revegetated during interim reclamation. Dirt roads would be watered during periods of high use (magnesium chloride, organic-based compounds, and/or polymer compounds could also be used on dirt roads upon the BIA/JOGA approval). BMPs provided in the BLM Gold Book would be implemented for proposed and existing roads (USDI/USDA 2007).

Compressor engines 300 horsepower or less used during well production must be rated by the manufacturer as emitting nitrogen oxides at 2 grams per horsepower-hour or less.

## 4.2 Biological Resources

### 4.2.1 Vegetation

The natural vegetation in the proposed project area is classified as a Great Basin desert scrub (Dick-Peddie 1993). The proposed project is dominated by big sagebrush (*Artemisia tridentata*), standing about 2 to 3 feet high, blue grama, and James' galleta (*Pleuraphis jamesii*). The vegetation cover in the proposed project area was visually estimated between 50 to 60 percent. No trees occur in the area. A complete list of plants observed during the field survey in the proposed project area is provided in the BSR in Appendix C.

### 4.2.2 Wildlife

Signs of wildlife observed within the proposed project area indicated the presence of elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), black-tailed jackrabbit (*Lepus californicus*), and desert cottontail (*Sylvilagus audubonii*). No raptors, or signs of consistent raptor use, such as whitewash or nests, were observed in the proposed project or action area. No prairie dog (*Cynomys* spp.) colonies were observed in the proposed project or action area. A list of wildlife and wildlife signs observed during the field survey in the proposed project is provided in the BSR in Appendix C.

### 4.2.3 Migratory Birds

Under the Migratory Bird Treaty Act (16 U.S.C. §703-712) and EO 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," federal agencies are required to consider management impacts to migratory birds. While all migratory songbirds are protected by law, certain species have been determined to be at greater risk than others. New Mexico Partners in Flight (NMPIF) developed bird "Watch Lists" and the United States Fish and Wildlife Services identified a "Birds of Conservation Concern List" (USFWS 2020).

NMPIF lists the sage thrasher (*Oreoscoptes montanus*) and sage sparrow (*Amphispiza belli*) within the Great Basin Desert shrub habitat type as "Highest Priority" species for conservation. The open scrub habitat in and surrounding the proposed project area also provides foraging habitat for large raptors. A variety of bird species may be found nesting in the project area, such as loggerhead shrike (*Lanius ludovicianus*), vesper sparrow (*Pooecetes gramineus*), juniper titmouse (*Baeolophus ridgwayi*), western scrub jay (*Apelocoma californica*), and bushtit (*Psaltiriparus minimus*). Mountain chickadees (*Parus gambeli*), black-throated gray warblers (*Dendroica nigrescens*), black-throated sparrows (*Amphispiza*

*bilineata*), Brewer's sparrows (*Spizella breweri*), mountain bluebirds (*Sialia currucoides*), and blue-gray gnatcatchers (*Polioptila caerulea*) also occur in this community. A list of bird species observed in the proposed project area is provided in the BSR in Appendix C.

#### **4.2.4 Environmental Consequences**

Direct impacts would include removal of vegetation during site-clearing activities. Construction of the Proposed Action would result in short-term modification of approximately 9.51 acres of vegetation, as these areas would be reclaimed following construction and drilling. Potential impacts pertain to changes in species composition and density and an increased potential for invasive species to establish. Following interim reclamation, there would be a long-term loss of about 3.464 acres of vegetation.

There would be impacts to area wildlife from the increased human and vehicular activity and the associated noise during construction activities. Wildlife in the area would be displaced to adjacent habitat or may temporarily avoid the area during construction activities. Small wildlife, particularly burrowing species, may be killed during construction, drilling, and completion. Once the project is complete, wildlife would likely return to the area. During operation, the level of human and vehicular activity in the analysis area would decrease substantially. However, long-term impacts from vehicle traffic on roads could include incidental mortality to wildlife. Wildlife could also come in contact with chemicals or fluids stored on-site.

Wildlife habitat would be modified or removed by the proposed project. Impacts on wildlife habitat would include short-term loss of natural vegetation and long-term changes in vegetation composition. Most direct wildlife habitat loss would be short term, as areas reclaimed would eventually recover their value as wildlife habitat. However, there would be a long-term loss of approximately 3.46 acres for well operation and access. Most wildlife species observed or expected to inhabit the area are generalists and would be minimally affected by vegetation composition changes. Since the vegetation removed would not be replaced with the same species, and because vegetation removal in previously undisturbed areas would result in habitat fragmentation, an alteration of available wildlife habitat and utilization is anticipated.

#### **4.2.5 Mitigation**

Approximately 9.51 acres of disturbance would be reclaimed during interim reclamation. Any wildlife encountered within the proposed project area would be avoided and allowed to move out of the proposed project area. No wildlife would be intentionally harmed or harassed.

Use of a closed-loop system would minimize potential impacts on wildlife from exposure to chemicals or fluids during drilling and completion. Wildlife hazards, such as storage tanks associated with the proposed project, would be fenced or covered, as necessary. During operation, vent caps are placed on all open pipes to prevent birds from entering and nesting. If a trench is left open overnight, it would be fenced with a temporary fence. Any spills would be cleaned up promptly. All chemicals or fluids stored on-site would be properly contained and would have secondary containment.

## **4.3 Cultural Resources**

The San Juan County Museum Association Division of Conservation Archaeology conducted a Cultural Resource Class III inventory of the project area between March 17, 2020 and April 1, 2020. Five isolated occurrences were encountered during the surveys. The isolated occurrences were recorded in the field, which exhausts their research potential. A copy of the New Mexico Cultural Resource Information System Investigation Abstract Form is attached in Appendix E.

### **4.3.1 Environmental Consequences**

No impacts to cultural resources are expected to occur from implementing the Proposed Action. Potential exists for excavation and direct impacts on unidentified cultural resources during construction of the Proposed Action.

### **4.3.2 Mitigation**

Any cultural resource (historic or prehistoric site or object) discovered by DJR or their contractors during construction would be immediately reported to the BIA Regional Archeologist and Jicarilla Apache Nation Cultural Program. DJR would suspend all operations in the immediate area of such discovery until approval to proceed is issued by the BIA Regional Archaeologist and the Jicarilla Apache Nation Cultural Program. The BIA and the Jicarilla Apache Nation would evaluate the discovery to determine the appropriate action to prevent the loss of significant cultural or scientific values. All cultural resource protection measures included in the APD COAs and design features in the SUPO will be adhered to.

## **4.4 Infrastructure**

The Proposed Action is in a remote area of the Jicarilla Apache Nation. Existing dirt roads, electric power lines, and active and plugged and abandoned oil/natural gas wells occur in the area—otherwise, the area is generally undeveloped. Land use is livestock grazing and oil and gas mineral extraction. Seventy-two active oil/natural gas wells occur within a 3-mile radius of the Proposed Action. A private residence is approximately 1.1 miles southwest of the Proposed Action.

### **4.4.1 Environmental Consequences**

The Proposed Action would use existing infrastructure to the greatest extent practicable. Approximately 0.34 mile of dirt road would be added to the transportation network. During operation, approximately 3.46 acres would be used to maintain the proposed wells. These impacts would be long-term for the life of the wells.

### **4.4.2 Mitigation**

To provide a well-constructed and safe road, the access road would be designed and constructed including ditching, drainage, culverts, crowning and capping or sloping and dipping the roadbed. Areas not required for facilities would be revegetated during interim reclamation,



## **4.5 Public Health and Safety**

Public health and safety concerns are related to vehicle travel on area roads and public and worker safety around natural gas/oil wells, pipelines, or other production facilities. Worker safety concerns include working near loud equipment, heavy equipment and moving parts, and flammable and/or explosive material. Other health and safety concerns identified include the risk of pipeline rupture, leaks, or explosion. There is a risk of accidental spills and illegal dumping of non-hazardous and hazardous materials. Contamination of surface waters, near-surface drinking water aquifers, and soil resources caused by surface degradation due to accidental spills and leaks of chemicals and waste products are also of concern.

### **4.5.1 Environmental Consequences**

The proposed wells would be located near other wells, pipelines, other oil and gas facilities, and a network of dirt surface access roads. The public risk associated with well drilling includes increased traffic on public roads, wildfire, pipeline leakage, rupture, fire, and explosion. Additional public health and safety risks include spills of wastes, chemicals, or hazardous materials. Roads in the area are generally unimproved dirt surfaces and are used to access natural gas facilities. These roads may become hazardous or impassable during periods of inclement weather.

The greatest potential for public health and safety impacts would be during the drilling and completion phase. Mitigation measures would be implemented to avoid or decrease the risks to public health and safety.

### **4.5.2 Mitigation**

The proposed action would be completed in a manner consistent with all applicable Occupational Safety and Health Administration regulations and appropriate industry standards to minimize the risk of accidents. Impacts to the public would be minimized by controlling access to all work and operation areas. All road crossings would be manned with flaggers and spotters during heavy construction close to the area and during mobilization and demobilization. Orange flagging and barriers would be put in place to restrict public access to the worksite. All roadway speed limits would be observed to reduce the potential for traffic accidents. Additionally, hauling of materials or equipment would follow New Mexico Department of Transportation regulations. Water would be applied to roads, if needed, to minimize fugitive dust. Following construction, existing roads would be rehabilitated, if needed.

Disposal of any liquid and solid waste generated during construction, operation, and maintenance activities would be done at permitted facilities. DJR would implement measures for safe handling and storage of materials. In the event of a hazardous material spill, releases would be contained and disposed in accordance with federal and state regulations. The proposed well pad and pipelines would be constructed and operated to meet all industry standards and applicable state and federal requirements.

Therefore, there would be short-term public health and safety risks during well pad and pipeline construction, drilling, and completion of the proposed wells. Long-term public health and safety risks would be minimal and associated with production equipment operation and travel for routine maintenance.

## **4.6 Environmental Justice**

Executive Order (EO) 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. Impacts from the proposed projects could occur if described impacts disproportionately affect a nearby environmental justice population. Impacts are measured by determining if qualifying minority or low-income populations, as defined in environmental justice terminology developed by the President's Council on Environmental Quality (CEQ 1997), would be subject to disproportionately high and adverse human health or environmental effects from the proposed project.

The Proposed Action would be located on the Jicarilla Apache Nation. The Jicarilla Apache Nation is considered to have a minority population greater than 50 percent, with approximately 96 percent of its population identifying as Native American or Hispanic (Census Reporter 2021). In 2019, the individual poverty rate was 25.6 percent for a population of 3,353 (Census Reporter 2021). Most residents of the Jicarilla Apache Nation live in or near Dulce, New Mexico, located about 47 miles northeast of the Proposed Action. There is one private residence located approximately 1.1 miles from the project area.

### **4.6.1 Environmental Consequences**

There would be no disproportionate adverse impacts to minority or low-income from the Proposed Action. There would likely be economic benefits to these populations associated with increased tax revenues to state and county governments from increased oil and natural gas production that would support increased employment opportunities, as well as social services and programs that support these vulnerable populations. The Jicarilla Apache Nation would be compensated for the use of the land for the Proposed Action.

### **4.6.2 Mitigation**

No measurable impact on minority or low-income communities has been identified from implementing the Proposed Action; thus, no mitigation is needed.

## **4.7 Cumulative Impacts**

In conjunction with an analysis of the Proposed Action's impacts, there is a requirement under the NEPA to determine the cumulative impacts of Proposed Actions being evaluated. Cumulative impacts analysis is important in understanding how multiple actions during a particular time and space (i.e., geographic boundaries) impact the environment. Whereas the individual impact of one project in a particular area or region may not be considered significant, the result of numerous projects in the same area or region may cumulatively result in significant impacts. As applied to NEPA, cumulative impact analysis is subject to interpretation when analyzing the magnitude of impacts to a particular area or region.

The proposed project is located within a region of active oil and gas development. Surface disturbance due to oil and gas extraction is prominent from existing well pads, pipelines, and access roads. The Proposed Action is not expected to significantly increase cumulative impacts on the general region or any

specific project area resources. The Proposed Action would not result in cumulative effects on geology, groundwater, climate, cultural resources, or Native American religious concerns. No cumulative impacts on land use, recreation, wilderness, the transportation network, environmental justice, or visual resources would be expected to occur.

The cumulative impacts of additional surface disturbance would result in a minor decrease in vegetation and available forage for wildlife species. Vegetation composition may shift due to the edge effect on disturbed areas and disturbed areas' suitability for propagating invasive plant species. Until disturbed areas are successfully reclaimed, soils would be subject to wind and water erosion that may temporarily affect surface water quality in ephemeral waterways. There would be the long-term potential for pipeline leaks or ruptures, or spills from equipment or storage tanks on the pad. Because the Proposed Action would have negligible impacts on soils, vegetation, air quality, wildlife, and water quality, cumulative impacts would be negligible when added to other past, present, and reasonably foreseeable activities in the area.

## 5. Consultation/Coordination

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The BIA and BLM established an ID Team made up of staff specialists who worked with a third-party contractor to develop the EA content and analysis. A list of preparers who participated in the development of this EA is provided in Table 4-1.

**Table 5-1. List of Preparers**

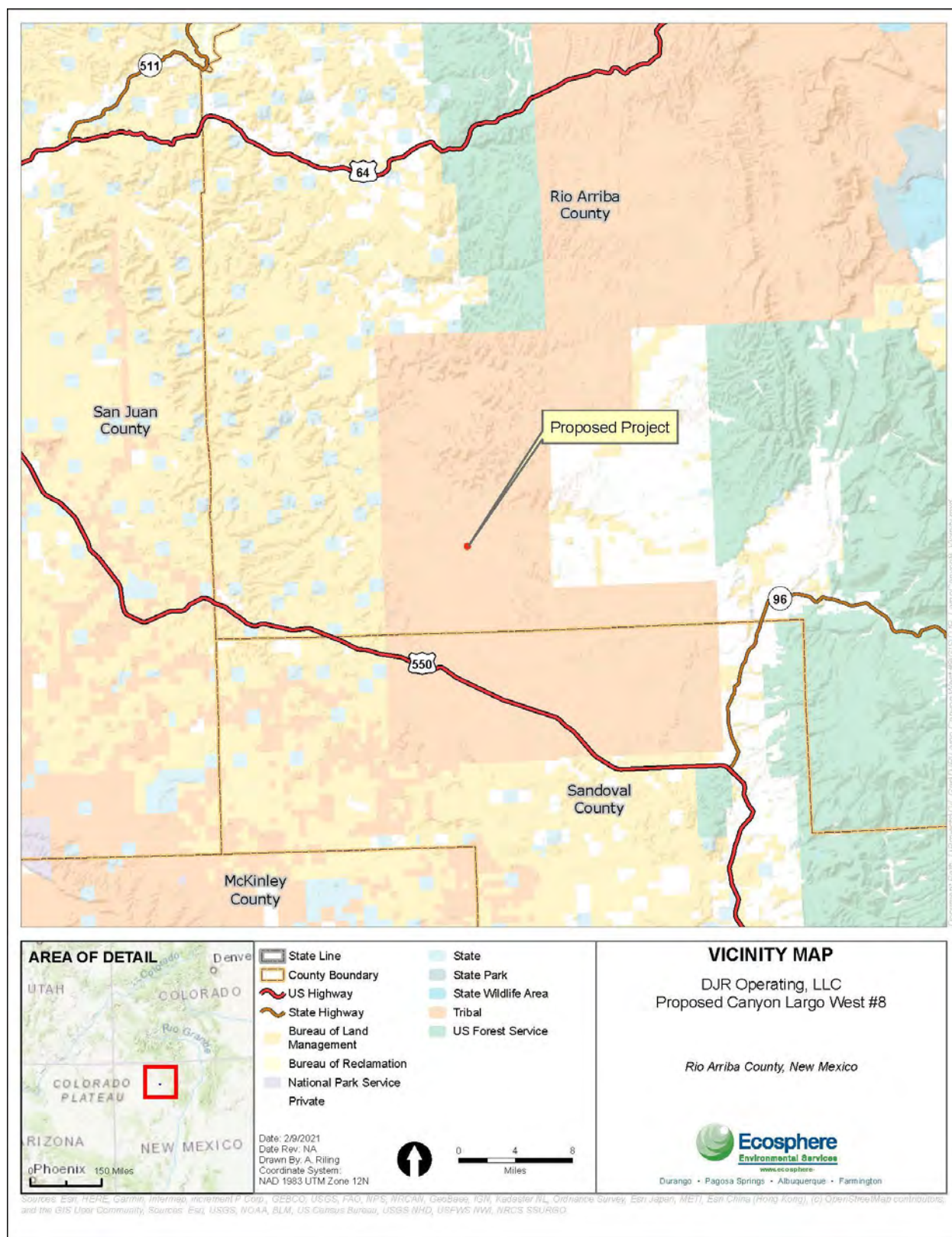
<b>Name</b>	<b>Organization or Agency</b>
Kurt Sandoval	Bureau of Indian Affairs, Jicarilla Agency
Gary Smith	Bureau of Land Management, Farmington Field Office
Cascindra Harrison	Jicarilla Oil and Gas Administration
Orson Harrison	Jicarilla Oil and Gas Administration
Joey Herring	Ecosphere Environmental Services, Inc.
John Dodge	Ecosphere Environmental Services, Inc.
Anna Riling	Ecosphere Environmental Services, Inc.
Cindy Lancaster	Ecosphere Environmental Services, Inc.

## 6. References

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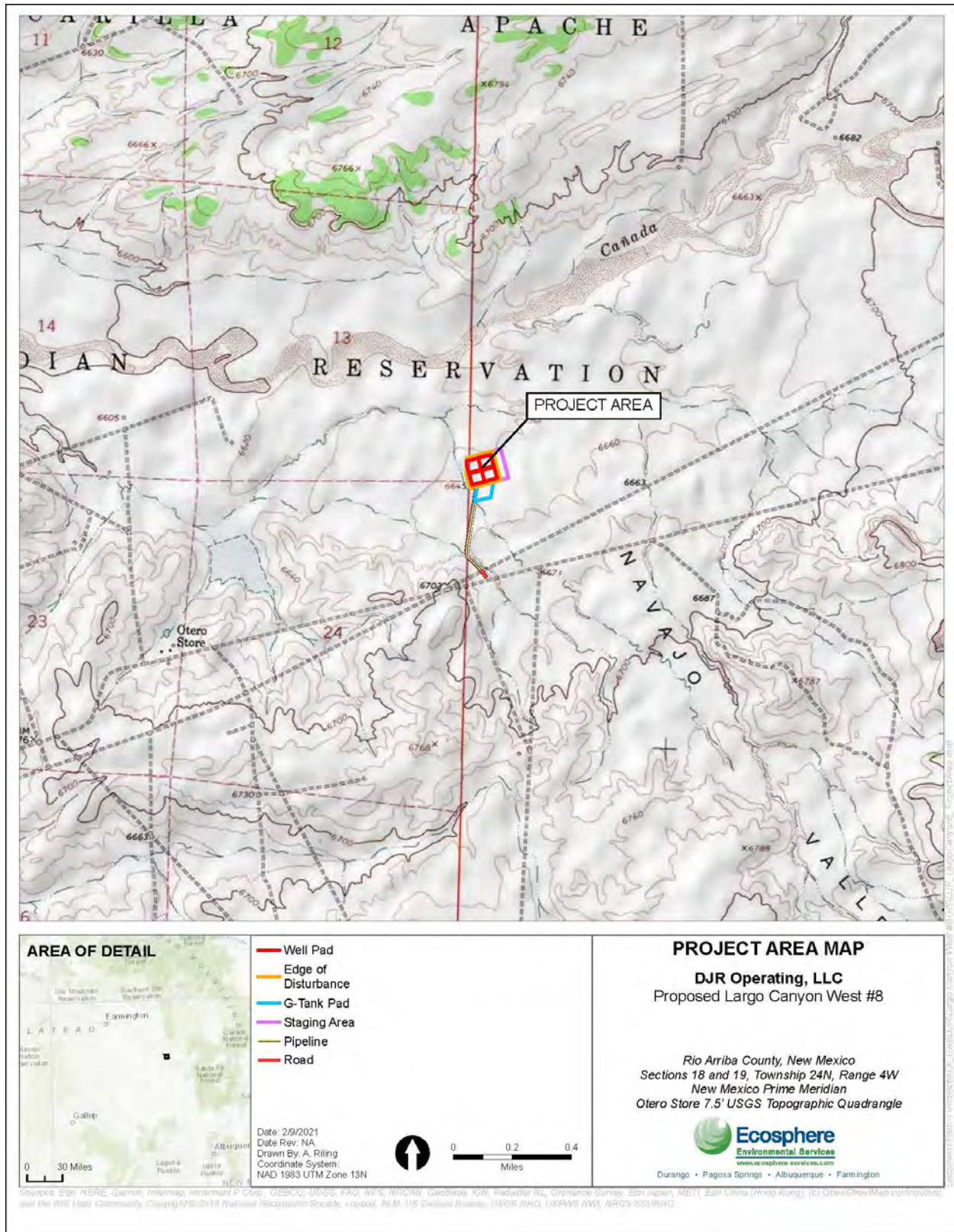
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## **Appendix A – Maps**



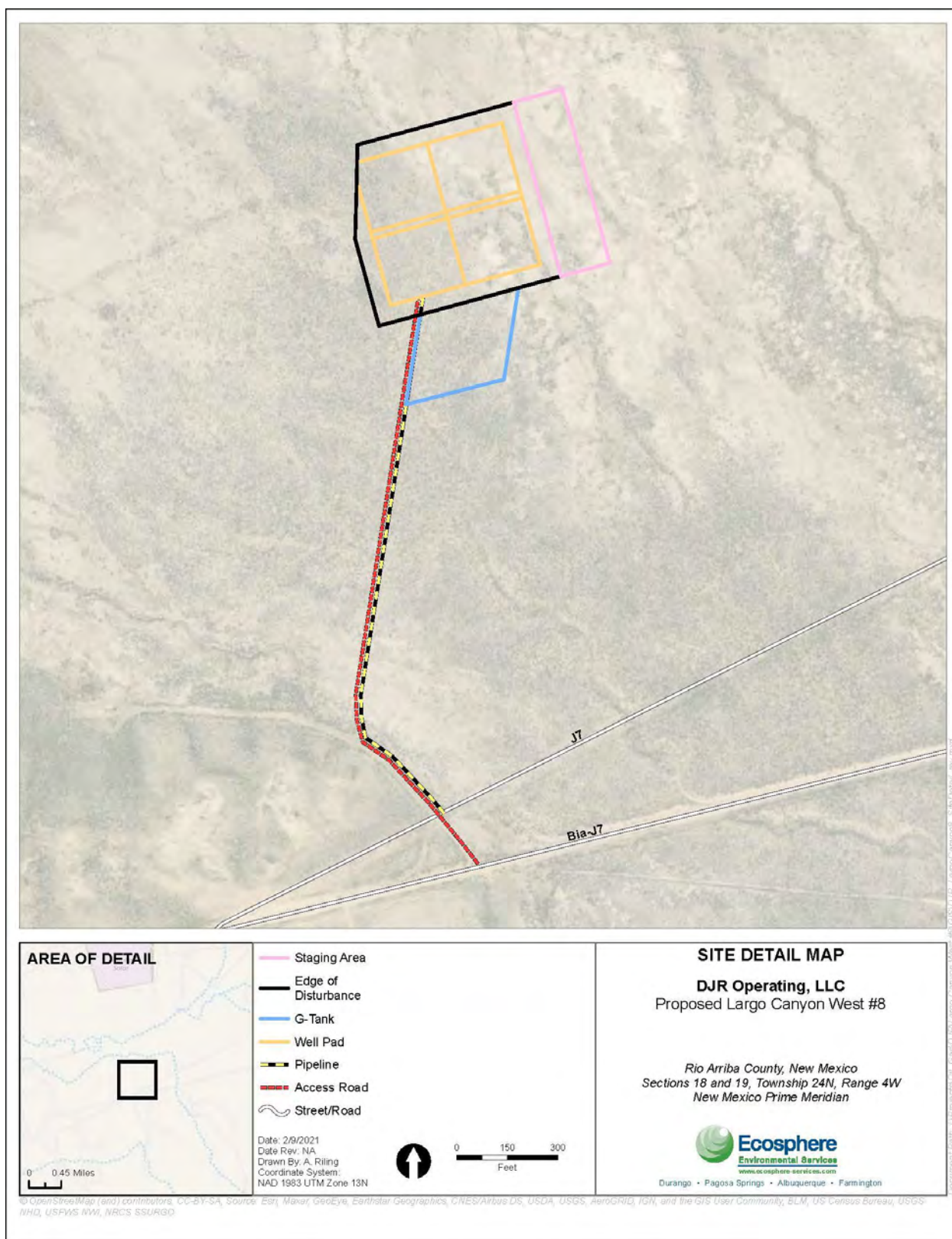
Map 1. Proposed Largo Canyon West #8 Well Project and Vicinity





### Map 2. Proposed Largo Canyon West #8 Well Project Area





**Map 3. Proposed Largo Canyon West #8 Well Project Site Detail**

## **Appendix B– Survey Plats**

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, N.M. 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, N.M. 87505  
Phone: (505) 478-3480 Fax: (505) 478-3482

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code 97232 & 39139	<sup>3</sup> Pool Name BASIN MANCOS & LINDRITH GALLUP DAKOTA, SOUTH (OIL)
<sup>4</sup> Property Code	<sup>5</sup> Property Name ELK	<sup>6</sup> Well Number 140H
<sup>7</sup> OGRID No. 371838	<sup>8</sup> Operator Name DJR OPERATING, LLC	<sup>9</sup> Elevation 6648

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	18	24 N	4 W	LOT 4	724	SOUTH	271	WEST	RIO ARRIBA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	20	24 N	4 W		592	SOUTH	2437	EAST	RIO ARRIBA

<sup>12</sup> Dedicated Acres  
BASIN MANCOS SEC. 18 = NE/4SW/4, SE/4SW/4, SW/4SE/4; SEC. 19 = NE/4NW/4, N/2NE/4, SE/4NE/4; 280 Ac.  
LINDRITH GALLUP DAKOTA, SOUTH (OIL) SEC. 20 = SW/4NW/4, N/2SW/4, SE/4SW/4, SW/4SE/4; 200 Ac.  
TOTAL = 480 ACRES

<sup>13</sup> Joint or Infill

<sup>14</sup> Consolidation Code

<sup>15</sup> Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16

LEGEND:  
● = SURFACE LOCATION (SHL)  
○ = BOTTOM HOLE LOCATION (BHL)  
◇ = POE  
(C) = CALCULATED

POE  
1220' FSL, 960' FWL  
SEC. 18, T24N, R4W  
LAT: 36.30638990° N  
LONG: 107.30138440° W  
NAD 83

SHL  
724' FSL, 271' FWL  
SEC. 18, T24N, R4W  
LAT: 36.30502799° N  
LONG: 107.30372064° W  
NAD 83

BHL  
592' FSL, 2437' FEL  
SEC. 20, T24N, R4W  
LAT: 36.29016490° N  
LONG: 107.27964350° W  
NAD 83

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

E-mail Address \_\_\_\_\_

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

3/17/20

Date of Survey  
Plat Revised: 8/25/20  
Signature and Seal of Professional Surveyor

JOHN A VUKONICH  
NEW MEXICO  
14831  
PROFESSIONAL SURVEYOR

14831

Certificate Number

BASIN MANCOS SEC. 18 = NE/4SW/4, SE/4SW/4, SW/4SE/4; SEC. 19 = NE/4NW/4, N/2NE/4, SE/4NE/4: 280 Ac.  
LINDRITH GALLUP DAKOTA, SOUTH (OIL) SEC. 20 = SW/4NW/4, N/2SW/4, SE/4SW/4, SW/4SE/4: 200 Ac.  
TOTAL = 480 ACRES

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DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, N.M. 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

ELK #140H

8713.83 LINEAR FEET OF WELLBORE WITHIN  
JICARILLA CONTRACT 42  
LOCATED IN NE/SW, SE/SW, SW/SE OF SECTION 18,  
NE/NW, NW/NE, NE/NE, SE/NE OF SECTION 19,  
SW/NW, NW/SW, NE/SW, SE/SW, SW/SE OF SECTION 20,  
T24N, R4W, N.M.P.M.  
RIO ARRIBA COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	NS INDICATOR	LATITUDE	LONGITUDE
FROM	1220	FSL (SEC. 18)	960	FWL (SEC. 18)	36.30638990° N	107.30138440° W
TO	592	FSL (SEC. 20)	2437	FEL (SEC. 20)	36.29016490° N	107.27964350° W



## Elk #140H

### Proposed Well Site Layout (Drilling)



		<b>P.O. Box 3651</b> <b>Farmington, NM 87499</b> <b>Office: (505) 334-0408</b>
<b>Surveyed:</b> 3/17/20	<b>Rev. date/By:</b> 10/22/20/A.A.D.	<b>App. by:</b> J.A.V.
<b>Drawn by:</b> A.A.D	<b>Date drawn:</b> 5/6/20	<b>File name:</b> 140H-Drilling

**Eik #140H**

### Proposed Well Site Layout (Completions)



NOT TO SCALE

LAT. 36.3050279° N (NAD83)  
LONG. 107.30372064° W (NAD83)

LAT. 36.3050279° N (NAD83)  
LONG. 107.30372064° W (NAD83)

LAT. 36.3050279° N (NAD83)  
LONG. 107.30372064° W (NAD83)

POE

LAT. 36.30638990° N (NAD83)  
LONG. 107.30138440° W (NAD83)

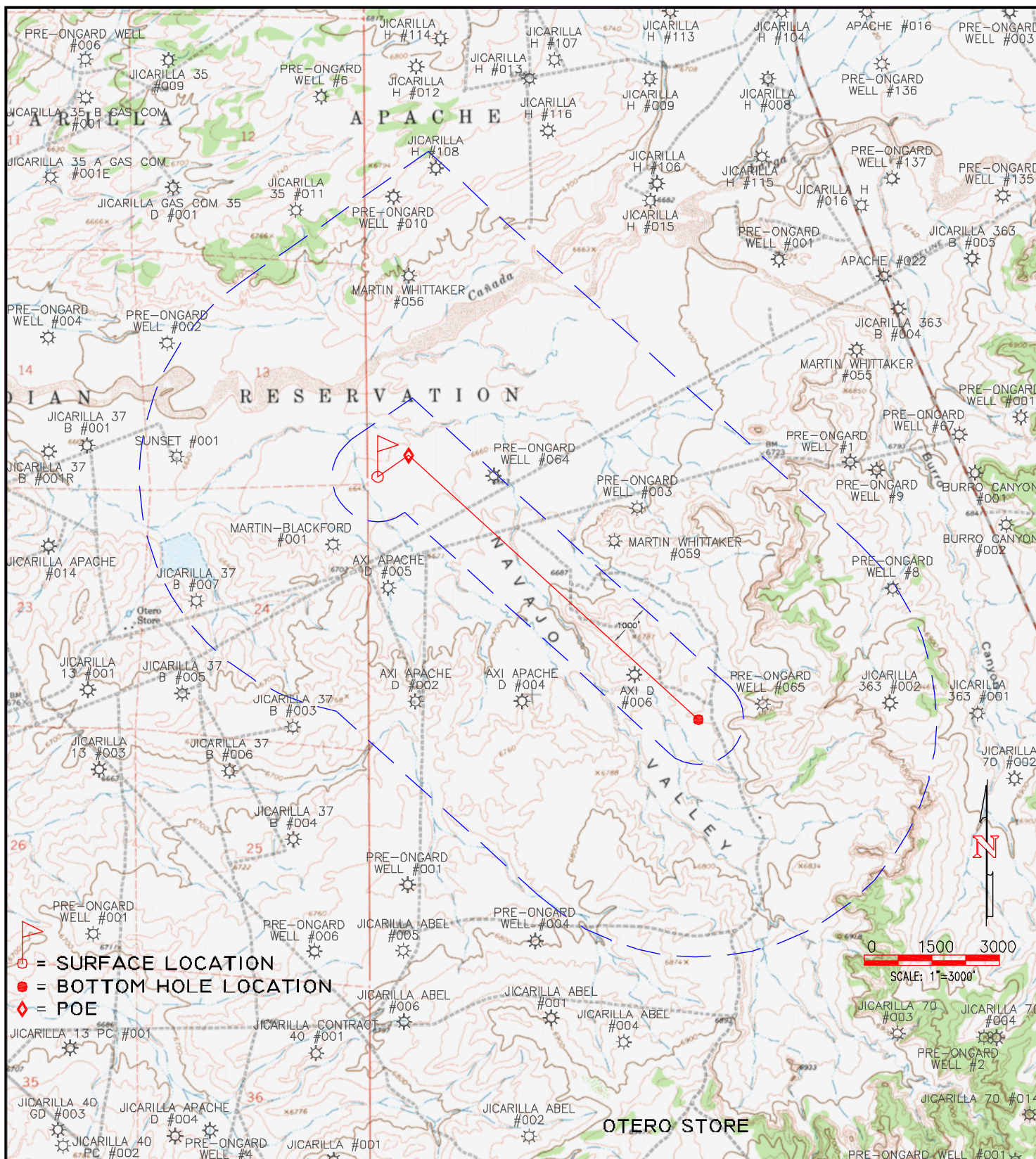
LAT. 36.30638990° N (NAD83)  
LONG. 107.30138440° W (NAD83)

BHL

LAT. 36.29016490° N (NAD83)  
LONG. 107.27964350° W (NAD83)

LAT. 36.29016490° N (NAD83)  
LONG. 107.27964350° W (NAD83)

			<p>P.O. Box 3651          Farmington, NM 87499          Office: (505) 334-0408</p>	
Surveyed: 3/17/20	Rev. date/By: 10/22/20/A.A.D.	App. by: J.A.V.		
Drawn by: A.A.D.	Date drawn: 5/6/20	File name: 140H-Complete		



LEASE: ELK 140H

FOOTAGES: 724' FSL, 271' FWL, SEC. 18

TOWNSHIP: 24 N RANGE: 4 W N.M.P.M.

LAT: 36.30502799' N LONG: 107.30372064' W (NAD83)

ELEVATION: 6648'

**DJR**  
Operating, LLC

  
**UNITED**  
FIELD SERVICES INC.  
P.O. BOX 3651  
FARMINGTON, NM 87499  
OFFICE: (505) 334-0408

SURVEYED: 3/17/20

REV. DATE: 7/30/20

APP. BY: J.A.V.

DRAWN BY: K.S.

DATE DRAWN: 5/11/20

FILE NAME: 11441-140H



DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, N.M. 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

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Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
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Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code 97232 & 39139	<sup>3</sup> Pool Name BASIN MANCOS & LINDRITH GALLUP DAKOTA, SOUTH (OIL)
<sup>4</sup> Property Code	<sup>5</sup> Property Name ELK	<sup>6</sup> Well Number 142H
<sup>7</sup> OGRID No. 371838	<sup>8</sup> Operator Name DJR OPERATING, LLC	<sup>9</sup> Elevation 6648

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	18	24 N	4 W	LOT 4	743	SOUTH	266	WEST	RIO ARRIBA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	20	24 N	4 W		616	SOUTH	1037	WEST	RIO ARRIBA

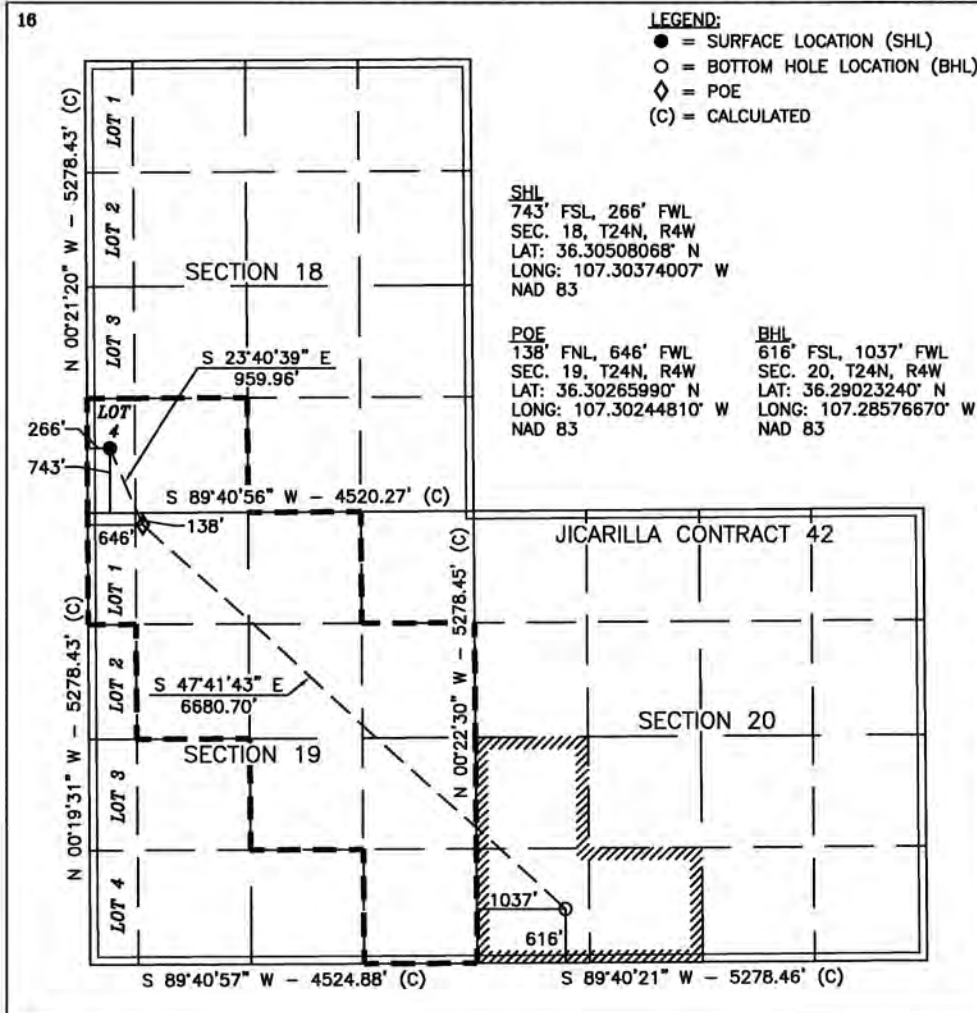
<sup>12</sup> Dedicated Acres  
BASIN MANCOS SEC. 18 = LOT 4 (13.20), SE/4SW/4; SEC. 19 = LOT 1 (13.20), E/2NW/4, W/2NE/4, SE/4NE/4,  
N/2SE/4, SE/4SE/4; 386.40 Ac.; LINDRITH GALLUP DAKOTA, SOUTH (OIL) SEC. 20 = W/2SW/4, SE/4SW/4; 120 Ac.  
TOTAL = 506.40 ACRES

<sup>13</sup> Joint or Infill

<sup>14</sup> Consolidation Code

<sup>15</sup> Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature

Date

Printed Name

E-mail Address

<sup>18</sup> SURVEYOR CERTIFICATION

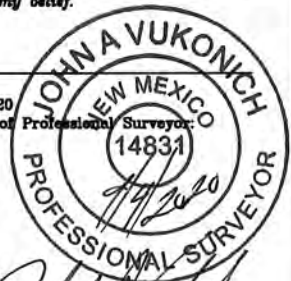
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

3/17/20

Date of Survey

Plat Revised: 8/26/20

Signature and Seal of Professional Surveyor



14831  
Certificate Number

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, N.M. 88210  
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State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

ELK #142H

LEGEND:

- = SURFACE LOCATION (SHL)
- = BOTTOM HOLE LOCATION (BHL)
- ◆ = POE
- (C) = CALCULATED

SHL

743' FSL, 266' FWL  
SEC. 18, T24N, R4W  
LAT: 36.30508068° N  
LONG: 107.30374007° W  
NAD 83

POE

138' FNL, 646' FWL  
SEC. 19, T24N, R4W  
LAT: 36.30265990° N  
LONG: 107.30244810° W  
NAD 83

BHL

616' FSL, 1037' FWL  
SEC. 20, T24N, R4W  
LAT: 36.29023240° N  
LONG: 107.28576670° W  
NAD 83

NW Corner Sec. 18 (CALCULATED)

Lat. 36.3175382° N (NAD 83)  
Long. 107.3046546° W (NAD 83)

NE Corner Sec. 18 (CALCULATED)

Lat. 36.3175382° N (NAD 83)  
Long. 107.2893172° W (NAD 83)

SW Corner Sec. 18 (CALCULATED)

Lat. 36.3030384° N (NAD 83)  
Long. 107.3046413° W (NAD 83)

SE Corner Sec. 18 (CALCULATED)

Lat. 36.3030385° N (NAD 83)  
Long. 107.2893006° W (NAD 83)

SW Corner Sec. 19 (CALCULATED)

Lat. 36.2885387° N (NAD 83)  
Long. 107.3046374° W (NAD 83)

NE Corner Sec. 20 (CALCULATED)

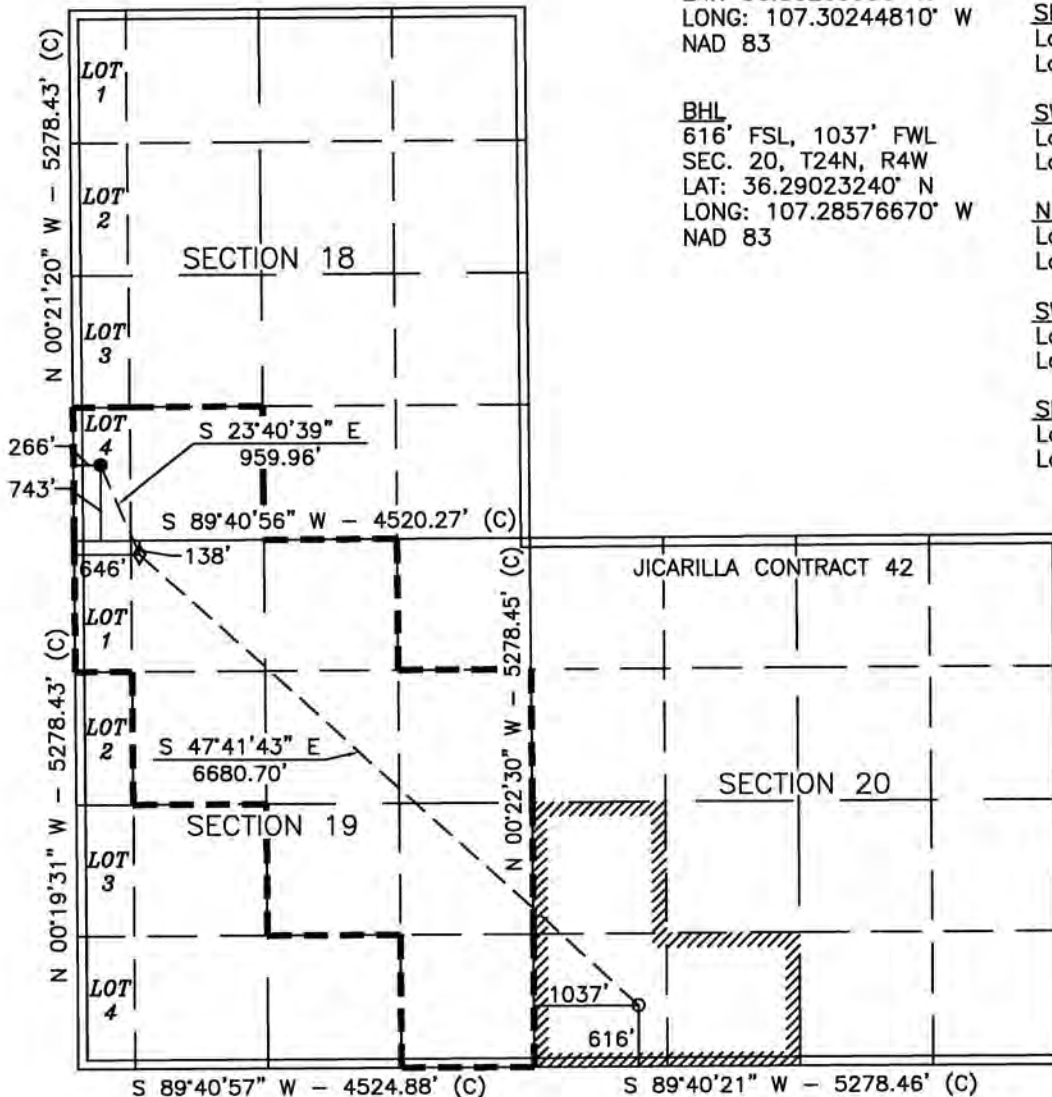
Lat. 36.3030385° N (NAD 83)  
Long. 107.2713869° W (NAD 83)

SW Corner Sec. 20 (CALCULATED)

Lat. 36.2885387° N (NAD 83)  
Long. 107.2892841° W (NAD 83)

SE Corner Sec. 20 (CALCULATED)

Lat. 36.2885387° N (NAD 83)  
Long. 107.2713737° W (NAD 83)



Dedicated Acres

BASIN MANCOS SEC. 18 = LOT 4 (13.20), SE/4SW/4; SEC. 19 = LOT 1 (13.20), E/2NW/4, W/2NE/4, SE/4NE/4, N/2SE/4, SE/4SE/4: 386.40 Ac.; LINDRITH GALLUP DAKOTA, SOUTH (OIL) SEC. 20 = W/2SW/4, SE/4SW/4: 120 Ac.  
TOTAL = 506.40 ACRES

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1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

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Revised August 1, 2011

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District Office

☐ AMENDED REPORT

ELK #142H

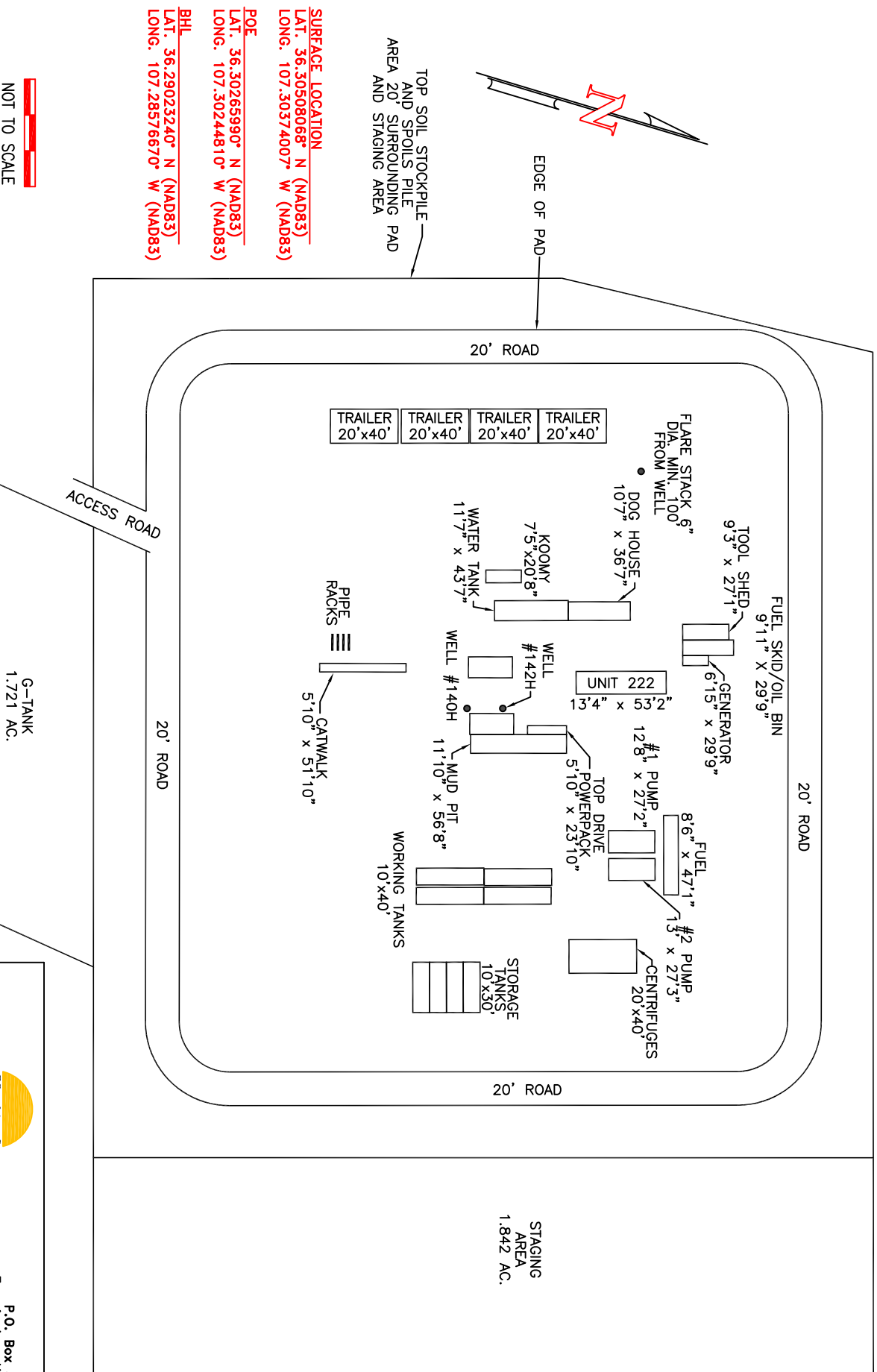
6680.70 LINEAR FEET OF WELLBORE WITHIN  
JICARILLA CONTRACT 42  
LOCATED IN NE/NW, NW/NE, SW/NE, SE/NE, NE/SE OF SECTION 19,  
NW/SW, SW/SW OF SECTION 20,  
T24N, R4W, N.M.P.M.  
RIO ARRIBA COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	NS INDICATOR	LATITUDE	LONGITUDE
FROM	138	FNL (SEC. 19)	646	FWL (SEC. 19)	36.3026599° N	107.3024481° W
TO	616	FSL (SEC. 20)	1037	FWL (SEC. 20)	36.2902324° N	107.2857667° W

# DJR Operating, LLC

Elk #142H

Section 18 T24N R4W and Section 13 T24N R5W NMPM  
Rio Arriba County, NM  
Proposed Well Site Layout (Drilling)




P.O. Box 3651  
Farmington, NM 87499  
Office: (505) 334-0408

Surveyed: 3/17/20	Rev. date/By: 10/23/20/A.A.D.	App. by: J.A.V.
Drawn by: A.A.D.	Date drawn: 5/6/20	File name: 142H-Drilling

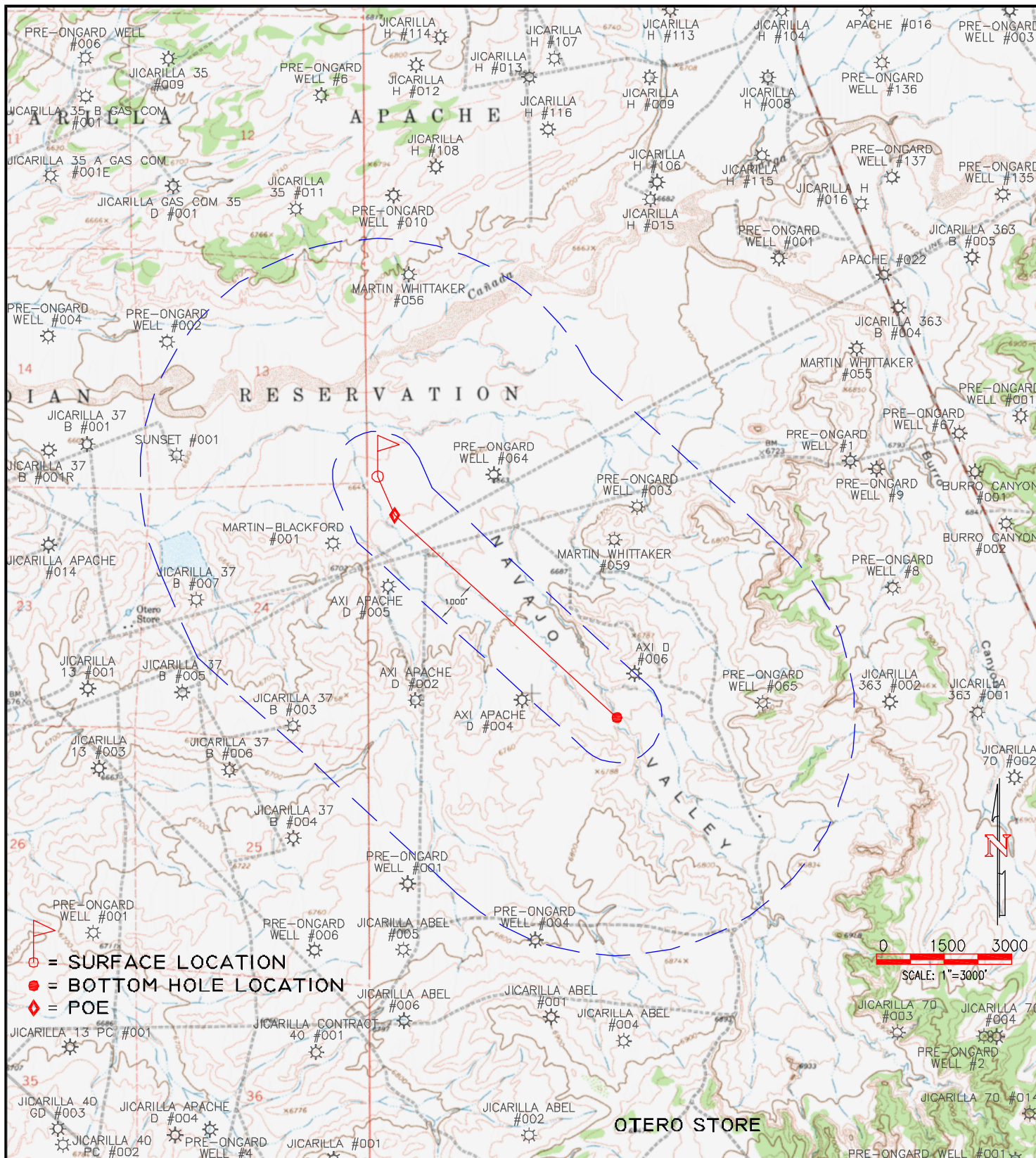
## Elk #142H

### Proposed Well Site Layout (Completions)



		P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408	
Surveyed: 3/17/20	Rev. date/By: 10/23/20/A.A.D.	App. by: J.A.V.	
Drawn by: A.A.D.	Date drawn: 5/6/20	File name: 142H-Complete	





LEASE: ELK 142H

FOOTAGES: 743' FSL, 266' FWL, SEC. 18

TOWNSHIP: 24 N RANGE: 4 W N.M.P.M.

LAT: 36.30508068° N LONG: 107.30374007° W (NAD83)

ELEVATION: 6648'

**DJR**  
Operating, LLC

**UNITED**  
FIELD SERVICES INC.  
P.O. BOX 3651  
FARMINGTON, NM 87499  
OFFICE: (505) 334-0408

SURVEYED: 3/17/20

REV. DATE: 7/30/20

APP. BY: J.A.V.

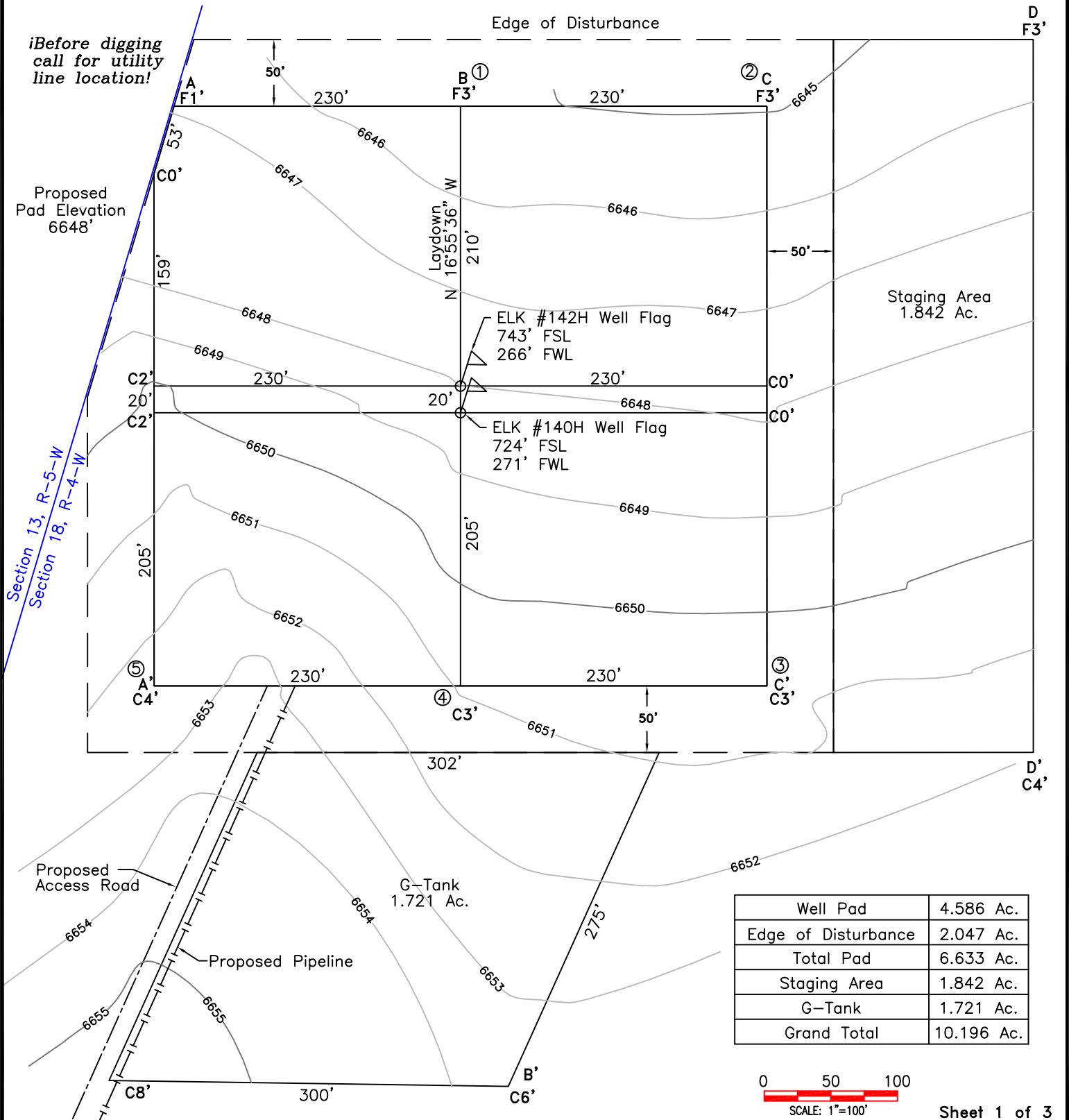
DRAWN BY: K.S.

DATE DRAWN: 5/11/20

FILE NAME: 11441-142H


# DJR Operating, LLC

Largo Canyon West Pad 8  
Section 18 T24N R4W NMPM  
Rio Arriba County, NM

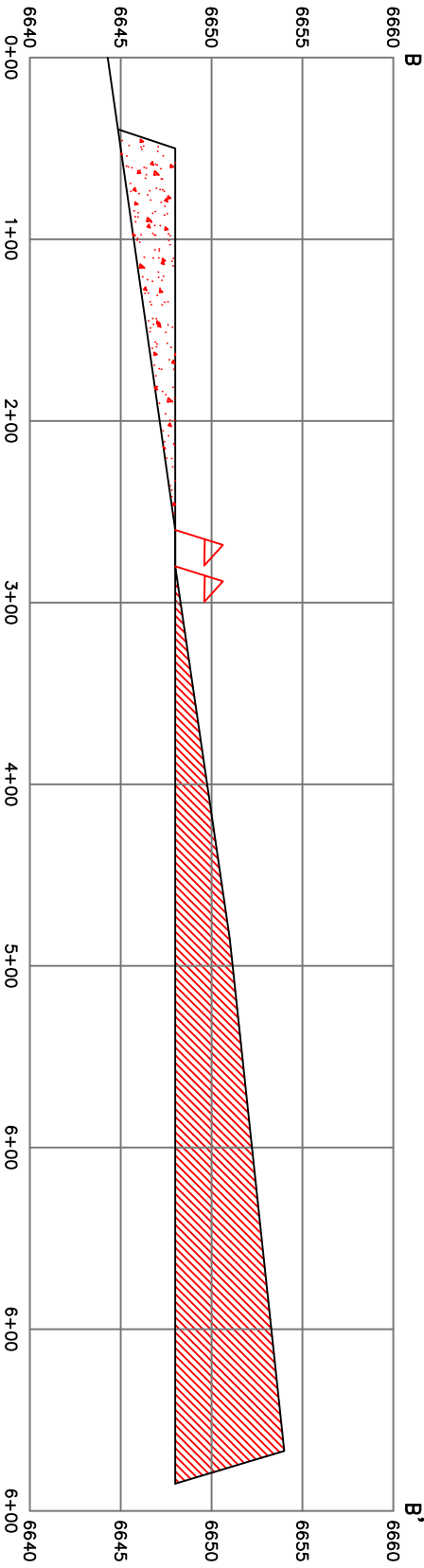
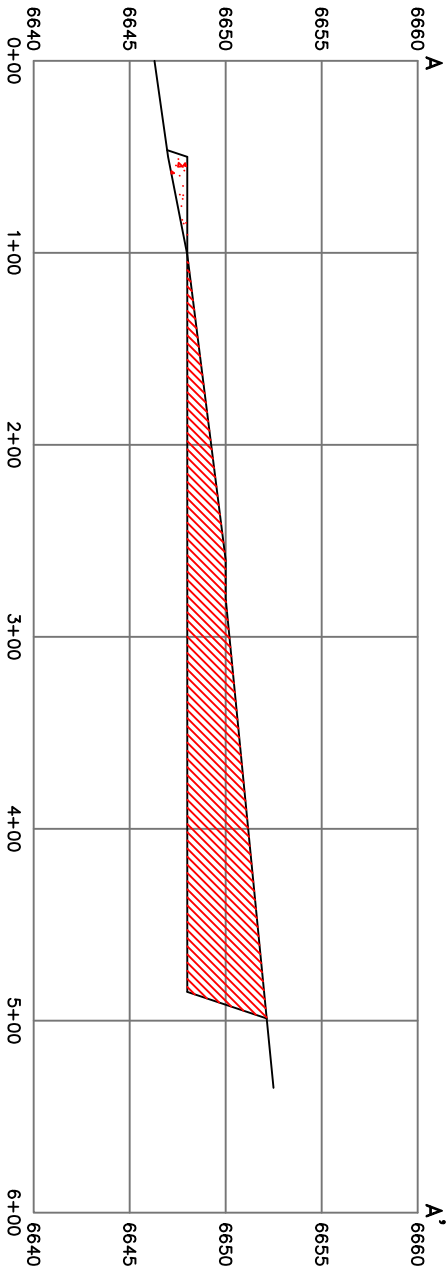


## Notes:


1. All Bearings and distances are based upon the New Mexico State Plane Coordinate System, West Zone, NAD 83, in U.S. survey feet.
2. Basis of elevation is referenced to the North American Vertical Datum fo 1988.
3. Contractor shall contact "One-Call" for location of any marked or unmarked buried pipelines or cables on pad and/or access road at least two (2) working days prior to construction.
4. United Field Services Inc. is not liable for underground utilities or pipelines.
5. Cut and fill calculations are rounded to the nearest foot.

		
P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408		
Surveyed: 3/17/20	Rev. date/By: 11/05/20/K.S.	App. by: J.A.V.
Drawn by: A.A.D.	Date drawn: 4/25/20	File name: 11441-Pad

DJR Operating, LLC  
Largo Canyon West Pad 8  
Section 18 T24N R4W NMPM  
Rio Arriba County, NM

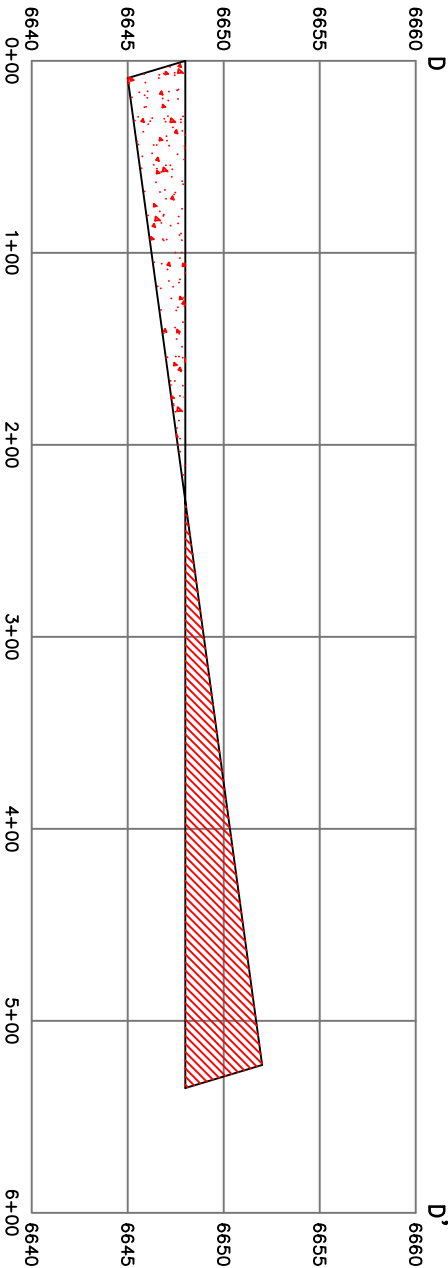
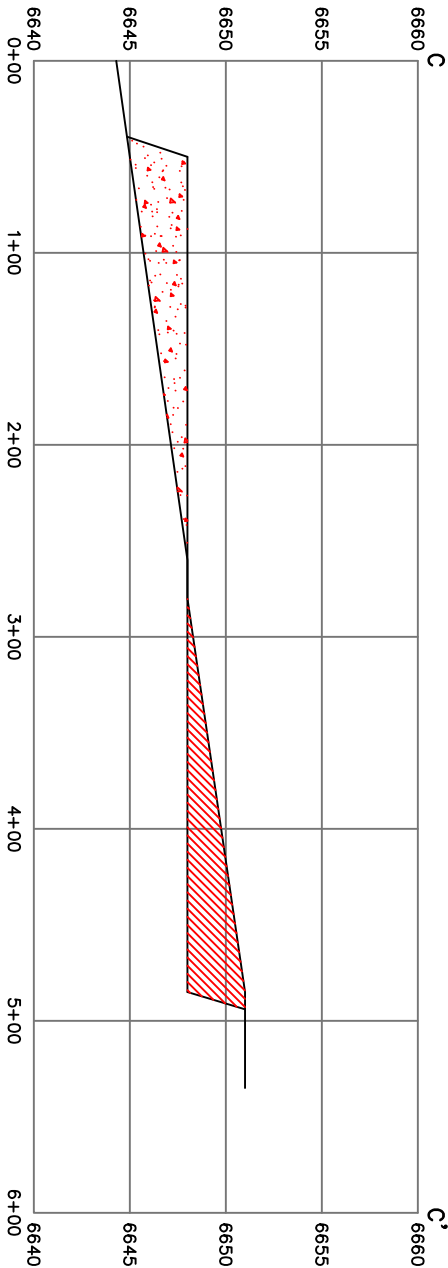


Horizontal Scale: 1" = 100'  
Vertical Scale: 1" = 10'


 United Field Services Inc.		P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408	
Surveyed: 3/17/20	Rev. date/By: 1/04/20/K.S.	App. by: J.A.V.	
Drawn by: A.A.D.	Date drawn: 4/25/20	File name: 11441-Pad	



DJR Operating, LLC  
Largo Canyon West Pad 8  
Section 18 T24N R4W NMPM  
Rio Arriba County, NM

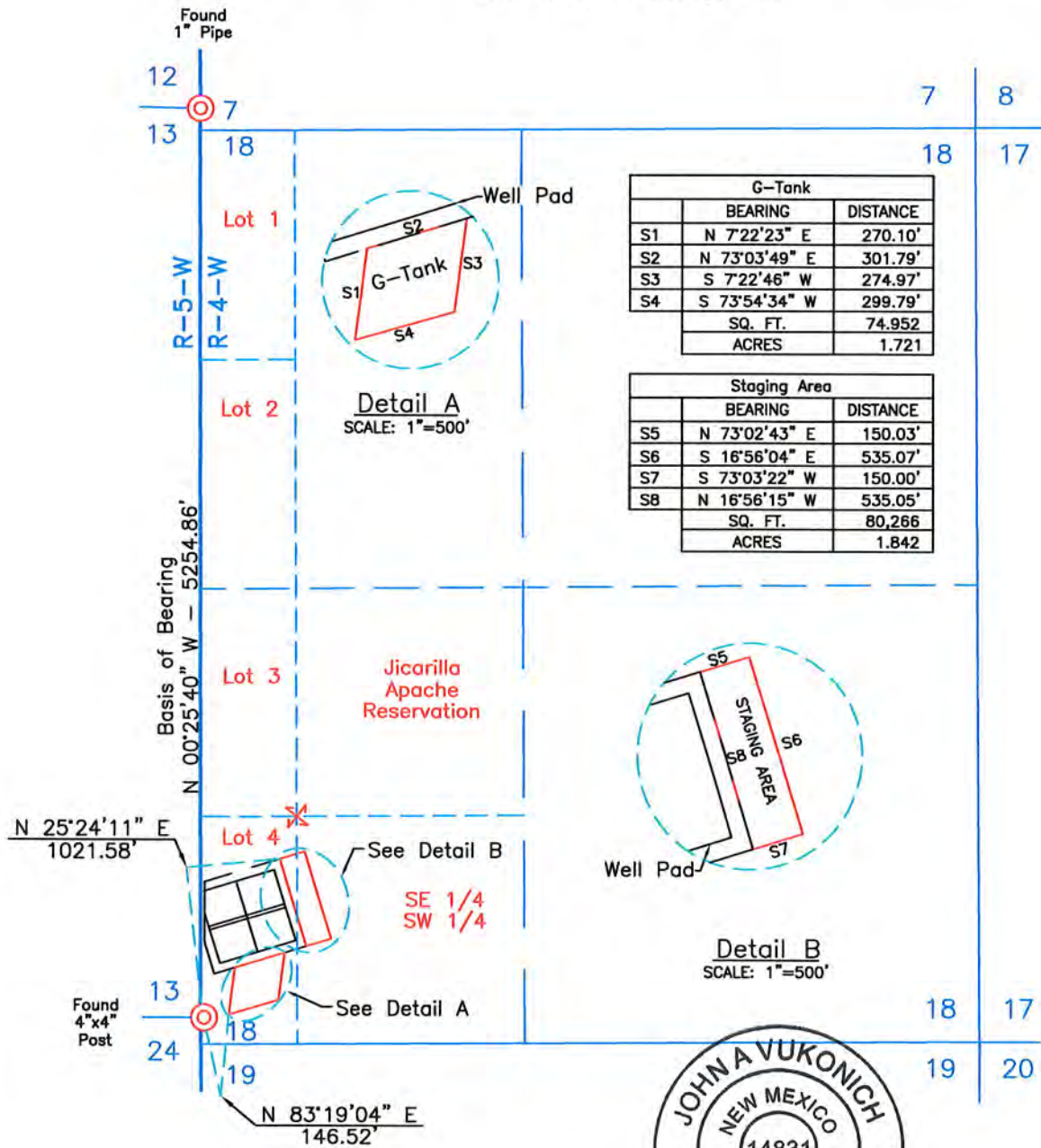


Horizontal Scale: 1" = 100'  
Vertical Scale: 1" = 10'

<div><div><div><div>United</div><div>Field Services Inc.</div></div></div><div><div>P.O. Box 3651</div><div>Farmington, NM 87499</div><div>Office: (505) 334-0408</div></div></div>			
Surveyed: 3/17/20	Rev. date/By: 1/04/20/K.S.	App. by: J.A.V.	
Drawn by: A.A.D.	Date drawn: 4/25/20	File name: 11441-Pad	

# DJR Operating, LLC

Largo Canyon West 8 G-Tank and Staging Area  
SE 1/4 SW 1/4 & Lot 4 Section 18, T-24-N, R-5-W, NMPM.,  
Rio Arriba County, NM



## Notes:

1. Basis of Bearing: As measured between the Southeast corner and the Northeast corner of Section 13, T-24-N, R-5-W, NMPM, Rio Arriba County, NM.  
Bears: N 00°25'40" W - 5254.86'
2. All bearings & distances shown are based upon the New Mexico State Plane Coordinate System, West Zone, NAD 83, in U.S. survey feet.


I, John A. Vukonich, New Mexico Professional Surveyor No. 14831, do hereby certify that this survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act.

*John A. Vukonich*  
John A. Vukonich, P.E./P.S., N.M.P.S. #14831

9/4/2020  
Date



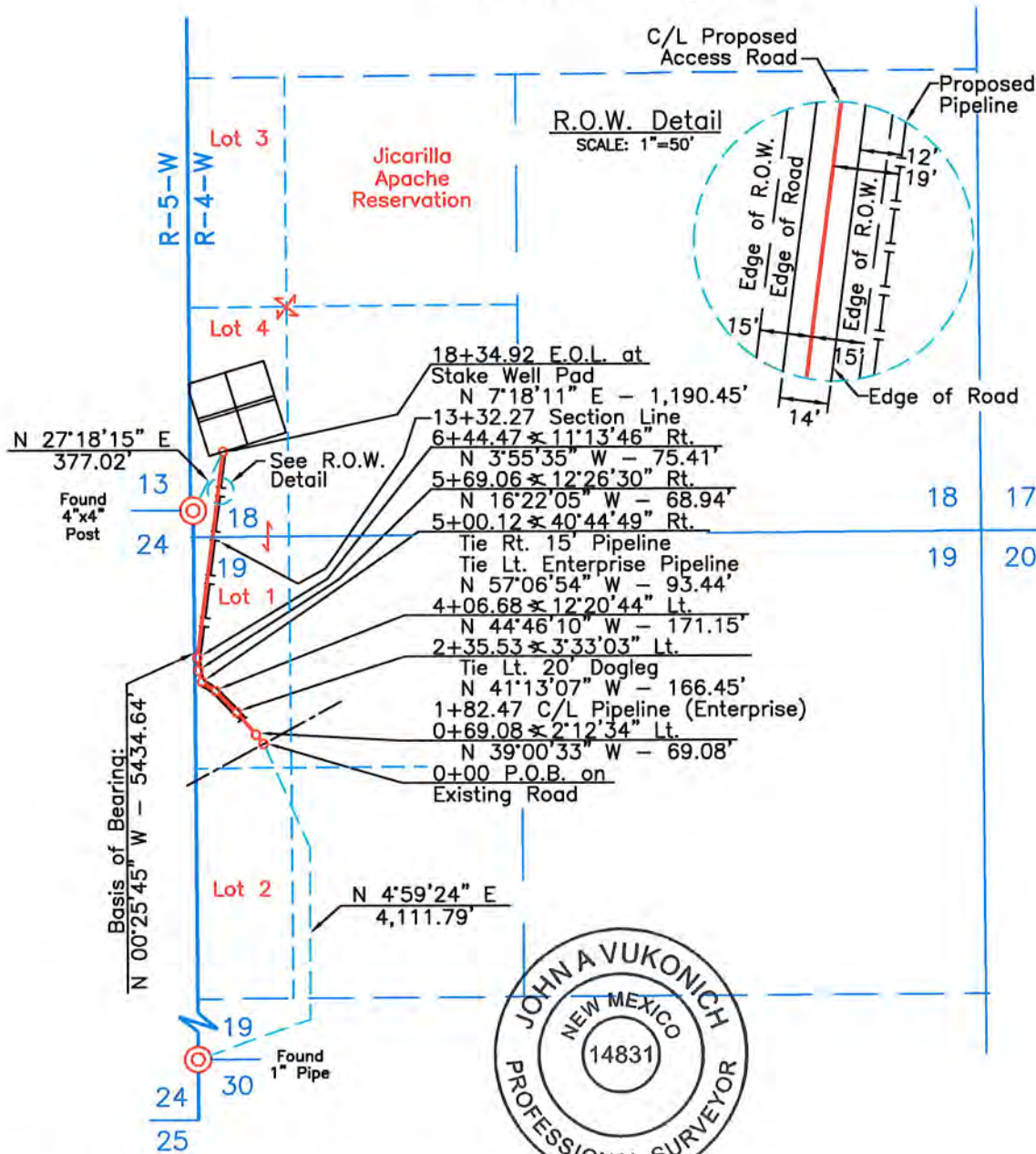
Owner		Sq. Ft.	Acres
Jicarilla Apache Reservation	G-Tank	74,952	1.721
	Staging Area	80,266	1.842

 <b>United</b> Field Services Inc.		P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408	
Surveyed: 6/12/20	Rev. date:	App. by: J.A.V.	
Drawn by: A.A.D.	Date drawn: 7/20/20	File name:11441-G-Tank	



# DJR Operating, LLC

Largo Canyon West Pad 8 Access Road  
NW 1/4 NW 1/4 (Lot 1) of Section 19 & SW 1/4 SW 1/4 (Lot 4)  
of Section 18, T24N, R4W, NMPM,  
Rio Arriba County, NM



## Notes:

1. Basis of Bearing: As Measured between the Southwest corner of Section 19, T-24-N, R-4-W and the Northwest corner of Section 24, T-24-N, R-5-W, NMPM, Rio Arriba County, New Mexico.  
Bears: N 00°25'45" W - 5434.64'
2. All bearings & distances shown are based upon the New Mexico State Plane Coordinate System, West Zone, NAD 83, in U.S. survey feet.

I, John A. Vukonich, New Mexico Professional Surveyor No. 14831, do hereby certify that this survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act.

*John A. Vukonich*  
John A. Vukonich, P.E./P.S., #14831

*12/01/2020*  
Date

P.O.B. = Point of Beginning  
E.O.L. = End of Line  
R.O.W. = Right of Way

Owner	Station	Feet/Rods/Ac.
Jicarilla Apache Reservation	0+00 TO 18+34.92	1834.92/111.207
	30' Width	1.264 Acres

			P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408		
Surveyed: 3/17/20	Rev. date: 11/18/20	App. by: J.A.V.	Surveyed: 3/17/20	Rev. date: 11/18/20	App. by: J.A.V.
Drawn by: A.A.D.	Date drawn: 3/30/20	File name: 11441-A01	Drawn by: A.A.D.	Date drawn: 3/30/20	File name: 11441-A01



Largo Canyon West Pad 8 Pipeline  
NW 1/4 NW 1/4 (Lot 1) of Section 19 & SW 1/4 SW 1/4 (Lot 4)  
of Section 18, T24N, R4W, NMPM,  
Rio Arriba County, NM

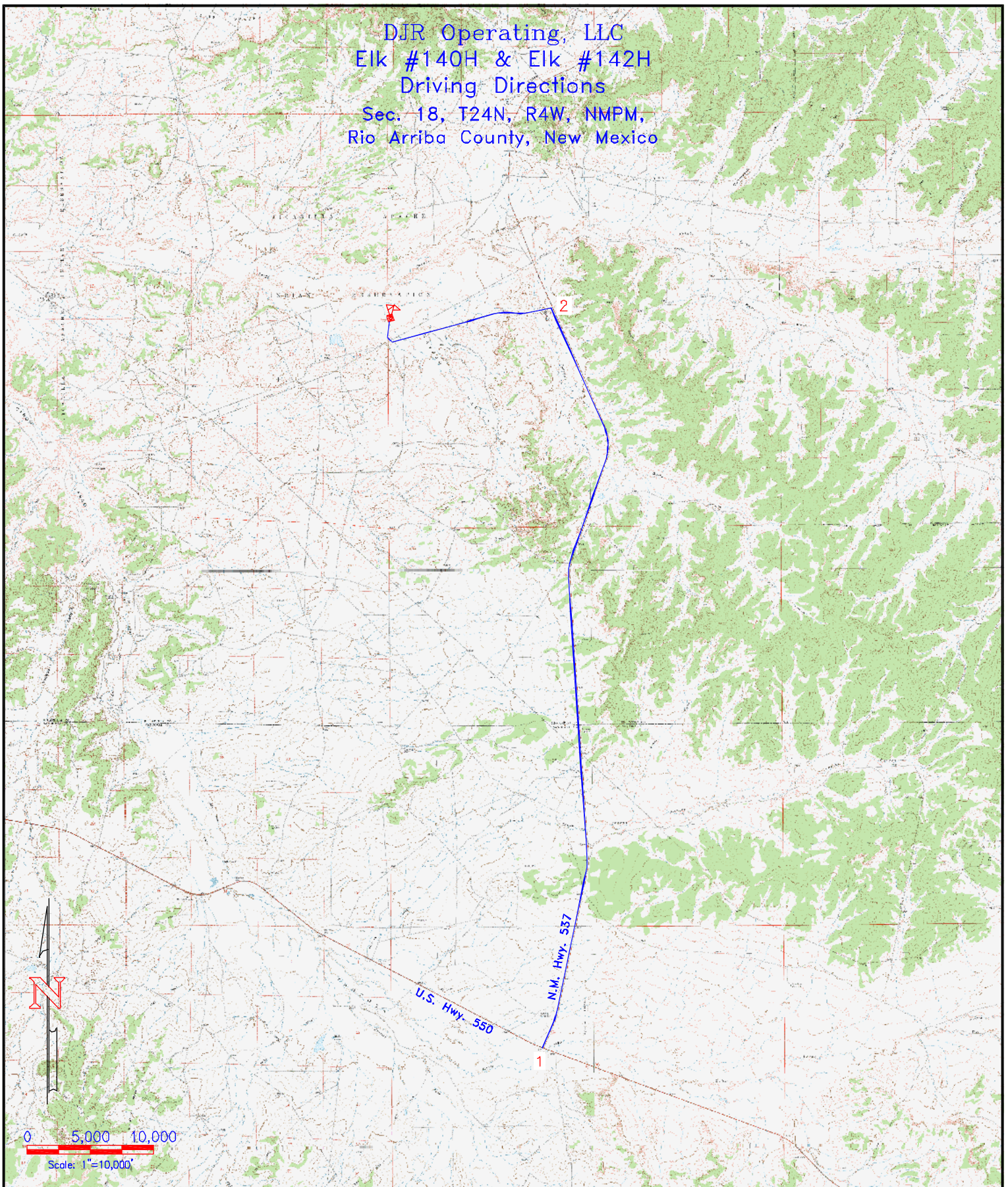


Surveyed: 3/17/20	Rev. date: 11/17/20	App. by: J.A.V.
Drawn by: A.A.D.	Date drawn: 3/30/20	File name: 11441-P01

Date \_\_\_\_\_



DJR Operating, LLC  
Elk #140H & Elk #142H  
Driving Directions  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rice Canyon  
Counselor  
Deer Mesa  
Five Lakes Canyon NW  
Mule Dam

Otero Store  
Tafoya Canyon  
Tancosa Windmill  
Taylor Ranch



P.O. Box 3651  
Farmington, NM 87499  
Office: (505) 334-0408


DWG. No. : 11441-Directions		Revision/By:
Drawn by: C.B.	Date Drawn: 08/04/20	Rev. Date:
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 1

DJR Operating, LLC  
Elk #140H & Elk #142H  
Driving Directions  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico

Directions

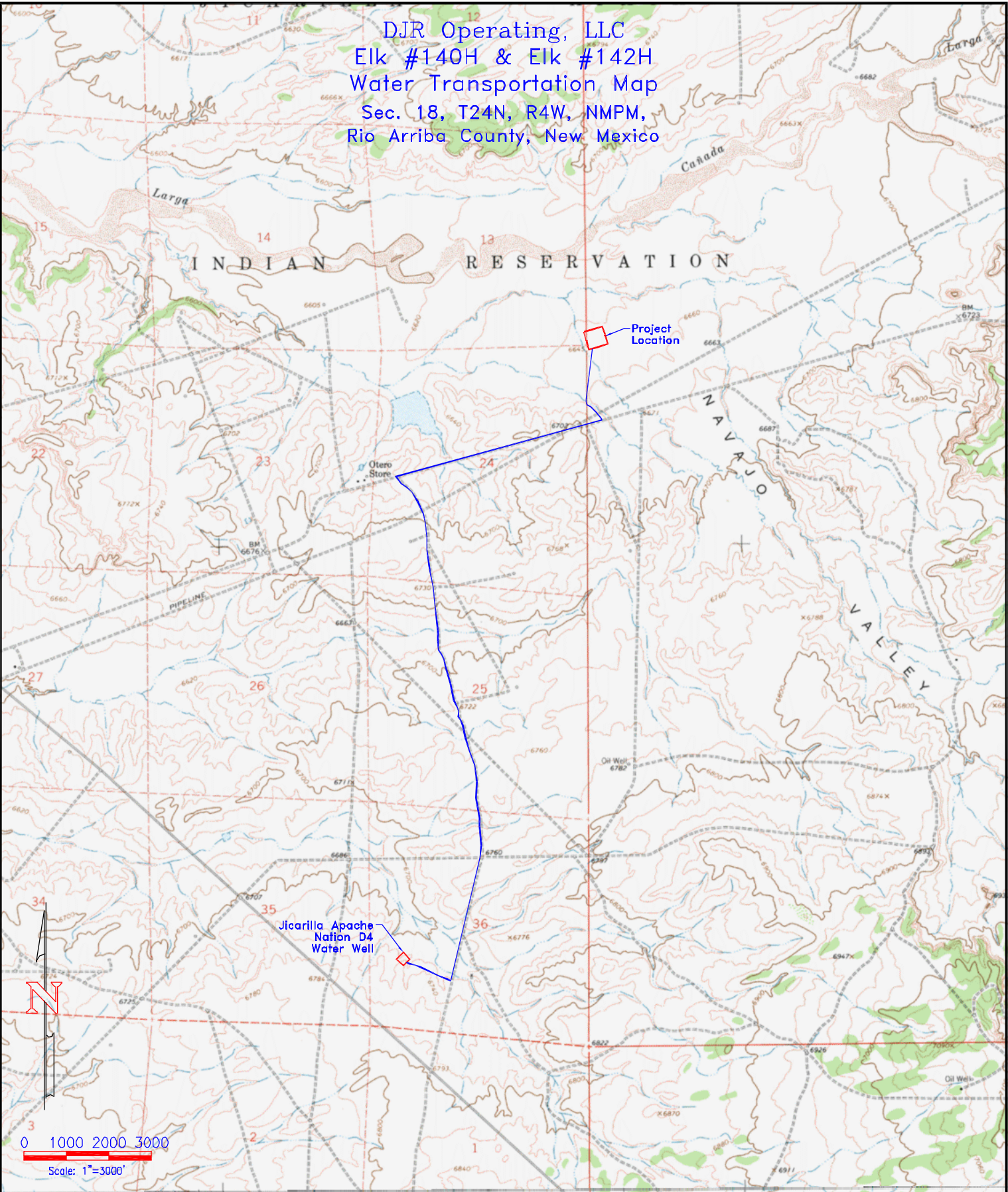
- 1) From the intersection of U.S. Hwy. 550 and N.M. Hwy. 537:  
Travel Northerly on Hwy. 537 for 11.4 miles.
- 2) Turn left at road intersection;  
Cross cattleguard & continue Westerly 2.4 miles to proposed access road.

Well Flag for #140H located at Lat. 36.3050279°N, Long. 107.3037206°W (NAD 83).  
Well Flag for #142H located at Lat. 36.3050807°N, Long. 107.3037401°W (NAD 83).

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DWG. No. : 11441-Directions		Revision/By:
Drawn by: C.B.	Date Drawn: 08/04/20	Rev. Date:
Surveyed: 3/17/20	App by: J.A.V.	Sheet: 2



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Otero Store  
Tancosa Windmill

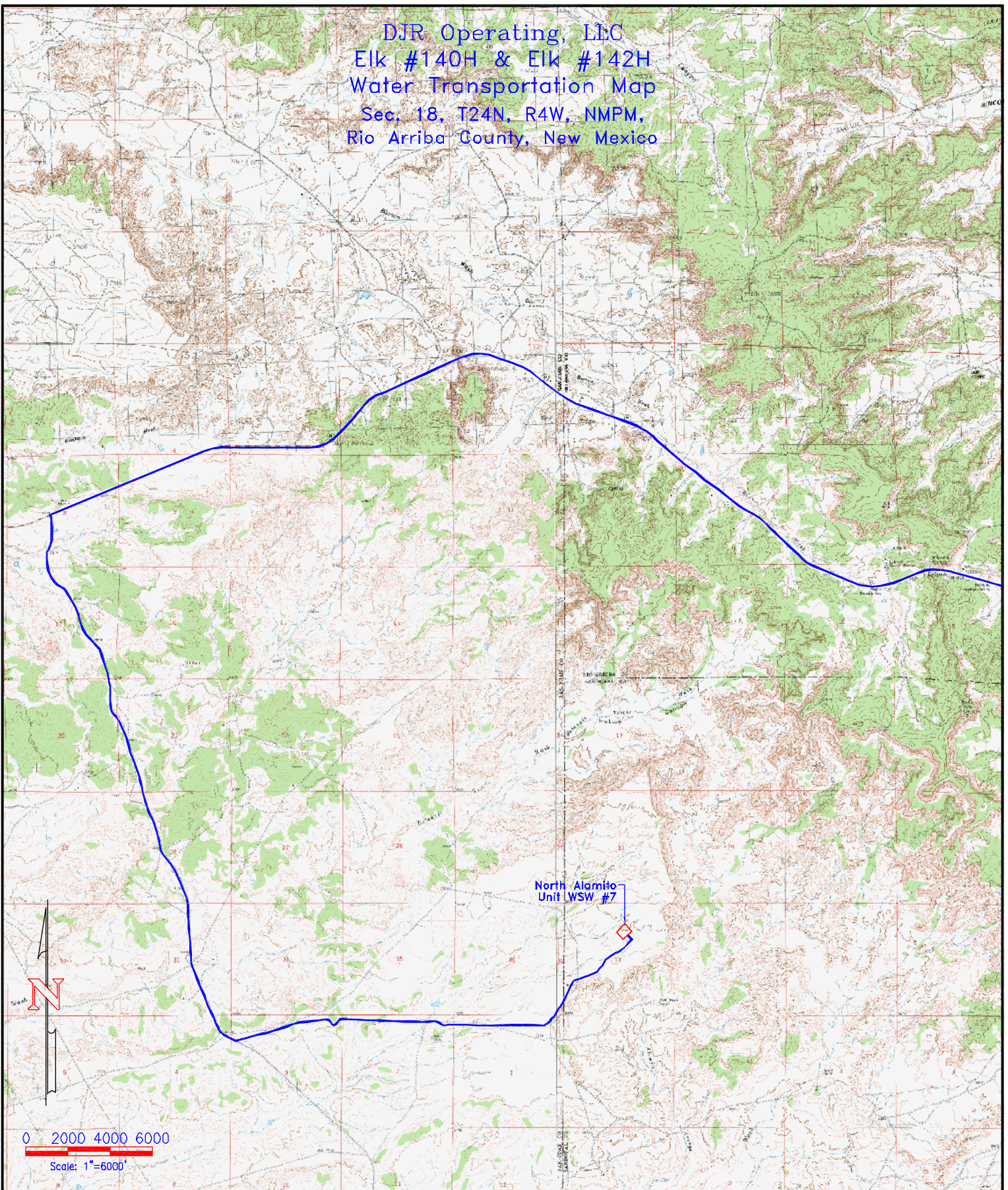


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Farmington, NM 87499  
Office: (505) 334-0408

DWG. No. : 11441-H20-1		Revision:
Drawn by: C.B.	Date Drawn: 08/06/20	Rev. Date:
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 1



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rise Canyon  
Counselor  
Deer Mesa  
Mule Dam

Otero Store  
Tafoya Canyon  
Tancosa Windmill  
Taylor Ranch  
Five Lakes Canyon NW

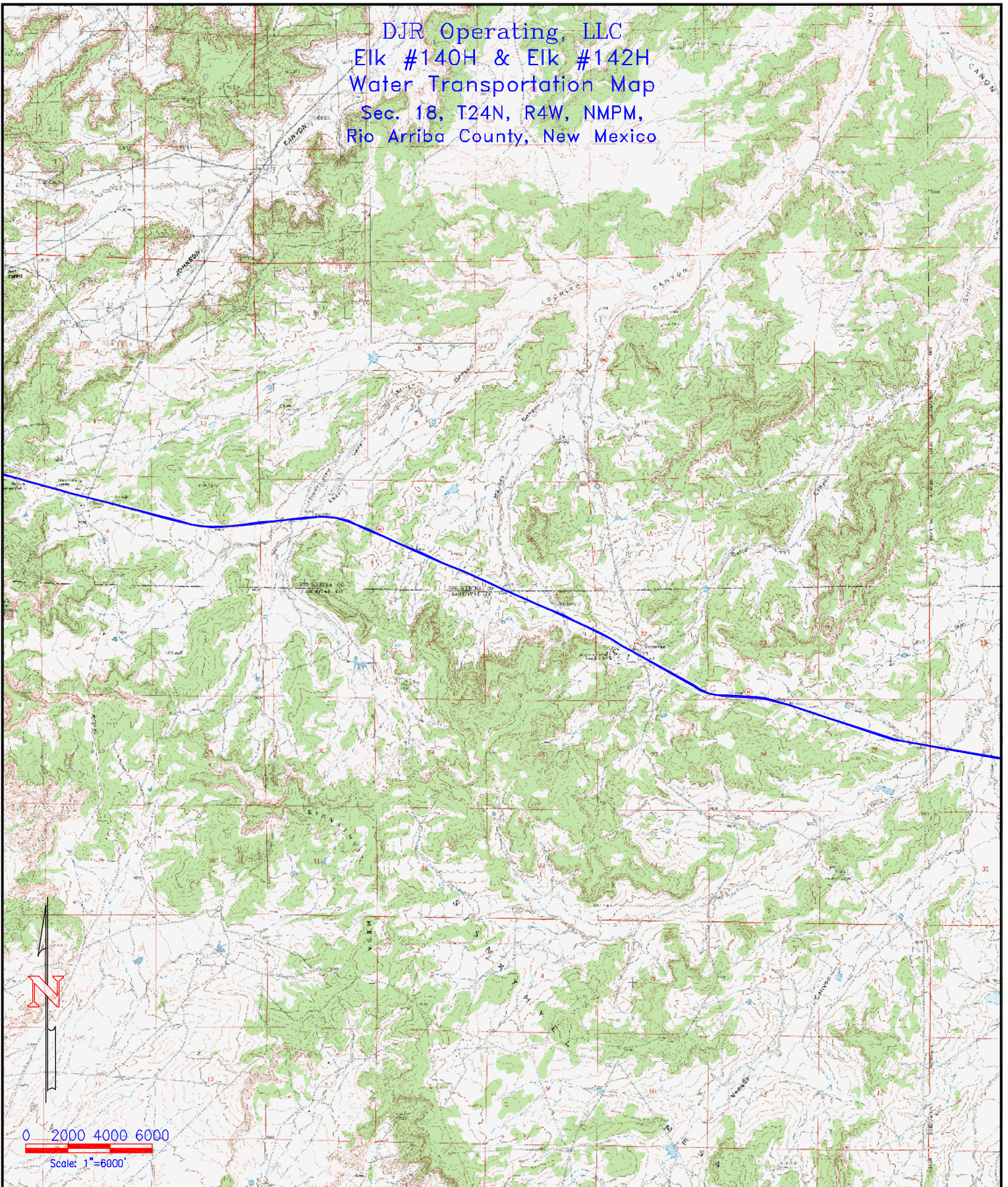


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Farmington, NM 87499  
Office: (505) 334-0408

DWG. No. : 11441-H20-2		Revision:
Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 1 of 4



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rise Canyon  
Counselor  
Deer Mesa  
Mule Dam

Otero Store  
Tafoya Canyon  
Tancosa Windmill  
Taylor Ranch  
Five Lakes Canyon NW

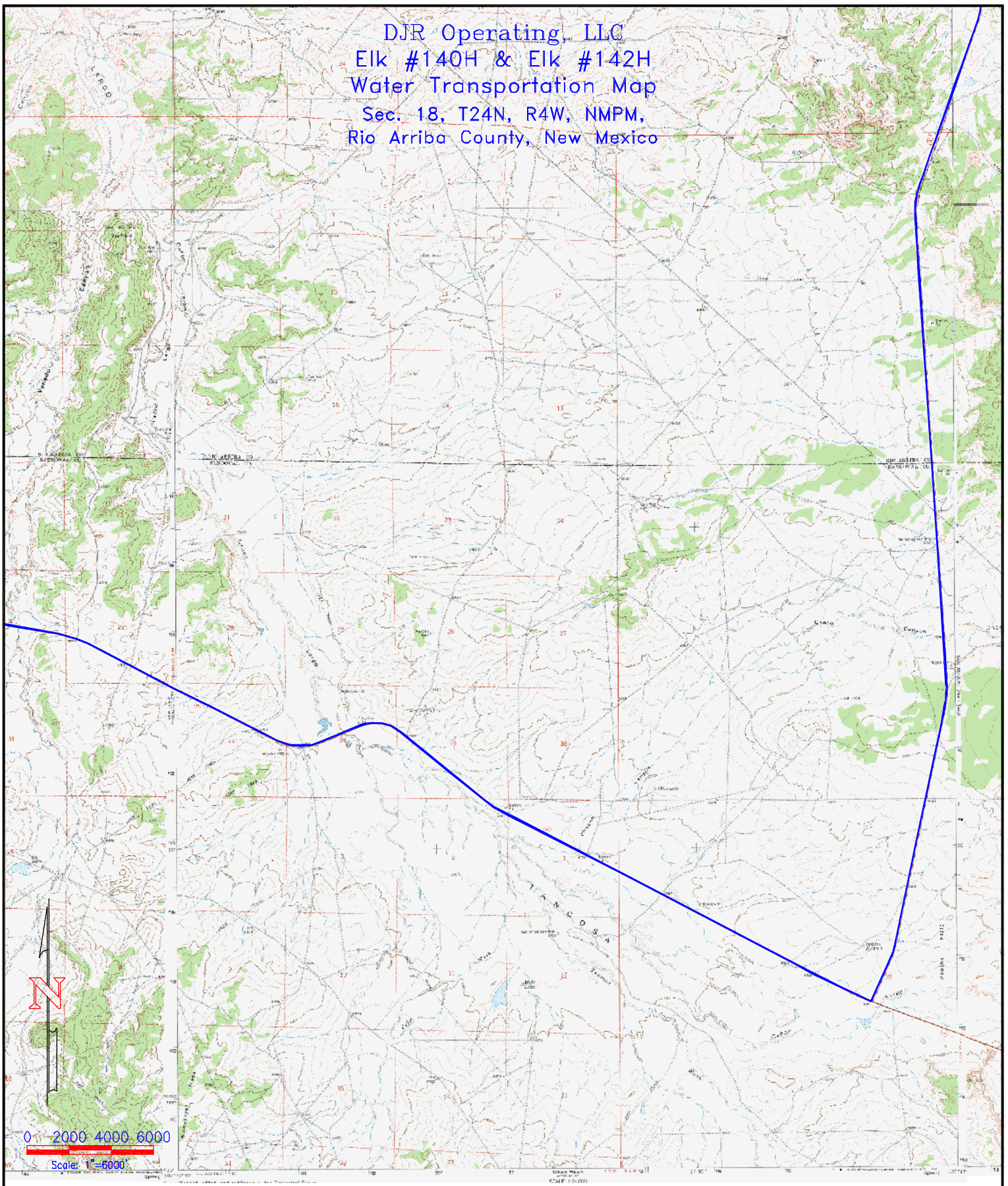


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Office: (505) 334-0408

DWG. No. : 11441-H20-2		Revision:
Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 2 of 4



DJR Operating, LLC  
 Elk #140H & Elk #142H  
 Water Transportation Map  
 Sec. 18, T24N, R4W, NMPM,  
 Rio Arriba County, New Mexico



Quadrangle Maps  
 Billy Rise Canyon  
 Counselor  
 Deer Mesa  
 Mule Dam

Otero Store  
 Tafoya Canyon  
 Tancosa Windmill  
 Taylor Ranch  
 Five Lakes Canyon NW

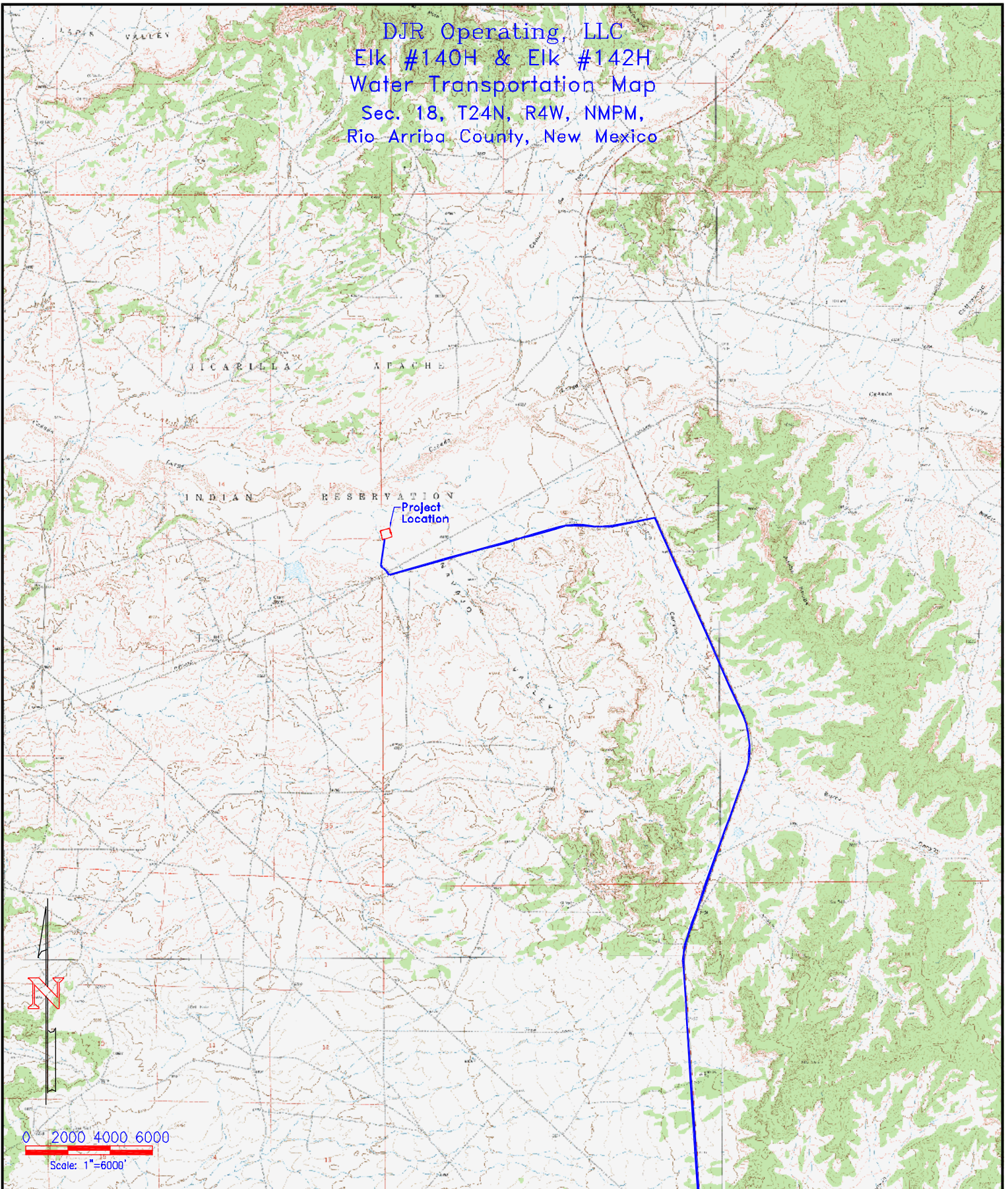


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DWG. No. : 11441-H20-2		Revision:
Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 3 of 4



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rise Canyon  
Counselor  
Deer Mesa  
Mule Dam

Otero Store  
Tafoya Canyon  
Tancosa Windmill  
Taylor Ranch  
Five Lakes Canyon NW



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Surveyed: 03/17/20	App by: J.A.V.	Sheet: 4 of 4



DJR Operating, LLC  
 Elk #140H & Elk #142H  
 Water Transportation Map  
 Sec. 18, T24N, R4W, NMPM,  
 Rio Arriba County, New Mexico

Blanco Trading  
 Post Water Well

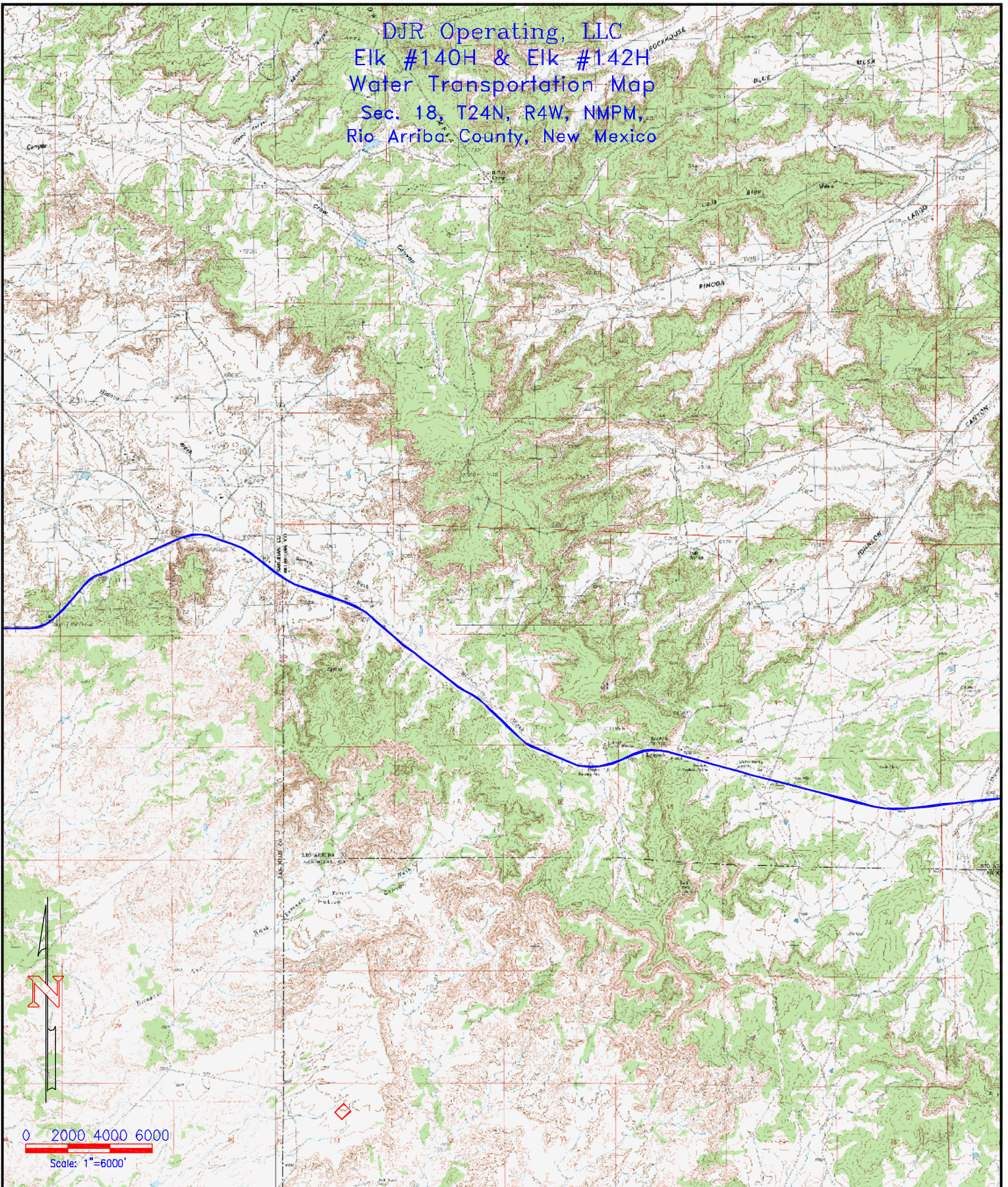


0 2000 4000 6000  
 Scale: 1"=6000'

Quadrangle Maps Billy Rise Canyon Counselor Deer Mesa Mule Dam	Otero Store Tafoya Canyon Tancosa Windmill Taylor Ranch Kimbeto	Blanco Trading Post Five Lakes Canyon NW	<div style="text-align: center;">  <p><b>United</b> Field Services Inc.</p> </div> <div style="text-align: right;">             P.O. Box 3651              Farmington, NM 87499              Office: (505) 334-0408           </div> <table border="1" style="width: 100%;"> <tr> <td colspan="2">DWG. No. : 11441-H20-3</td> <td>Revision:</td> </tr> <tr> <td>Drawn by: K.S.</td> <td>Date Drawn: 08/20/20</td> <td>Rev. Date:</td> </tr> <tr> <td>Surveyed: 03/17/20</td> <td>App by: J.A.V.</td> <td>Sheet: 1 of 5</td> </tr> </table>	DWG. No. : 11441-H20-3		Revision:	Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:	Surveyed: 03/17/20	App by: J.A.V.	Sheet: 1 of 5
DWG. No. : 11441-H20-3		Revision:										
Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:										
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 1 of 5										




DJR Operating, LLC  
 Elk #140H & Elk #142H  
 Water Transportation Map  
 Sec. 18, T24N, R4W, NMPM,  
 Rio Arriba County, New Mexico



Quadrangle Maps  
 Billy Rise Canyon  
 Counselor  
 Deer Mesa  
 Mule Dam

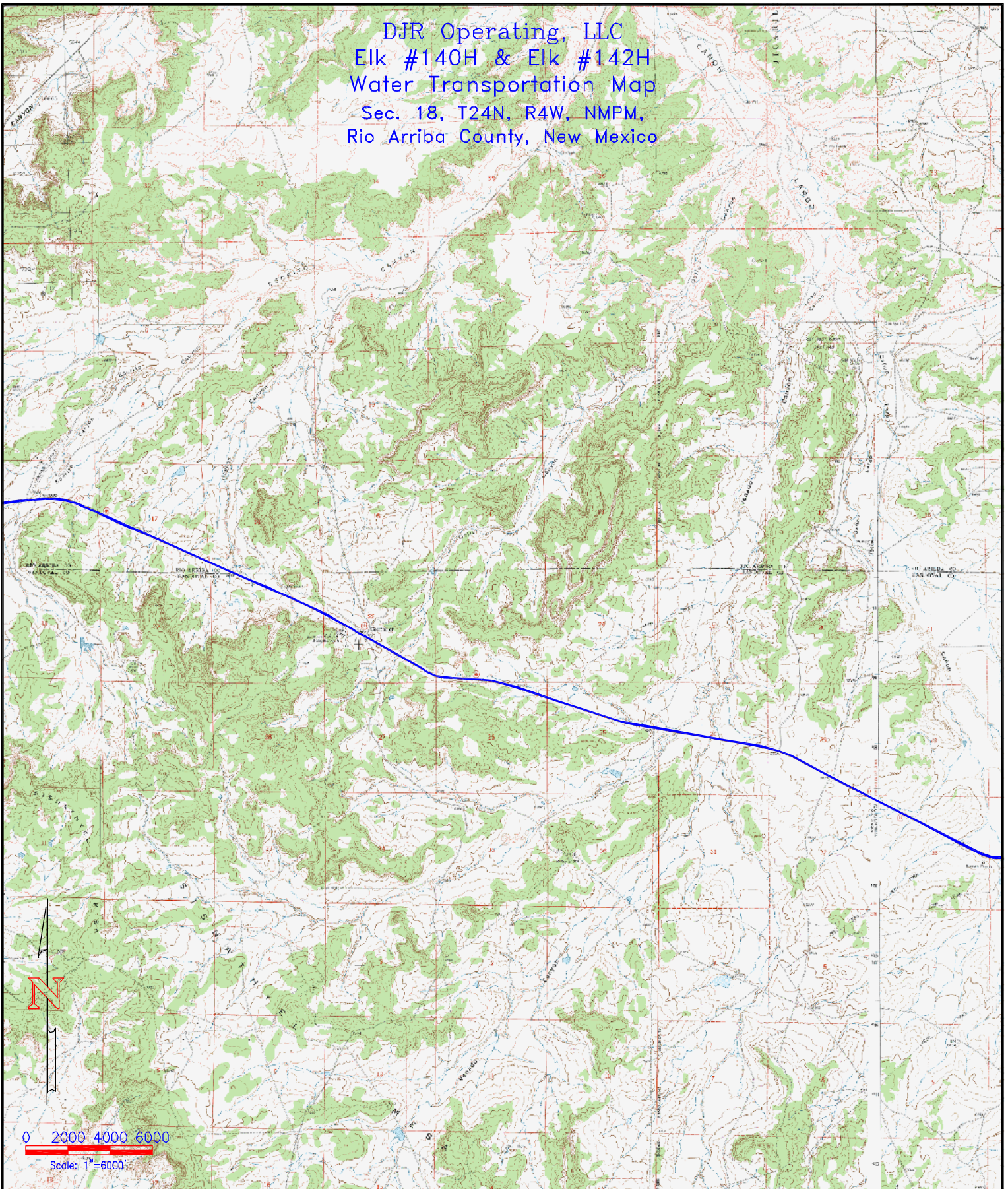
Otero Store  
 Tafoya Canyon  
 Tancosa Windmill  
 Taylor Ranch  
 Kimbeto

Blanco Trading  
 Post  
 Five Lakes  
 Canyon NW

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DWG. No. : 11441-H20-3		Revision:	
Drawn by: K.S.	Date Drawn: 08/20/20	Rev. Date:	
Surveyed: 03/17/20	App by: J.A.V.	Sheet: 2 of 5	



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rise Canyon  
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Mule Dam

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Tafoya Canyon  
Tancosa Windmill  
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Blanco Trading  
Post  
Five Lakes  
Canyon NW

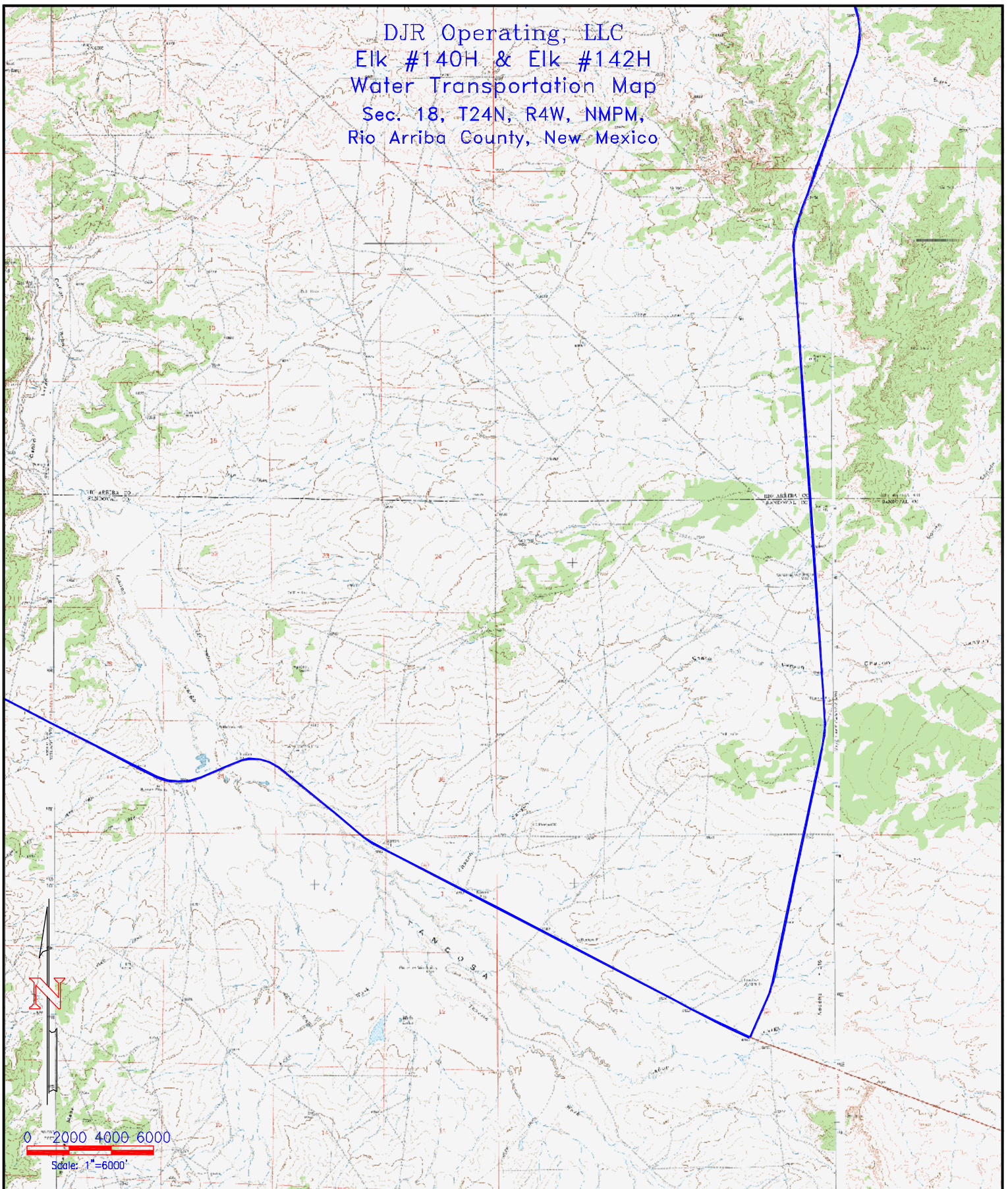


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DJR Operating, LLC  
Elk #140H & Elk #142H  
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Five Lakes  
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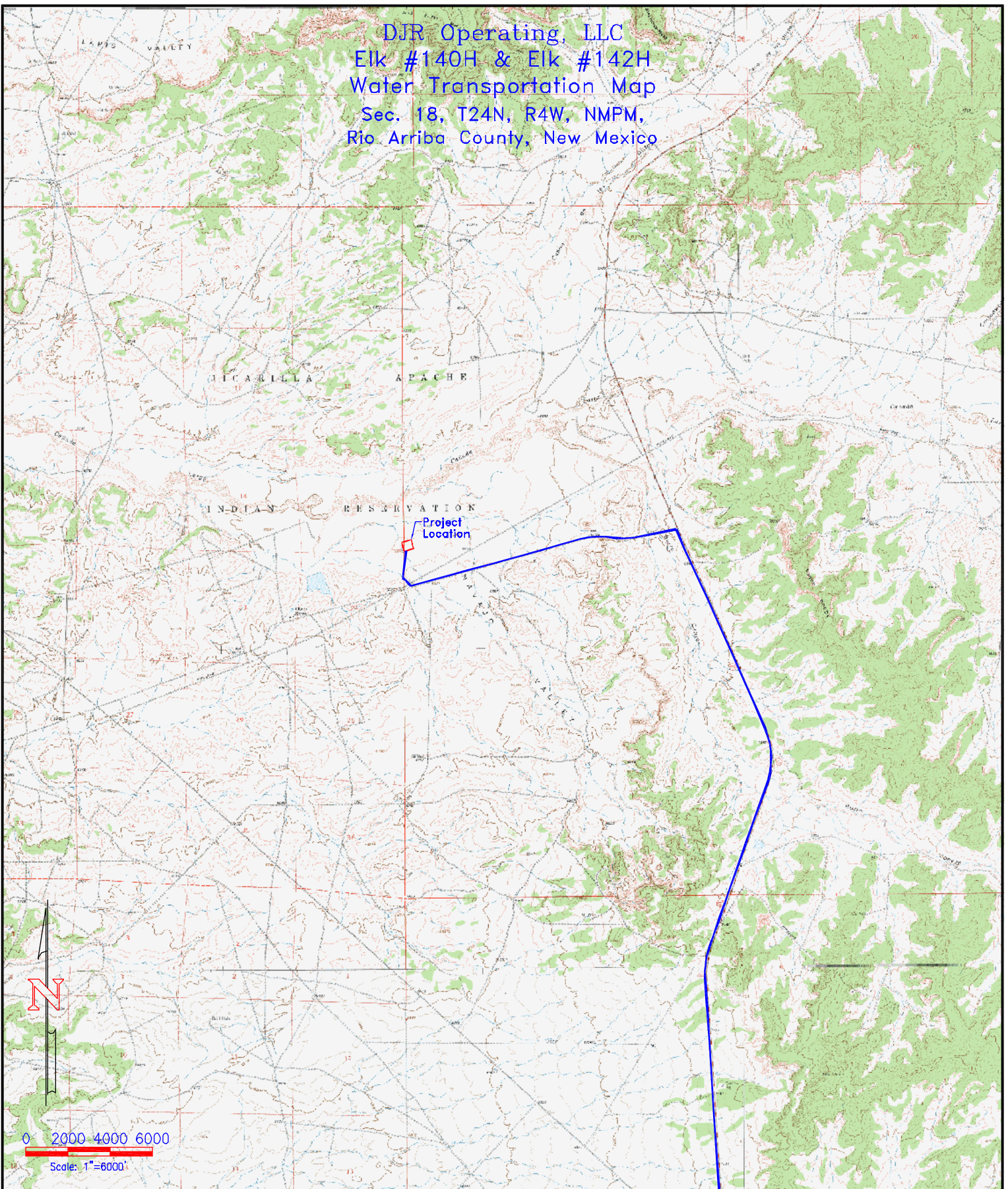


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Surveyed: 03/17/20	App by: J.A.V.	Sheet: 4 of 5



DJR Operating, LLC  
Elk #140H & Elk #142H  
Water Transportation Map  
Sec. 18, T24N, R4W, NMPM,  
Rio Arriba County, New Mexico



Quadrangle Maps  
Billy Rise Canyon  
Counselor  
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Mule Dam

Otero Store  
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Revision:

Drawn by: K.S.

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Rev. Date:

Surveyed: 03/17/20

App by: J.A.V.

Sheet: 5 of 5



## **Appendix C – Biological Survey Report**

# Biological Survey Report

---

DJR Operating, LLC  
Largo Canyon West #8 Well Pad, G-Tank,  
Staging Area, Access Road and Pipeline Project



**Prepared for**  
**Jicarilla Apache Nation**



**Prepared by:**



**December 2021**

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## ACRONYMS

DJR	DJR Operating, LLC
Ecosphere	Ecosphere Environmental Services, Inc.
USFWS	U.S. Fish and Wildlife Service

## 1. Introduction

---

This biological survey report reviews, analyzes, and documents the potential effects on U.S. Fish and Wildlife Service (USFWS) listed endangered or threatened species and their proposed or designated critical habitat that could result from the proposed Largo Canyon West #8 Well Pad, G-Tank, Staging Area, Access Road and Pipeline Project. This document complies with the Endangered Species Act of 1973 (16 United States Code 1531 et seq.). This evaluation is based on the latest USFWS species list for Rio Arriba County, New Mexico.

There is no suitable habitat for any federally listed threatened or endangered species in the project or action area. No designated or proposed critical habitat occurs in the project or action area. The proposed project would have no effect on any federally listed threatened or endangered species.

## 2. Project Description

---

### 2.1 Proposed Project

DJR Operating, LLC (DJR) is proposing develop the Largo Canyon West #8 well pad and drill the Elk #140H and #142H oil/natural gas wells from the pad. The proposed project would be located on the Jicarilla Apache Nation in Rio Arriba County, New Mexico. The proposed project is located approximately 2.4 miles west of New Mexico 537 State Highway and approximately 11 miles northeast of Counselor, New Mexico, as shown on Map 1 in Attachment A.

The legal description of the proposed project is:

#### **Well pad, G-tank pad, and staging area**

SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  and Lot 4, Section 18, Township 24 North, Range 4 West  
New Mexico Principal Meridian (NMPM), Rio Arriba County, New Mexico.

#### **Access road and pipeline**

NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  (Lot 1) Section 19, and SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  (Lot 4), Section 18 Township 24 North, Range 4 West, NMPM, Rio Arriba County, New Mexico.

Map 2 shows the location of the proposed project on the Otero Store, New Mexico, U.S. Geological Survey 7.5-minute quadrangle map. The project area is shown on recent aerial imagery on Map 3.

The well pad would be 460 feet by 435 feet with a 50-foot-wide construction zone around the pad perimeter. The northwest corner of the well pad would be truncated along the section line, resulting in approximately 6.633 acres of disturbance. An approximately 270-foot by 300-foot (1.721-acre) G-tank pad would be located adjacent to the northern well pad boundary. A 1.842-acre staging area would be located adjacent to the east well pad boundary. An 1,834.92-foot-long access road (1.264 acres) along with a 1,649.45-foot-long pipeline (1.514 acres) would be constructed. The proposed project would disturb approximately 12.974 acres.

## 3. Methods

---

### 3.1 Off-Site Methods

Prior to conducting fieldwork, biologists from Ecosphere Environmental Services, Inc. (Ecosphere) compiled lists of USFWS-listed species that occur or have the potential to occur in Rio Arriba County, New Mexico. These species were obtained from the USFWS Information for Planning and Consultation website (USFWS 2020).

### 3.2 On-Site Methods

Field investigations of the proposed project area were conducted by Ecosphere on March 17, 2020. Weather during the field survey was cloudy with ambient temperatures around 40 degrees Fahrenheit. Ecosphere conducted a 100-percent pedestrian biological survey of the project area using parallel transects spaced 20 feet apart. All plant and wildlife species and signs thereof observed in the project area were recorded and digital photographs were taken of the project area. Binoculars were used to survey for raptors and potential nest habitat. The habitat was evaluated for all USFWS threatened and endangered species that have the potential to occur in the project or action area.

## 4. Action Area

---

### 4.1 Action Area

The action area is defined as any area that may be directly or indirectly impacted by the proposed action. The action area consists of the proposed well pad and construction zone, G-tank pad, staging area, access road, pipeline, and surrounding terrain within a ½-mile radius.

### 4.2 Physical Description

The proposed project is located on a broad flat terrace above Largo Canyon Wash. The project lies on a slight northwestern aspect of 0 to 2 degrees. Elevation of the project area is about 6,650 feet above mean sea level. The surficial geology in the project area is alluvial deposits from the Holocene Period (Mytton 1983). There are no exposed bedrock or sandstone outcrops in the proposed project area.

Soils in the proposed project area are variable and range from fine sandy loam to silty clay and silty clay loam. One major soil map unit occurs in the proposed project area—Elias-Canyada-Sparank complex, saline, sodic, 0 to 8 percent slopes (Natural Resources Conservation Service 2020).

There are no perennial streams, springs, seeps, or wetlands in the proposed project or action area. A shallow ephemeral drainage enters the project area near the end of the access road. Another shallow ephemeral drainage is located parallel to a portion of the proposed access road and pipeline route. Neither of these drainages exhibited a defined bed and bank or ordinary high water mark. These drainages are shallow, disconnected, and moderately vegetated with alkali sacaton (*Sporobolus airoides*) and blue

grama (*Bouteloua gracilis*). Cañada Largo Wash is located approximately 0.45 mile north of the project area.

### 4.3 Biological Description

The natural vegetation in the proposed project area is classified as a Great Basin desert scrub (Dick-Peddie 1993). The proposed project is dominated by big sagebrush (*Artemisia tridentata*), standing about 2 to 3 feet high, blue grama, and James' galleta (*Pleuraphis jamesii*). The vegetation cover in the proposed project area was visually estimated between 50 to 60 percent. No trees occur in the proposed project area. No riparian or aquatic vegetation was observed in the proposed project area. A list of plant species observed in the proposed project area is included in Attachment B.

Signs of wildlife observed in the proposed project area indicated the presence of elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (*Sylvilagus audubonii*). No raptors or signs of consistent raptor use, such as whitewash or nests, were observed in the proposed project or action area. No prairie dog (*Cynomys* spp.) colonies were observed in the proposed project or action area. A list of wildlife and wildlife signs observed during the field survey is included in Attachment B.

## 5. Survey Results

### 5.1 Federally Listed Threatened and Endangered Species

According to the USFWS, seven federally listed threatened or endangered species have the potential to occur in Rio Arriba County, New Mexico. Table 5-1 lists these species, their conservation status, habitat associations, and potential to occur in the project or action area. No federally listed species or potential habitats were identified in the project or action areas during the field surveys. There is no designated or proposed critical habitat in the project or action area.

**Table 5-1. U.S. Fish and Wildlife Service Listed Species for Rio Arriba County, New Mexico, and Potential to Occur in the Project or Action Area**

Species	Status	Habitat Associations	Potential to Occur in the Project or Action Area
Canada lynx ( <i>Lynx canadensis</i> )	T	Generally occurs in boreal and montane forests dominated by coniferous or mixed forest with thick undergrowth and downed woody debris.	No boreal or montane forests in the project or action area.
New Mexico jumping mouse ( <i>Zapus hudsonius luteus</i> )	E, critical habitat designated	Found along permanent water in areas with sedges, forbs, alder, and/or willows; large wet meadows on river floodplains; and along irrigation ditches. Prefers areas with herbaceous vegetation at least 24 inches tall.	No wetlands or permanent waters in the project or action area.
Least tern ( <i>Sterna antillarum</i> )	E	Breeds on broad, level expanses of open sandy or gravelly beach, dredge spoil and other open shoreline areas, and more	No rivers, lakes, or other waters in the project or action area.



Species	Status	Habitat Associations	Potential to Occur in the Project or Action Area
		rarely, inland on broad river valley sandbars. Known in New Mexico from Bitter Lake National Wildlife Refuge and Brantley Reservoir in Eddy County.	
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	T, critical habitat designated	In New Mexico, nests in caves, cliffs, or trees in steep-walled canyons of mixed conifer forests. Habitat consists of remote areas with high canopy closure and high stand diversity that is multilayered with large mature trees, downed logs, snags, and stand decadence, as indicated by the presence of mistletoe.	No mixed conifer forests, caves, cliffs, or other suitable habitat in the project or action area.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	E, critical habitat designated	Occurs in dense riparian habitats along streams, rivers, and other wetlands. Habitat types for this species include native broadleaf riparian, monotypic exotic, and mixed exotic/native broadleaf. Habitat occurs at elevations below 8,500 feet. This species primarily prefers very dense mid-story (6.6 to 9.8 feet tall) stands of riparian vegetation that are at least 33 feet wide.	No riparian areas in the project or action area.
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	T, critical habitat proposed	Breeds in riparian woodlands with developed canopies and dense understory vegetation greater than 12.3 acres in size.	No riparian areas in the project or action area.
Jemez Mountains salamander ( <i>Plethodon neomexicanus</i> )	E, critical habitat designated	Found in mixed conifer and spruce–fir forests above 7,200 feet. Preferred micro–habitat is generally characterized by relatively high humidity and soils with subterranean and exposed rocks.	No mixed conifer or spruce–fir forests in the project or action area. Project area elevation below that preferred by this species.

Key: E=endangered, T=threatened.

Source: U.S. Fish and Wildlife Service 2020.

## 5.2 Migratory Birds

The proposed action would result in the long-term removal of approximately 12.974 acres of suitable nesting habitat for ground- and shrub-nesting migratory birds. During construction, migratory birds may avoid the area due to increased noise and activity.

## 6. Certification

---

Conclusions are based on actual field examinations and are correct to the best of my knowledge.

Signature of Field Biologist:



Date: October 21, 2020

Joey Herring, Biologist (Project Manager)  
John Dodge, Biologist (Author and Field Biologist)  
Ecosphere Environmental Services, Inc.  
4801 N. Butler, Suite 15101  
Farmington, New Mexico 87401  
(505) 327-3088

## 7. References

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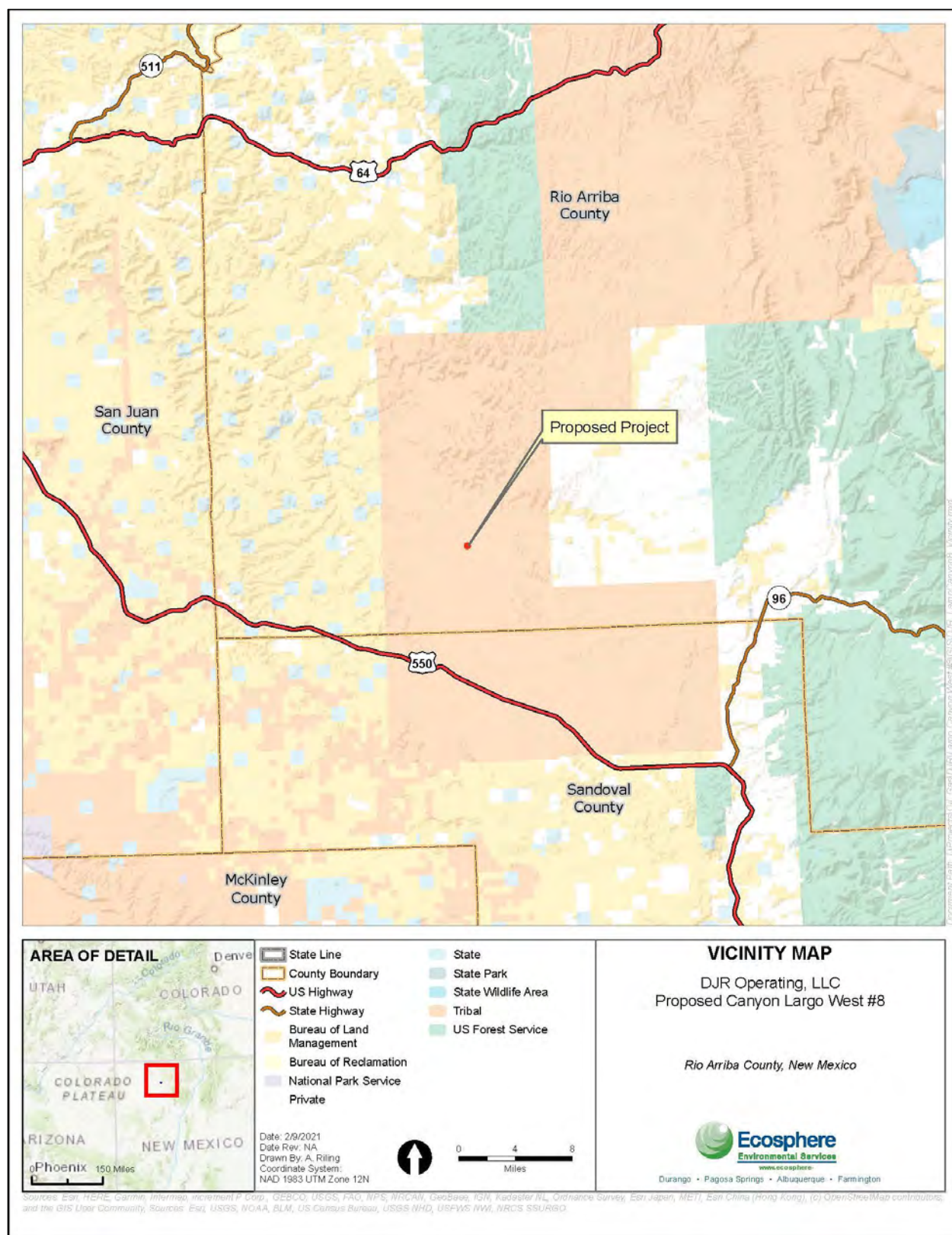
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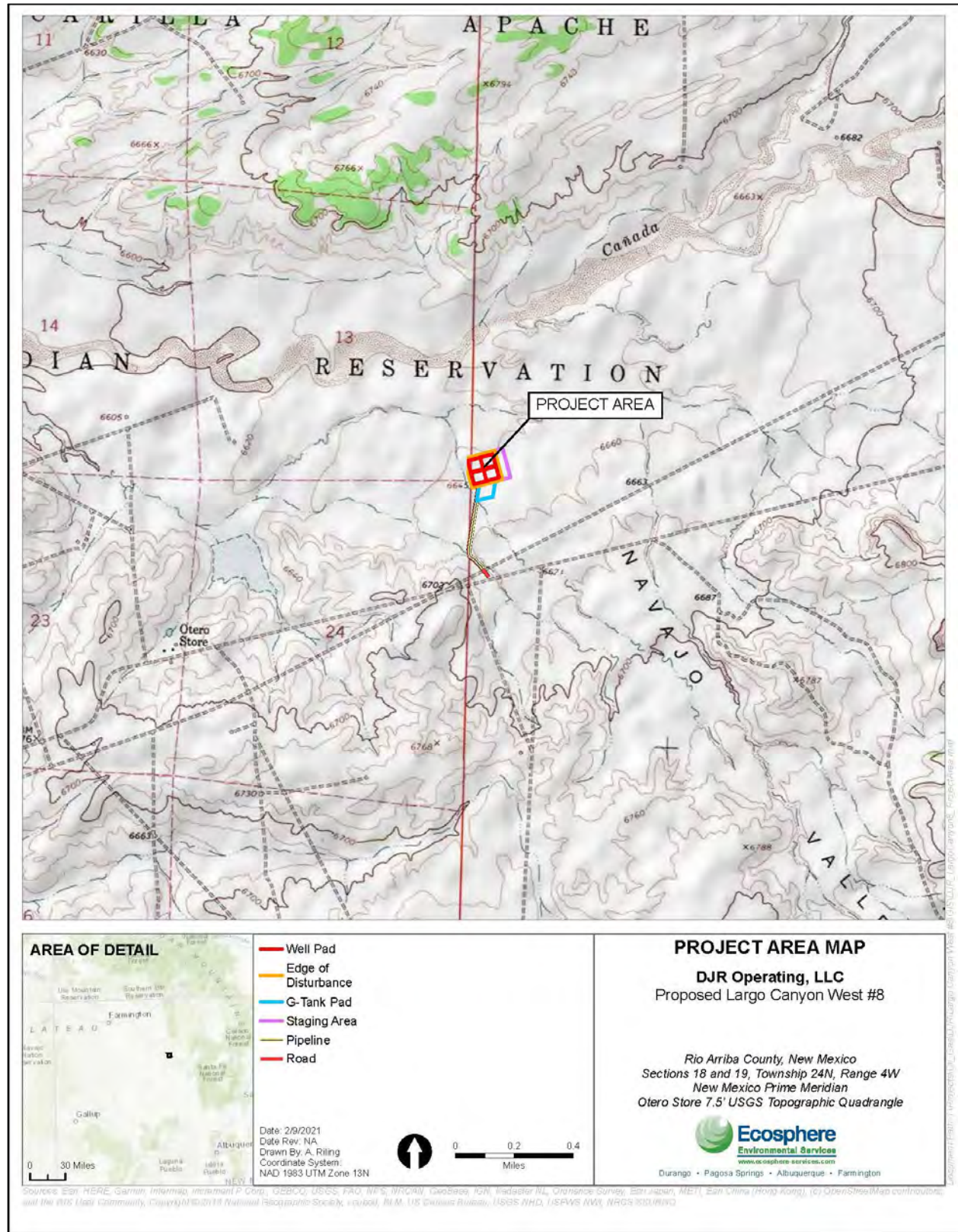
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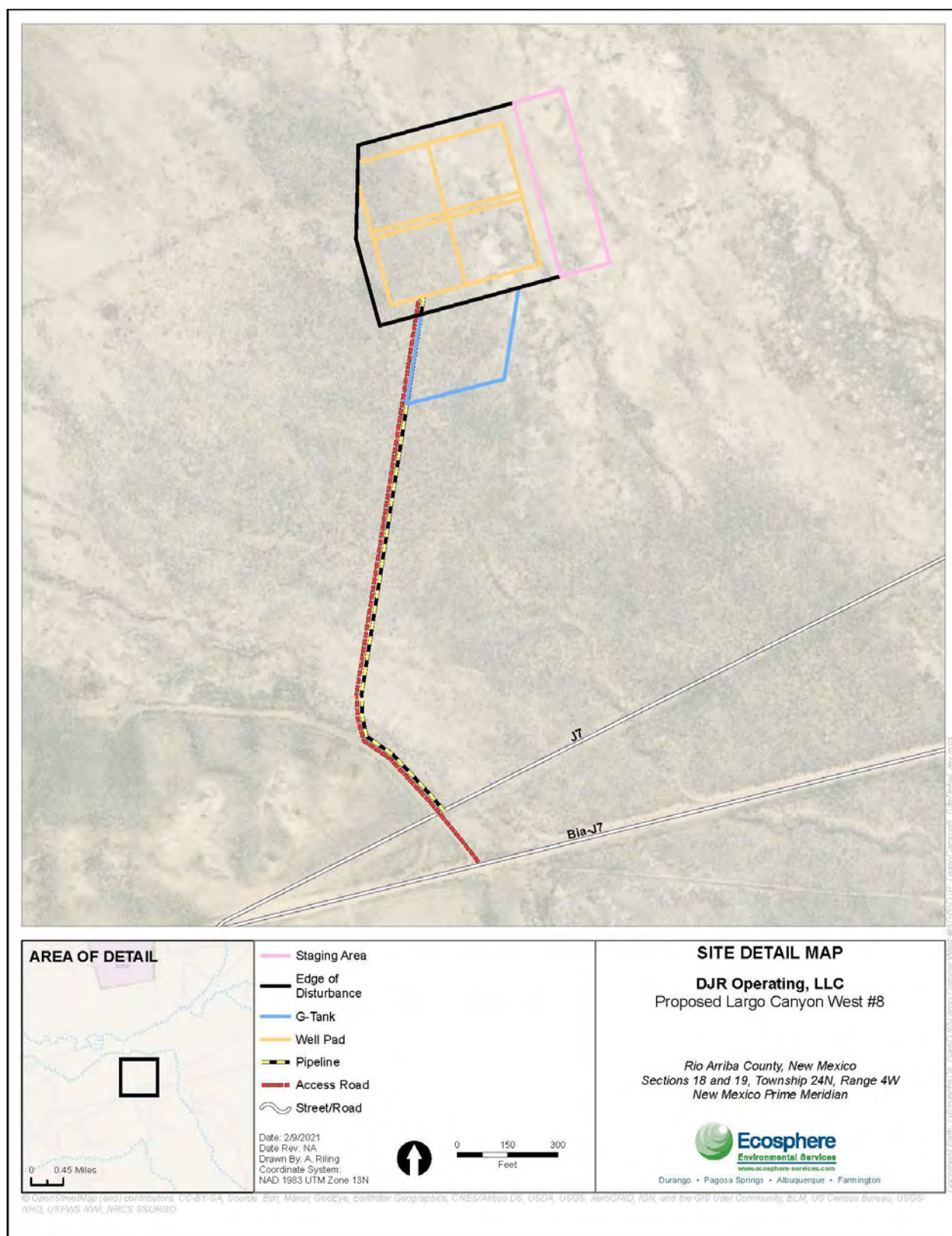
## **Attachment A – Maps**



**Map 1. Largo Canyon West #8 Well and Vicinity**







**Map 3. Largo Canyon West #8 Well Site Detail**



## **Attachment B – Species Observed during the Field Survey**



Scientific Name	Common Name
<b>Forbs</b>	
<i>Astragalus mollissimus</i>	woolly locoweed
<i>Atriplex powellii</i>	Powell's saltweed
<i>Cryptantha crassisejala</i>	thicksepal cryptantha
<i>Machaeranthera canescens</i>	hoary tansyaster
<i>Plantago patagonica</i>	woolly plantain
<b>Grasses</b>	
<i>Achnatherum hymenoides</i>	Indian ricegrass
<i>Agropyron cristatum</i>	crested wheatgrass
<i>Bouteloua gracilis</i>	blue grama
<i>Bromus tectorum</i>	cheatgrass
<i>Elymus elymoides</i>	squirreltail
<i>Pleuraphis jamesii</i>	galleta grass
<i>Sporobolus airoides</i>	alkali sacaton
<i>Sporobolus contractus</i>	spike dropseed
<i>Vulpia octoflora</i>	sixweeks fescue
<b>Shrubs</b>	
<i>Artemisia tridentata</i>	big sagebrush
<i>Atriplex obovata</i>	mound saltbush
<i>Chrysothamnus viscidiflorus</i>	yellow rabbitbrush
<i>Gutierrezia sarothrae</i>	broom snakeweed
<i>Picrothamnus desertorum</i>	bud sagebrush
<i>Sarcobatus vermiculatus</i>	greasewood
<b>Cactus/Yucca</b>	
<i>Opuntia polyacantha</i>	plains pricklypear
<i>Yucca angustissima</i>	narrowleaf yucca
<b>Mammals</b>	
<i>Canis latrans</i>	coyote
<i>Dipodomys spectabilis</i>	banner-tailed kangaroo rat
<i>Geomyidae</i> sp.	pocket gopher
<i>Lepus californicus</i>	black-tailed jackrabbit
<i>Sylvilagus audubonii</i>	desert cottontail
<b>Birds</b>	
<i>Corvus corax</i>	common raven
<i>Eremophila alpestris</i>	horned lark

## **Appendix D – Surface Reclamation Plan**

# Surface Reclamation Plan

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**DJR Operating, LLC**

***Canyon Largo West #8 Well Pad, G-Tank, Staging Area, Access Road  
and Pipeline Project***

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Prepared for



Prepared by



**November 2020**

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Jicarilla Oil and Gas Administration  
#6 Dulce Rock Road  
Dulce, New Mexico 87528  
(575)-759-3485

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## **ACRONYMS**

APD	Application for Permit to Drill
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
COA	Conditions of Approval
DJR	DJR Operating, LLC
FFO	Farmington Field Office
GPS	global positioning system
JOGA	Jicarilla Oil and Gas Administration
PLS	pure live seeds

## RECLAMATION PLAN

Applicant	DJR Operating, LLC
Project Name	Canyon Largo West #8
Project Features	<ul style="list-style-type: none"> <li>▪ One Well Pad (with two oil/gas wells)</li> <li>▪ One G-Tank Pad</li> <li>▪ One Staging Area</li> <li>▪ One Access Road</li> <li>▪ One Pipeline</li> </ul>
Unit Number	N/A
Legal Location	Sections 18 and 19, Township 24 North, Range 4 West, New Mexico Principal Meridian
Lease Number	Jicarilla Contract 42
Land Manager	Bureau of Indian Affairs (BIA) Jicarilla Agency
Mineral Manager	Bureau of Land Management (BLM) Farmington Field Office (FFO)
Pending Associated Authorizations	<ul style="list-style-type: none"> <li>▪ Application for Permit to Drill (APD)</li> </ul>

## 1. INTRODUCTION

This reclamation plan has been prepared to meet the requirements and guidelines of the Jicarilla Oil and Gas Administration (JOGA), a department of the Jicarilla Apache Nation government. The project would be located on land administered by the BIA Jicarilla Agency with the mineral estate administered by the BLM FFO. The DJR Operating, LLC (DJR) contact person for this reclamation plan is:

Paul Lehrman, Regulatory Specialist  
 DJR Operating, LLC  
 1 Road 3263  
 Aztec, NM 87410  
 505-634-4376  
[plehrman@djrlc.com](mailto:plehrman@djrlc.com)

## 2. PROJECT DESCRIPTION

DJR is proposing to develop the Canyon Largo West #8 well pad and drill the Elk #140H and #142H oil/natural gas wells from the pad. The project would be located on Jicarilla Apache Nation land approximately 10.8 miles northeast of Counselor, New Mexico. The legal description of the project is:

### **Well pad, G-Tank pad, and staging area**

SE ¼ SW ¼ & Lot 4, Section 18, Township 24 North, Range 5 West, New Mexico Principal Meridian, Rio Arriba County, New Mexico.

### **Access road and pipeline**

NW ¼ NW ¼ (Lot 1) Section 19 and SW ¼ SW ¼ (Lot 4) Section 18, Township 24 North, Range 5 West, New Mexico Principal Meridian, Rio Arriba County, New Mexico.

The disturbance from the project is summarized in Table 2-1.

**Table 2-1. Surface Disturbance Associated with the Little Largo #2**

<b>Project Feature</b>	<b>Summary Description</b>	<b>Surface Disturbance (acres)</b>	<b>Interim Reclamation (acres)</b>	<b>Final Reclamation (acres)</b>
Well pad and construction zone	The well pad would be approximately 535 feet by 560 feet including a 50-foot temporary use area (TUA) around the perimeter of the well pad. The northwest corner of the well pad would be truncated along the section line. The working area of the pad will remain disturbed throughout the life of the project and will be reclaimed during final reclamation. The construction zone and remainder of the well pad will be reclaimed during interim reclamation.	6.633	4.433	2.200
Access Road	An approximately 1,834.92-foot long road would be constructed to connect the pad to an existing road. The road would be reclaimed during final reclamation.	1.264	0	1.264
G-Tank Pad	An irregular shaped approximately 300-foot by 270-foot G-tank adjacent to the northern well pad boundary would be utilized. The G-tank would house a 156-foot diameter aboveground storage tank, pumps, and other ancillary equipment needed for drilling and completion operations. All disturbance would be reclaimed during interim reclamation.	1.721	1.721	0
Staging Area	A staging area would be located adjacent to the east boundary of the well. All disturbance would be reclaimed during interim reclamation.	1.842	1.842	0
Pipeline	A 1,650.04-foot long pipeline would be constructed adjacent to the access road. The pipeline would be reclaimed at interim reclamation.	1.514	1.514	0
<b>Total</b>		<b>12.974</b>	<b>9.510</b>	<b>3.464</b>

### 3. PRE-DISTURBANCE SITE VISIT

The pre-disturbance site visit occurred on October 20, 2020. The following persons were present at the site visit (Table 3–1).

**Table 3-1. Pre-disturbance site visit attendees**

<b>Name</b>	<b>Affiliation</b>	<b>Contact Number</b>
Paul Lehrman	DJR Operating, LLC	<a href="mailto:plehrman@djrlc.com">plehrman@djrlc.com</a>
Kurt Sandoval	BIA – Jicarilla Agency	<a href="mailto:kurt.sandoval@bia.gov">kurt.sandoval@bia.gov</a>
Cascindra Willie	Jicarilla Oil and Gas Administrations	<a href="mailto:Cascindra.joga@yahoo.com">Cascindra.joga@yahoo.com</a>
Orson Harrison	Jicarilla Oil and Gas Administrations	<a href="mailto:orsonharrison@jicarillaoga.com">orsonharrison@jicarillaoga.com</a>
Gary Smith	BLM-FFO	<a href="mailto:gsmith@blm.gov">gsmith@blm.gov</a>
John Dodge	Ecosphere Environmental Services	<a href="mailto:dodge@ecosphere-services.com">dodge@ecosphere-services.com</a>



### 3.1 Vegetation Community

The natural vegetation in the proposed project area is classified as a Great Basin Desert scrub (Dick-Peddie 1993) based on observations made during the pre-disturbance site visit of the proposed project area. The proposed project is dominated by big sagebrush (*Artemisia tridentata*), standing about 2 to 3 feet in height, blue grama and galleta grass (*Pleuraphis jamesii*). The vegetation cover within the proposed project area was visually estimated between 40 and 60 percent. No trees were observed within the proposed project area. No riparian or aquatic vegetation was observed within the proposed project area.

### 3.2 Reclamation Seed Mix

Disturbance will be re-contoured and topsoil will be redistributed and prepared for seeding by the construction contractor. Ripping, disking, and seeding of the site will be done by DJR using the approved seed mix, which is shown in Table 3–2. The seed mix considers the existing vegetation on the project site.

**Table 3-2. South of Township 27 North Seed Mix**

Common Name	Variety	Pure Live Seed lbs/acre <sup>1</sup>
Blue grama	Hatchita	0.6
Galleta	Viva	0.8
Indian ricegrass	Paloma or Nezpar	1.1
Western wheatgrass	Arriba or Barton	3.2
Pubescent wheatgrass	Luna	2.1
Crested wheatgrass	Ephraim or Hycrest	1.5
Blue flax	Appar	0.3
Palmar penstemon	Cedar	1.0
Total		10.6

<sup>1</sup>Recommended seeding rate will be doubled if seed is applied by broadcast or hydro-seeded; “lbs” refers to pounds.

### 3.3 Pre-Disturbance Weed Survey

During the biological field survey on March 17, 2020, the project area was surveyed for noxious weeds listed on the New Mexico invasive, non-native weed list. No noxious weed species were observed in the project area.

### 3.4 Pre-Disturbance Site Photographs

Photographs were taken of the pre-disturbance site using a digital camera with 12-megapixel capability and without zoom or wide-angle adjustments. The location in North American Datum 83 Latitude/Longitude decimal degrees of each photo point (A through D) was recorded using a global positioning system (GPS). Each photograph in the Reclamation Plan is notated with the direction the photograph was taken and the GPS coordinates of the photo point. The photographs locations are listed in Table 3–3.

**Table 3-3. List of required pre-disturbance site photographs for Canyon Largo West #8**

Photo Point	Photographs	Location Description
A	1, 2, 3,	From well pad corner #2, #5, and #6, looking toward the center stake
B	4, 5, 6, 7	Four cardinal directions from the well head stake
C	8	From the beginning point of the access road, toward the well pad
D	10	From the end point of the access road at the well pad, toward the beginning point of the access road.
E	11	From the start point of the well-tie pipeline, toward the well pad
F	12	From the end of the well-tie pipeline at the well pad, toward the start of the well-tie pipeline.



<b>Location:</b>	Canyon Largo West #8 Well Pad Northwest Corner (Stake 2)			
<b>Photo Point:</b>	A	<b>Photo Direction:</b>	Southwest	
<b>Photo Number:</b>	1	<b>GPS Coordinates:</b>	N 36.30582915	W-107.30319893





<b>Location:</b>	Canyon Largo West #8 Well Pad Southeast Corner (Stake 5)			
<b>Photo Point:</b>	A	<b>Photo Direction:</b>	Northeast	
<b>Photo Number:</b>	2	<b>GPS Coordinates:</b>	N 36.30431353	W -107.3049211



<b>Location:</b>	Canyon Largo West #8 Well Pad Northeast Corner (Stake 6)			
<b>Photo Point:</b>	A	<b>Photo Direction:</b>	Southeast	
<b>Photo Number:</b>	3	<b>GPS Coordinates:</b>	N 36.30546250	W -107.304696889





<b>Location:</b>	Canyon Largo West #8 Well Pad Wellhead			
<b>Photo Point:</b>	B	<b>Photo Direction:</b>	North	
<b>Photo Number:</b>	4	<b>GPS Coordinates:</b>	N 36.30511075	W -107.30374487



<b>Location:</b>	Canyon Largo West #8 Well Pad Wellhead			
<b>Photo Point:</b>	B	<b>Photo Direction:</b>	East	
<b>Photo Number:</b>	5	<b>GPS Coordinates:</b>	N 36.30511075	W -107.30374487





<b>Location:</b>	Canyon Largo West #8 Well Pad Wellhead			
<b>Photo Point:</b>	B	<b>Photo Direction:</b>	South	
<b>Photo Number:</b>	6	<b>GPS Coordinates:</b>	N 36.30511075	W -107.30374487



<b>Location:</b>	Canyon Largo West #8 Well Pad Wellhead			
<b>Photo Point:</b>	B	<b>Photo Direction:</b>	West	
<b>Photo Number:</b>	7	<b>GPS Coordinates:</b>	N 36.30511075	W -107.30374487





<b>Location:</b>	Canyon Largo West #8 Well Pad from the Access Road Take-off to Well Pad			
<b>Photo Point:</b>	C	<b>Photo Direction:</b>	North	
<b>Photo Number:</b>	8	<b>GPS Coordinates:</b>	N 36.299776	W -107.303270



<b>Location:</b>	Canyon Largo West #8 Near End of Access Road and Well-Tie Pipeline			
<b>Photo Point:</b>	D	<b>Photo Direction:</b>	Southeast	
<b>Photo Number:</b>	9	<b>GPS Coordinates:</b>	N 36.30440994	W -107.30401548

## **4. CONSTRUCTION TECHNIQUES**

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### **4.1 Vegetation and Site Clearing**

If present, trees and brush 3 inches in diameter or greater at ground level will be cut and stacked for wood gatherers. All other trees and brush will be mowed or mulched at ground level. Stumps and root balls will be hauled to an approved disposal site or stockpiled at the edge of the well pad and buried in the cut slopes of the pad during interim reclamation. Any slash and brush will be chipped, shredded, or mulched and incorporated into the topsoil for later use in interim reclamation.

Surface rocks (where present and useful for reclamation) will be stockpiled adjacent to the topsoil stockpile. During reclamation activities, the surface rock will be placed within the area of reclamation for erosion control or in a manner that visually blends with the adjacent undisturbed area.

### **4.2 Topsoil Stripping, Storage, and Replacement**

After removal of vegetation, the upper 6 inches of topsoil will be segregated and windrowed on the edge of the access road and within the construction zone surrounding the pad. The stockpiled topsoil will be free of brush and tree limbs, trunks, and root balls, but may include chipped or mulched material, as long as it is incorporated into the topsoil stockpile. Topsoil will not be stripped when soils are saturated with moisture or frozen below the stripping depth. Topsoil will be stockpiled separately from subsoil with a noticeable gap left between the stockpiles. Vehicle/equipment traffic will be prevented from crossing topsoil stockpiles.

## **5. INTERIM RECLAMATION TECHNIQUES**

---

Interim reclamation will take place within 120 days of final construction. This phase will occur following the construction, drilling, and completion phases of the project. Areas that will be reclaimed during interim reclamation are described in Section 1.

### **5.1 Recontouring and Seedbed Preparation**

Within areas that will be reseeded, stockpiled topsoil will be evenly redistributed, in the proper order, prior to final seedbed preparation. Topsoil will not be redistributed when the ground or topsoil is frozen or wet. Disturbed areas will be re-contoured to blend with the surrounding landscape, emphasizing restoration of the existing drainage patterns and landform to pre-construction condition, to the extent practicable.

Seedbed preparation for compacted areas will be ripped to a minimum depth of 12 inches. Where practicable, ripping will be conducted in two passes at perpendicular directions. Disking will be conducted if large clumps or clods remain after ripping. Any tilling or disking that occurs along the contour of the slope and seed drills will also be run along the contour to provide terracing and prevent rapid runoff and erosion. If broadcast seeding is used, a dozer or other tracked equipment will track perpendicular to the slope prior to broadcast seeding.

Following final contouring, the backfilled or ripped surfaces will be covered evenly with stockpiled topsoil. Final seedbed preparation will consist of raking or harrowing the spread topsoil prior to seeding to promote a firm (but not compacted) seedbed without surface crusting. Seedbed preparation may not be necessary for topsoil storage piles or other areas of temporary seeding.

## **5.2 Seeding**

The seed mix chosen for this project area is listed in Table 3-2. Seeding will as designated in the APD Conditions of Approval (COAs).

A seed drill that allows for seeding species from different seed boxes at different planting depths will be used to seed the disturbed areas of the site. DJR or its reclamation subcontractor will ensure that perennial grasses and shrubs are planted at the appropriate depth. Seed will be planted at a depth of 0.5 inch to 0.75 inch.

Drill seeding may be used on well-packed and stable soils that occur on gentler slopes and where tractors and drills can safely operate. Where drill seeding is not practicable due to topography, the contractor will hand-broadcast seed using a “cyclone” hand seeder or similar broadcast seeder. Broadcast application of seed requires a doubling of the drill-seeding rate. The seed will then be raked into the ground, so the seed is planted no deeper than 0.25 inch below the surface.

## **5.3 Mulching**

Mulch, as required, shall be grass or straw spread at 2,000 to 3,000 pounds/acre or 1 to 2-inches deep. Mulching will consist of crimping certified weed-free straw or certified weed-free native grass hay into the soil.

## **5.4 Water Management/Erosion Control Features**

The use of erosion controls will reduce soil erosion caused by stormwater runoff and assist with revegetation success within the project area. The authorized agency representatives and DJR representatives will work in collaboration to develop site-specific erosion control or water management features and to identify installation locations. Potential erosion control or water management features that may be used include waterbars or rolling dips for roads, sediment basins or sediment traps, check dams, and silt fencing.

## **5.5 Noxious and Invasive Weed Control**

Should noxious or invasive weeds be documented after earthwork and seeding activities, the BIA and JOGA will provide DJR with specific requirements and instructions for weed treatments including the period of treatment, approved herbicides that may be used, required documentation to be submitted to the after treatment, and any other site-specific instructions that may be applicable.

## **6. FINAL RECLAMATION**

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When the well is abandoned, final reclamation will take place within the project area. Areas that will be reclaimed during final reclamation are described in Section 1. Final reclamation will also occur within portions of the project area that are disturbed to bare soil during final abandonment activities.

Final reclamation procedures will be similar to those described for interim reclamation.



## Onsite Noxious Weed Form

If noxious weeds are found during the onsite, fill out form and submit to FFO weed coordinator

Operator DJR Operating LLC Surveyor(s) John DeLge

Well Name and Number FLK 140H, 142H Date 10-26-2020

Location: Township, Range, Section T24, R4W, Section 18

Location of Project NAD 83 Decimal Degrees \_\_\_\_\_

### Class A Noxious Weed – Check Box if Found

<input type="checkbox"/>	Alfombrilla	<input type="checkbox"/>	Diffuse knapweed	<input type="checkbox"/>	Hydrilla	<input type="checkbox"/>	Purple starthistle	<input type="checkbox"/>	Yellow toadflax
<input type="checkbox"/>	Black henbane	<input type="checkbox"/>	Dyer's woad	<input type="checkbox"/>	Leafy spurge	<input type="checkbox"/>	Ravena grass	<input type="checkbox"/>	
<input type="checkbox"/>	Camelthorn	<input type="checkbox"/>	Eurasian watermilfoil	<input type="checkbox"/>	Oxeye daisy	<input type="checkbox"/>	Scotch thistle	<input type="checkbox"/>	
<input type="checkbox"/>	Canada thistle	<input type="checkbox"/>	Giant salvinia	<input type="checkbox"/>	Parrotfeather	<input type="checkbox"/>	Spotted knapweed	<input type="checkbox"/>	
<input type="checkbox"/>	Dalmation toadflax	<input type="checkbox"/>	Hoary cress	<input type="checkbox"/>	Purple loosestrife	<input type="checkbox"/>	Yellow starthistle	<input type="checkbox"/>	

### Class B Noxious Weed – Check Box if Found

<input type="checkbox"/>	African rue	<input type="checkbox"/>	Perennial pepperweed	<input type="checkbox"/>	Russian knapweed	<input type="checkbox"/>	Tree of heaven
<input type="checkbox"/>	Chicory	<input type="checkbox"/>	Musk thistle	<input type="checkbox"/>	Poison hemlock	<input type="checkbox"/>	
<input type="checkbox"/>	Halogeton	<input type="checkbox"/>	Malta starthistle	<input type="checkbox"/>	Teasel	<input type="checkbox"/>	

Comments: No noxious weed on project area

FFO Representative: \_\_\_\_\_

sign and date

Operator Representative \_\_\_\_\_

sign and date