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July 17, 2023

APPROVED
By Mike Buchanan at 3:36 pm, Aug 03, 2023

VIA E-PERMITTING PORTAL

Mr. Nelson Valez
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

RE: 2023 Monitoring Well Installation Activities Work Plan – San Juan River Gas Plant
El Paso Natural Gas Company
NMOCD Incident Number NAUTOFRM000157

Dear Mr. Valez:

Stantec, on behalf of El Paso Natural Gas Company, LLC (EPNG), is submitting the enclosed 2023 Well Installation Activities Work Plan (Work Plan) for the San Juan River Gas Plant Site (Site). The enclosed document contains the proposed methodology for the installation of two (2) new monitoring wells at the Site. Unless otherwise noted, the procedures outlined in this Work Plan are to be completed in accordance with the requirements established in EPNG's "Remediation Plan for Groundwater Encountered During Pit Closure Activities" document approved by the New Mexico Oil Conservation Division (NMOCD) on November 30, 1995. The scope of work contained herein is scheduled to begin in late July 2023.

Please contact Mr. Joseph Wiley of EPNG at (713) 420-3475, or me, if you have any questions or comments concerning the enclosed Work Plan.

Sincerely,

Stantec Consulting Services Inc.

Stephen Varsa
Project Manager
Phone: (515) 251-1020
steve.varsa@stantec.com

/rsm:lmd
cc: Joseph Wiley, EPNG (via electronic mail)

El Paso Natural Gas Company, L.L.C.
a Kinder Morgan company

El Paso Natural Gas Company, LLC
1001 Louisiana
Houston, Texas 77002

SAN JUAN RIVER GAS PLANT SITE

NMOCD Incident Number NAUTOFRM000157
2023 WELL INSTALLATION ACTIVITIES WORK PLAN
KIRTLAND, NEW MEXICO

July 2023

Prepared by:

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SECTION 1 - INTRODUCTION

This Well Installation Activities Work Plan (Work Plan) presents the scope of work for the installation of two monitoring wells (MW-29 and MW-30) to be used to further assess constituents of concern at the San Juan River Gas Plant Site (Site), located in Kirtland, New Mexico. There are currently twenty-three EPNG groundwater monitoring wells (W-2, MW-4, MW-6, MW-8, MW-9, and MW-11 through MW-28), at the Site.

Measurable light non-aqueous phase liquid (LNAPL) and hydrocarbon concentrations in excess of New Mexico Water Quality Control Commission (NMWQCC) are present in the vicinity of a former unlined raw water pond, currently the location of a treatment pond operated by Praxair. LNAPL was discovered during advancement of former monitoring well PMW-5, installed along with other treatment pond leak detection wells by Praxair in 2003, located immediately northeast of the Praxair pond. Monitoring well PMW-5 was subsequently plugged and abandoned. Given the occurrence of trace amounts of LNAPL in existing monitoring wells MW-12 and MW-21, located north and east of former PMW-5, MW-29 is proposed to be installed at the PMW-5 location to provide a location to evaluate current conditions and potential remedial options at or close to the suspected source area.

The proposed location for MW-30 south of Former Pond #2 and at the eastern property boundary of the Site, is in an area anticipated to be in the groundwater up-gradient direction from former operations at the Site, and is intended to provide water quality data representative of background conditions.

The gas plant, formerly operated by the property owner CCI San Juan, LLC (CCI) is currently idled, although a Praxair nitrogen plant located on the Site is active. Access to the Site has been established by an access agreement with CCI. The location of the proposed monitoring wells, and other pertinent features are depicted on Figure 1.

The purpose of this Work Plan is to provide the necessary field methods and implementation schedule for the monitoring well installation activities. Section 2 describes the Site and the purpose behind the proposed well installation activities. Section 3 provides details on the field methods to be used. Section 4 presents the anticipated implementation schedule.

SECTION 2 - SCOPE OF WORK

Previous activities at the Site have helped delineate the extent of hydrocarbons present. Based on the data collected, proposed well MW-29 is intended to provide additional assessment of the source of LNAPL present in nearby MW-12 and MW-21. The proposed location of MW-30 at the eastern property boundary of the Site is intended to provide background groundwater data. The scope of work includes well installations, waste management and disposal, and reporting.

Following installation, the new monitoring wells (MW-29 and MW-30) will be surveyed into the existing groundwater monitoring network for the Site.

SECTION 3 - FIELD METHODS

The following subsections describe field procedures to be followed during the site activities. Prior to conducting well installation activities, a permit for each monitoring well will be obtained from the New Mexico Office of the State Engineer.

3.1 SOIL BORING

The locations of the proposed monitoring wells will be marked and staked prior to coordinating public underground utility locating activities. Once public underground utility locating activities have been completed, hydro-excavation equipment will be used to clear the well locations to a depth of at least 10-feet below ground surface (bgs) prior to advancing drill tooling. A rotosonic drill rig will be mobilized and used to advance a soil boring to the target depth following completion of the utility clearance activities. The locations of the proposed wells are depicted on Figure 1.

Once hydro-excavation activities have been completed, soil sampling and screening will be conducted from the soft-digging termination depth to the base of the borehole using the rotosonic rig and continuous-core sampling methods. Borehole logging will include Unified Soil Classification System (USCS) soil descriptions for the entire depth of each boring. In addition to the USCS descriptions, the field geologist will provide a detailed description of each discrete lithologic unit.

Soil samples will be collected for field screening and potential laboratory analysis at 1-foot intervals from cores recovered at 10-foot intervals. After the sample core is collected, the field personnel will field screen using a pre-calibrated photoionization detector (PID) and record the readings. The field screening will be conducted by notching the soil in the core with a hand trowel or other pre-cleaned hand tool, and briefly placing the PID in the notch to measure impacts. The screening, in addition to visual and olfactory observations (e.g., observing apparent hydrocarbon staining), will aid in identifying the portion of the sample interval to retain for potential laboratory analysis (i.e., the portion with the greatest suspected hydrocarbon impact).

Based on the field screening, at a minimum one soil sample will be retained from each soil boring from the core representing the greatest suspected hydrocarbon impact. Additional soil samples may be retained from the soil boring if it may help characterize the vertical extent to hydrocarbon impacts at the location. No soil samples will be collected below the field-apparent water table. If the current core section being screened does not appear to be impacted to a level equal to or greater than a preceding core section, one soil sample will be collected immediately above the field-interpreted and/or gauged water table for laboratory analysis. The samples retained for potential laboratory analysis will be placed in a laboratory-provided 4-ounce glass jar(s), sealed, labeled, and stored on ice. After the borings and soil screening are completed, the collected samples associated with the highest PID reading per boring will be retained and shipped in an ice-filled cooler under standard chain-of-custody to Eurofins Environment Testing Southeast, LLC (Eurofins) in Pensacola, Florida. Samples not retained for analysis will be disposed of with the soil cuttings.

The submitted soil samples will be analyzed per the guidance established by Attachment A to Order No. R-13506-D, NMAC Section 19.15.17.13, Table 1, for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method SW846 8260; gasoline-range organics, diesel-range organics, and oil-range organics by EPA Method 8015M; and chlorides by EPA Method 300. Submitted soil samples will also be analyzed for New Mexico Water Quality Control Commission Control-regulated metals, including aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, iron, lead, manganese, mercury, molybdenum, nickel, and selenium, using USEPA SW 846 Methods 6010B and 7471A.

3.2 MONITORING WELL INSTALLATION

The two monitoring wells will be constructed of 4-inch-diameter, Schedule 40, 0.010-slot polyvinyl chloride (PVC) screen and 4-inch-diameter, Schedule 40 PVC riser casing. Each well will include a 20-foot screen installed to a depth of 40 to 60-feet bgs, which is anticipated to intersect the groundwater surface and provide sufficient water column for sample collection. The riser casing will extend from the top of the screen to approximately 2.5 feet above the ground surface. The annular space adjacent to the well screen will be filled with 10-20 silica sand from the bottom of the borehole to 2 feet above the top of the screen. Three (3) feet of hydrated bentonite chips will be placed above the silica sand to prevent downward migration of surface water. Bentonite grout will be placed above the bentonite chips to 6 inches below the bottom of the well vault. Silica sand will be placed from 6 inches below the bottom of the protective well completion (approximately 2.5 feet bgs) to within approximately 1 foot of the ground surface, or to a field-determined depth based on protective concrete pad placement.

The new monitoring wells will be finished with a stick-up completion, with the riser casing extending from the top of screen to approximately 2.5-feet above ground surface. The annular space adjacent to the well screen will be filled with 10-20 silica sand from the bottom of the borehole to 2-feet above the top of the screen. Three (3) feet of hydrated bentonite chips will be placed above the silica sand to prevent downward migration of surface water. Bentonite grout will be placed above the bentonite chips to 1-foot below the bottom of the ground surface. A locking, protective steel stick-up well casing will be installed in a concrete pad, extending from 3-feet above ground surface to 2-feet bgs. Concrete-filled steel bollards painted safety yellow will be placed around the steel stick-up well casing on at least three sides.

Monitoring well development will be performed using surging and bail methods to help remove sediment until the well runs dry. Downhole soil sampling tooling and the well swab and down-hole pump will be decontaminated between holes. Down-hole tooling will be decontaminated before advancing each monitoring well. A HydraSleeve™ sampler will be placed in each monitoring well following development activities, with the HydraSleeve™ set approximately 5-feet below the water table. If LNAPL is encountered in one of the new monitoring wells, no HydraSleeve™ sampler will be installed. The top-of-casing elevation of the newly installed monitoring wells will be surveyed by a New Mexico-licensed surveyor.

3.3 GENERAL PROTOCOLS

This subsection presents a discussion of health and safety, documentation procedures, buried piping or utility identification, waste handling, and other procedures to be performed as part of the investigation.

3.3.1 Health and Safety

A Site-Specific Health and Safety Plan (HASP) will be prepared for groundwater monitoring, operations, maintenance, and drilling activities. The HASP includes guidance on the personal protective equipment (PPE) necessary for field activities, identified hazards associated with the field activities, and directions to the nearest medical facility. Flame-resistant clothing, puncture-resistant sole inserts, and Level D protective equipment will be worn, as required. A copy of the HASP will be on site at all times while work is being performed. The HASP will apply to Stantec employees, Stantec's subcontractors, and visitors at the Site.

3.3.2 Documentation Procedures

Data generated during the field investigation will be recorded on boring and well construction logs. The boring logs will include USCS descriptions, detailed lithologic descriptions, PID readings, length/percent recovery, sample collection intervals, and drilling method employed. The well construction logs will include screen, sand pack, wellbore seal, and surface completion details.

The field geologist will maintain a field logbook. At the end of each day of field activities, the notes will be dated and signed by the field geologist.

The daily field logbook will contain information such as:

- Date
- Name, location, and objective of the work activities
- Weather conditions
- Equipment calibration information
- Personnel and visitors on site
- Photograph numbers and descriptions (if applicable)
- Description of decontamination activities (if applicable)
- Any deviations from the Work Plan
- Other relevant observations as the fieldwork progresses
- Sample collection intervals and times
- Problems and corrective actions

3.3.3 Boring Location and Utility Identification

Prior to any drilling or excavation, a call will be made to the New Mexico 811 "One Call" to verify utility clearance and to notify the operator. "One Call" will be notified that the soil boring location is staked or flagged and that the entire well pad and areas

surrounding the boring should be marked. The clearance call must be made at least two working days prior to drilling, and site work must be completed within fifteen days of the clearance. In addition, access will be coordinated with the current operator of the Site prior to any drilling activities to allow location of any underground infrastructure and to comply with operator safety guidance.

3.3.4 Equipment Decontamination

Prior to drilling, down-hole equipment will be steam cleaned or scrubbed with a non-phosphate detergent (e.g., Liquinox®). Where feasible, equipment to be decontaminated will be disassembled to permit adequate cleaning of the internal portions of the equipment. Equipment to be steam cleaned will be placed into a self-contained decontamination trailer with metal cleaning racks that support the equipment for cleaning, rinsing, and air drying. Heavy waterproof gloves will be worn during steam cleaning to protect against skin contact with steam and potential contaminants and to reduce the potential for cross-contamination between samples.

3.3.5 Investigation-Derived Waste

The hydro-excavation spoils generated will be transported by hydro-excavation subcontractor to the Envirotech, Inc. landfarm located near Bloomfield, New Mexico for disposal. Investigation-derived soil waste and wastewater will be containerized in drums and staged at the Site for removal by a contracted transport and disposal company to the Envirotech landfarm.

Other investigation-derived wastes (i.e., excess well materials, bags, buckets, gloves) and disposable equipment and PPE waste generated during field activities, including scrap PVC, concrete, steel, rope, disposable bailers, nitrile gloves, and Tyvek® suits, will be disposed in standard industrial dumpsters.

3.3.6 Field Equipment Calibration Procedures

With regard to organic vapor meters, field personnel will use a 10.6 electron volt (eV) PID for screening soil samples during advancement of soil borings. This instrument will be calibrated prior to use according to the manufacturer's specifications. The instrument calibration will be checked at the beginning of each day of use and any time meter drift is suspected. Calibration information will be recorded in the field logbook.

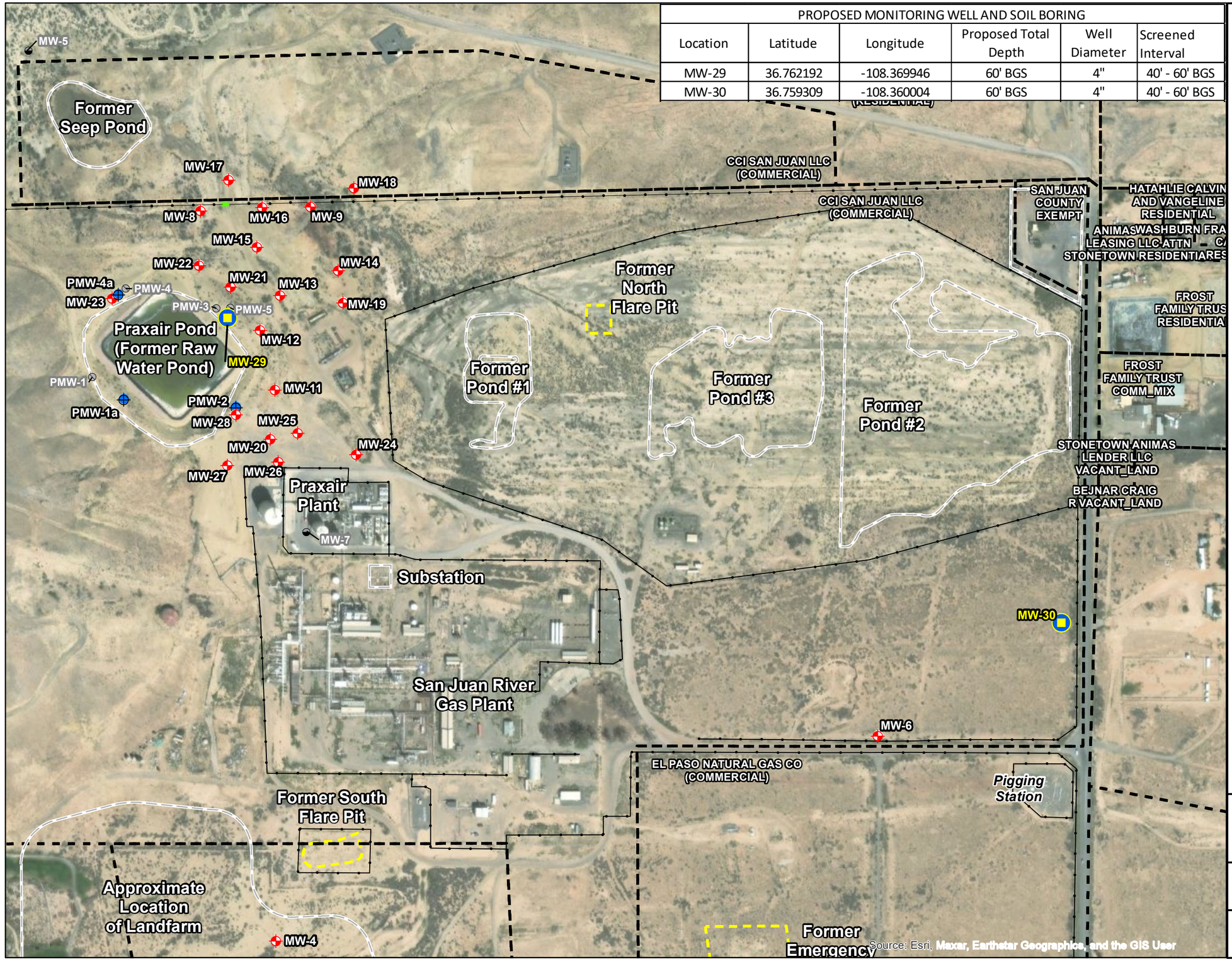
SECTION 4 - SCHEDULE

It is anticipated that monitoring well installation activities will commence in late July 2023. Utility locates must be verified prior to the work. Soil and groundwater analytical results and recommendations from the field activities will be provided in the 2023 Annual Report, anticipated to be submitted by April 1, 2024.

Following installation, the new monitoring wells will be prepared for groundwater sample collection. Assuming LNAPL is not encountered; following development, a HydraSleeve™ no-purge groundwater sampler and tether will be placed in each new well. The new wells will be sampled during the next annual sampling event planned for Fall 2023.

Figure

PROPOSED MONITORING WELL AND SOIL BORING					
Location	Latitude	Longitude	Proposed Total Depth	Well Diameter	Screened Interval
MW-29	36.762192	-108.369946	60' BGS	4"	40' - 60' BGS
MW-30	36.759309	-108.360004	60' BGS	4"	40' - 60' BGS



Source: Esri, Maxar, Earthstar Geographics, and the GIS User

LEGEND

- MONITORING WELL
- PRAXAIR MONITORING WELL
- DESTROYED/ABANDONED PRAXAIR MONITORING WELL
- DESTROYED/ABANDONED EPNG MONITORING WELL
- PROPOSED MONITORING WELLS
- HISTORICAL FEATURE
- PROPERTY BOUNDARY
- FENCE
- GATE
- FLARE PIT

NOTE:

AIR SPARGE INJECTION WELLS SW-08 AND SW-09 ARE LOCATED 10 FEET FROM MW-8 AND MW-9, RESPECTIVELY, AND ARE NOT SHOWN.

N

SCALE IN FEET

0 300 600

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2023-06-02	SAH	SAH	SRV

TITLE:

PROPOSED MONITORING WELL LOCATONS

PROJECT:

SAN JUAN RIVER GAS PLANT
KIRTLAND, NEW MEXICO

Stantec

Figure No.: 1

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 241753

CONDITIONS

Operator:	OGRID:
El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	7046
	Action Number: 241753
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Approved to move forward with installation of additional monitoring wells.	8/3/2023