Stantec Consulting Services Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
Phone: (515) 253-0830
Fax: (515) 253-9592

Review of 2020 Annual GW Monitoring and Remedial Activities Report:
Content satisfactory

1. Continued groundwater monitoring and sampling of the on-site wells on an annual basis
2. Complete repair and/or replace to the pump in EW-2
3. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022

June 28, 2021
VIA E-PERMITTING PORTAL

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

RE: 2021 Monitoring Well Installation Activities Work Plan – San Juan River Gas Plant
El Paso CGP Company
NMOCD Incident Number NAUTOFRM000157
NMOCD Order Number AP-69

Dear Mr. Smith:

Stantec, on behalf of El Paso Natural Gas Company, LLC (EPNG), is submitting the enclosed 2021 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 three (3) new monitoring wells (MWs) at the Site. Unless otherwise noted, the procedures outlined in this Work Plan are to be completed in accordance with the requirements established in EPCGP'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 the week of July 12, 2021.

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:leh
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 Order Number: AP-69
NMOCD Incident Number NAUTOFRM000157
2021 WELL INSTALLATION ACTIVITIES WORK PLAN
KIRTLAND, NEW MEXICO

June 2021

Prepared by:

Stantec Consulting Services Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
(515) 253-0830

TABLE OF CONTENTS

LIST OF FIGURES

SECTION 1 - INTRODUCTION

This Well Installation Activities Work Plan (Work Plan) presents the scope of work for the installation of three monitoring wells (MW-24, MW-25, and MW-26) to be used to further assess the presence of hydrocarbons in soil and groundwater at the San Juan River Gas Plant Site (Site), located in Kirtland, New Mexico. There are currently eighteen EPNG groundwater monitoring wells (W-2, MW-4, MW-6, MW-8, MW-9, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, and MW-23), at the Site. Measurable light non-aqueous phase liquid (LNAPL) is present in site monitoring well MW-20, which was completed in 2019 as part of ongoing site characterization activities. A review of historical photography and figures indicates a former pit and collector basin located east of MW-20, and/or former site features south of MW-20 may be a potential source of the LNAPL. Installation of the three monitoring wells proposed in this Work Plan is to assess potential LNAPL sources east and south of MW-20. The Site is currently idled, although a Praxair nitrogen plant located on the Site is active. Access to the Site has been established. The location of MW-20, the proposed three new 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, the proposed wells are intended to provide additional assessment as to the source of LNAPL present in MW-20, and should help further delineate the extent of hydrocarbons. The scope of work includes well installation, waste management and disposal, and reporting.

Following installation, the new monitoring wells (MW-24, MW-25, and MW-26) will be tied 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.

3.1 SOIL BORING

The location of each proposed well was staked by Stantec prior to completing 811 locations. A ground penetrating radar (GPR) survey will be completed prior to ground disturbance activities to evaluate for the presence of utilities or other anomalies around each monitoring well location. Once GPR and public underground utility locating activities have been completed, hydrovac equipment will be used to clear the well locations to a depth of 10-feet below ground surface (bgs). A truck-mounted, rotosonic drill rig will be mobilized and used to advance a soil boring at each location following completion of the utility clearance activities. The location of each proposed well is depicted on Figure 1.

Once soft-digging 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 the 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 at 1 foot intervals, where recovery is possible, for field screening and potential laboratory analysis. 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, one soil sample per boring will be collected from the core representing the greatest suspected hydrocarbon impact. 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 sample(s) 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 boring and soil screening are completed, the collected sample associated with the highest PID reading will be retained and shipped in an ice-filled cooler under standard chain-of-custody to Eurofins TestAmerica, Inc. (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 8015 M; 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 Method 6010B.

3.2 MONITORING WELL INSTALLATION

The 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. For each well, a 25-foot screen will be installed to a depth of 20 to 45 feet bgs. The screen will be placed so 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 well vault (approximately 2.5 feet bgs) to within approximately 1 foot of the ground surface, or to a field-determined depth based on concrete pad placement.

Monitoring well MW-24 will be completed as a stick-up monitoring well, with the riser casing extending from the top of screen to approximately 2.5 feet above ground surface. Monitoring wells MW-25 and MW-26 will be completed as at-grade monitoring wells, with the riser casing extending from the top of the screen to approximately 0.5 feet bgs. 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 well vault.

For monitoring well MW-24, 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 will be placed around the MW-24 steel stick-up well casing on four sides. A steel, bolt-down, traffic-rated monitoring well vault will be installed to protect monitoring wells MW-25 and MW-26. Each monitoring well stick-up completion and vault will be centered in a minimum three-foot diameter and 6-inch thick concrete pad.

Monitoring well development will be performed by Cascade using well swab surging and pumping until sediment has been removed and visibly clear water is observed or the well runs dry. Soil cuttings will be placed in a roll-off staged on-site. Decontamination and development water will temporarily be placed in a poly-tank.

Hydrasleeve™ samplers will be placed in each monitoring well following development activities, with the Hydrasleeve™ set approximately 5 feet below the water table. 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.

The top-of-casing and ground surface elevations of the newly-installed monitoring wells will be surveyed-in 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 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. Typically, subcontractors will operate under their own HASP, which will be reviewed and referenced by Stantec prior to the start of the project.

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 log book. At the end of each day of field activities, the notes will be dated and signed by the field geologist.

The daily field log book 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 Locations 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 borings should be marked. The clearance call must be made at least two working days prior to drilling, and site work must be completed within five 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

Soil cuttings generated from drilling activities and hydrovac waste will be containerized in a lined roll-off and staged on site for removal by a contracted transport and disposal company.

Decontamination and purge water generated through the development of the new monitoring well will be containerized in a poly-tank and staged on site for removal with the soil cuttings.

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. In the event the waste is grossly contaminated, it will be containerized for proper disposal along with the other investigation-derived waste.

3.4.6 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 log book.

SECTION 4 - SCHEDULE

It is anticipated that monitoring well installation activities will commence the week of July 12, 2021. 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 2021 Annual Report, anticipated to be submitted by March 2022.

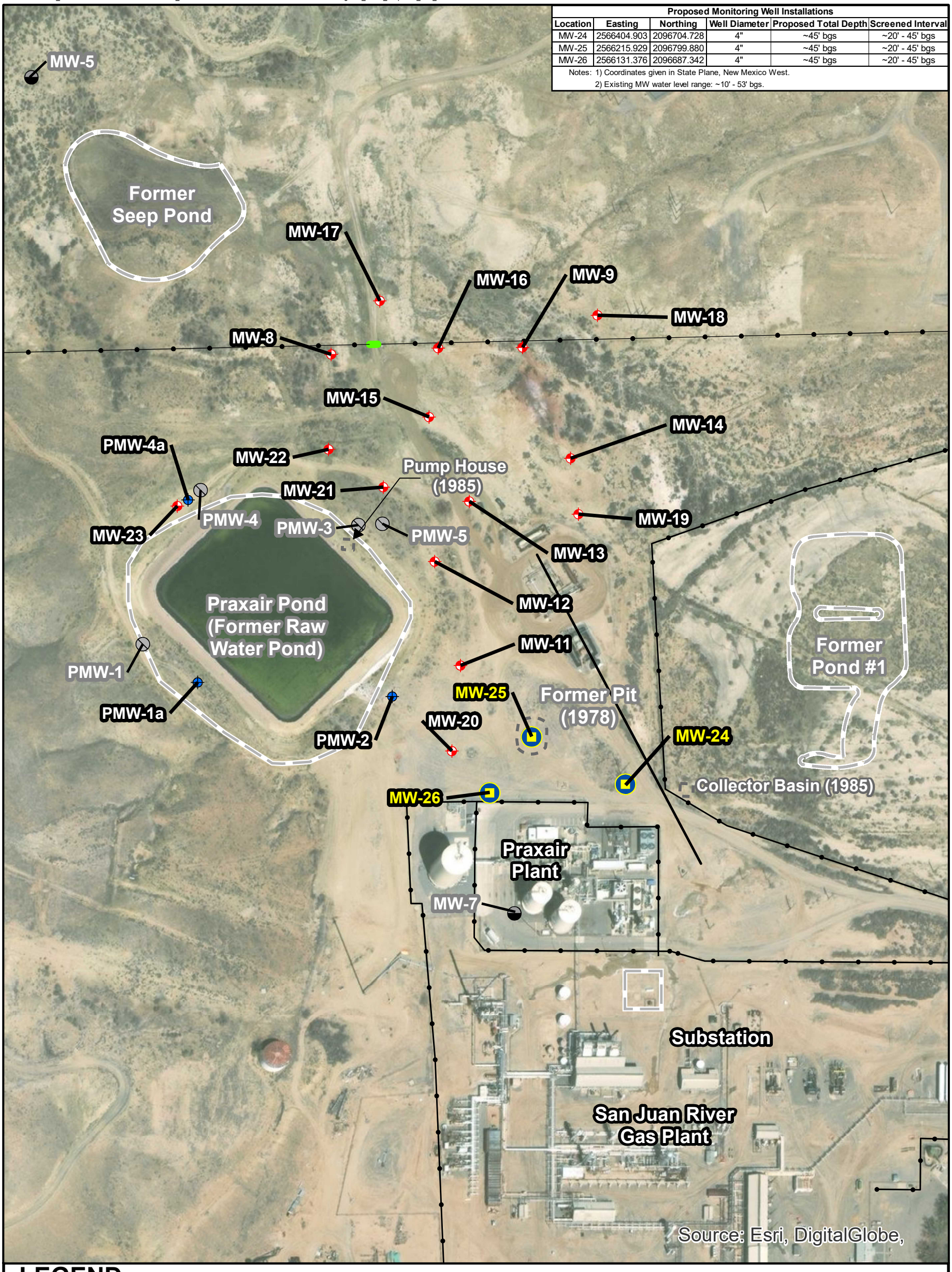
Following installation, the new monitoring wells will be prepared for groundwater sample collection. Assuming free-phase petroleum hydrocarbons are not encountered; following development, a HydraSleeve™ no-purge groundwater sampler and tether will be placed in the new wells. The new wells will be sampled during the next annual sampling event planned for Fall 2021.

U:\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SAN JUAN RIVER GAS PLANT\2021 MAPS\Figure1_SJRP_Proposed_MW_noUtils.mxd

Proposed Monitoring Well Installations

Location	Easting	Northing	Well Diameter	Proposed Total Depth	Screened Interval
MW-24	2566404.903	2096704.728	4"	~45' bgs	~20' - 45' bgs
MW-25	2566215.929	2096799.880	4"	~45' bgs	~20' - 45' bgs
MW-26	2566131.376	2096687.342	4"	~45' bgs	~20' - 45' bgs

Notes: 1) Coordinates given in State Plane, New Mexico West.
2) Existing MW water level range: ~10' - 53' bgs.



LEGEND

- MONITORING WELL
- PROPOSED MONITORING WELL
- PRAXAIR MONITORING WELL
- DESTROYED/ABANDONED PRAXAIR MONITORING WELL
- DESTROYED/ABANDONED EPNG MONITORING WELL
- HISTORICAL FEATURE
- 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

0 150 300

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	6/18/2021	SLG	SLG	SRV

TITLE:

PROPOSED WELLS

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 34168

CONDITIONS

Operator: El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	OGRID: 7046
	Action Number: 34168
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2020 Annual GW Monitoring and Remedial Activities Report: Content satisfactory 1. Continued groundwater monitoring and sampling of the on-site wells on an annual basis 2. Complete repair and/or replace to the pump in EW-2 3. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022	12/29/2021