AP - 069

STAGE 1 WORKPLAN

09/28/2006

MWH

SEPTEMBER 28, 2006

Mr. Glenn von Gonten
New Mexico Energy, Mineral, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Revisions to Proposed Work Plan at the San Juan River Plant
El Paso Natural Gas Company / Praxair Nitrogen Plant
San Juan County, New Mexico

Dear Mr. von Gonten:

On March 28, 2006, El Paso Natural Gas Company (EPNG) submitted correspondence to the New Mexico Oil Conservation Division (OCD) that included the document, *Proposed Workplan for Additional Phase I Investigation of Potential Hydrocarbon Impacts as Part of a Stage I Abatement Plan at the San Juan River Plant, San Juan Basin, New Mexico.* This work plan detailed the proposed next steps in the site characterization efforts. Please find enclosed a revised version of this work plan.

Since the time of the original submittal, both EPNG and its consultant, MWH Americas, Inc. (MWH) have made changes to their project teams. During a subsequent review of the work plan, it was concluded that several enhancements were warranted. Per your September 6, 2006 discussion with Bart Wilking, it is our understanding that you may not have yet reviewed the previous submittal, and we wanted to take the opportunity to make a few changes. For your reference, the revisions are as follows:

1. EPNG proposes to complete temporary monitoring wells in each hollow-stem auger borehole. The original work plan stated that groundwater samples would be collected directly from the borehole, and that temporary well points would be installed in soil borings with obvious signs of contamination.

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2. EPNG proposes to advance each borehole approximately 10 feet below the observed depth of the water table. This depth will facilitate the installation of well screen over an interval approximately 5 feet above and 10 feet below the groundwater potentiometric surface elevation, standard monitoring well construction per the *Guidelines for Remediation of Leaks, Spills, and Releases (New Mexico Oil Conservation Division, August 13, 1993).*

3. The revised work plan updates the schedule section with a reference to OCD concurrence with the proposed work plan. EPNG looks forward to conducting the additional work as soon as possible, but requests OCD approval of the intended approach, in view of the results of the direct push soil and groundwater sampling, as presented in the March 28, 2006 submittal.

Thank you for your assistance with this project. Please contact either Bart Wilking (719-520-4554) of El Paso Corporation, or myself (303-291-2276) if you have any questions or need additional information.

Sincerely,

MWH Americas, Inc.

Jed Smith
Project Manager

enc.

cc: Bart Wilking, El Paso Corporation

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Environmental Bureau

PROPOSED WORKPLAN FOR ADDITIONAL PHASE I INVESTIGATION OF POTENTIAL HYDROCARBON IMPACTS AS PART OF A STAGE I ABATEMENT PLAN AT THE SAN JUAN RIVER PLANT SAN JUAN RIVER BASIN, NEW MEXICO

September 2006

Prepared for:
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3	Geoprobe Soil Boring Locations
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LIST OF ACRONYMS

Bgs	Below ground surface
Btoc	Below top of casing
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
EPNG	El Paso Natural Gas Company
HSP	Health and Safety Plan
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
µg/L	Micrograms per liter
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
SJRP	San Juan River Plant
TPH	Total petroleum hydrocarbons
WGR	Western Gas Resources, Inc

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This document presents El Paso Natural Gas Company's (EPNG) proposed workplan for additional investigation as part of the first phase of a Stage I Abatement Plan to be conducted in the vicinity of the Praxair Nitrogen Plant evaporation pond and at other areas on the San Juan River Plant (SJRP). Dissolved and free-phase hydrocarbons have been detected on the east side of the evaporation pond and the source of this hydrocarbon impact remains unknown. This workplan presents the scope of work and field and laboratory methods to be implemented to further investigate the source of, and the lateral extent of, potential hydrocarbon impacts. After the source(s) of hydrocarbons have been identified the extent of hydrocarbon impacts will be assessed in a second phase of investigations. The second phase of the Stage I Abatement Plan will consist of permanent monitoring well installations to assess and monitor groundwater quality, as well as completion of the remaining Stage I Abatement Plan requirements. Because the sources and extent of hydrocarbon impacts are unknown, a monitoring well network cannot be proposed at this time. Following completion of the second phase of work, a final site investigation report will be submitted to the Director for approval.

SJRP is located in the San Juan River Basin of New Mexico in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico. The SJRP was previously owned by EPNG, but has been owned and operated by Western Gas Resources, Inc (WGR) since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. Recently, the Praxair Nitrogen Plant was built in the area north of the SJRP and a lined evaporation pond was constructed in the location of the former EPNG raw water pond. During installation of four groundwater monitoring wells around Praxair's pond, hydrocarbon impacts were encountered in a limited area on the east side of the pond.

A Geoprobe investigation was conducted in the area east and north of the Praxair pond to assess the extent of hydrocarbon impacts in the area of the pond, as well as to investigate potential sources. The Geoprobe investigation consisted of soil sampling and groundwater sampling through temporary Geoprobe boreholes. Results of the Geoprobe investigation were inconclusive with respect to both the source and extent of the contamination; therefore, this additional

investigation has been proposed. Once the source and extent of contamination have been identified, a monitoring well network will be proposed and installed to assess and monitor the areas of hydrocarbon impacts

A Site-Specific Health and Safety Plan (HSP) (MWH, 2005) was written for groundwater monitoring, operations and maintenance (O&M), drilling and hand augering activities for the San Juan River Basin Projects. A copy of this plan must be on Site at all times while work is being conducted. This HSP applies to MWH Americas, Inc. (MWH) employees, MWH's subcontractor employees, and visitors at the sites.

1.2 DOCUMENT ORGANIZATION

Following this section, the document is organized as follows:

- Section 1.0 – Introduction
- Section 2.0 – Site Background
- Section 3.0 – Scope of Work
- Section 4.0 – Field Methods
- Section 5.0 – Laboratory Testing
- Section 6.0 – Data Evaluation and Reporting
- Section 7.0 – Schedule
- Section 8.0 – References

2.0 SITE BACKGROUND

The sections below present a description of the site and the site remediation history.

2.1 SITE DESCRIPTION

SJRP is located in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico. A site map is shown in Figure 1. The SJRP was previously owned by EPNG, but has been owned and operated by WGR since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. The SJRP is a 630-acre facility that has contained gas processing facilities, two raw water ponds (now closed), three wastewater evaporation ponds (now closed), a sulfur recovery plant, water and hydrocarbon tanks, a pigging station, flare pits, and several 16 to 24-inch diameter natural gas pipelines that cross the facility. Closure of the evaporation ponds, flare pits, and other potential hydrocarbon source areas was completed during a time period beginning in 1992 and ending in early 1996. Recently, the Praxair Nitrogen Plant was built in the area north of the SJRP, to the south of monitoring wells MW-8 and MW-9. Praxair constructed a lined evaporation pond in the location of the former EPNG raw water pond and installed five monitoring wells surrounding the pond. Monitoring wells MW-1, MW-2, MW-3 and MW-4 were installed in groundwater at total depths of 80 to 90 feet below ground surface (bgs). According to Praxair's field report, a perched zone was encountered during drilling MW-3 and therefore a second well, MW-5, was installed in the same boring as MW-3. Monitoring wells MW-3 and MW-5 were subsequently abandoned. Figure 1 presents a detailed site map of SJRP.

2.2 SITE GEOLOGY AND HYDROGEOLOGY

The following description of site geology and hydrogeology is based on reports prepared by Philip Environmental for EPNG in 1998 (Philip Environmental, June 1998), and K.W. Brown and Associates in 1987 (KWBA, 1987), and the Geoprobe investigation performed by EPNG in February 2006.

2.2.1 Site Geology

Based on drilling logs from 1995 and prior activities, the soils consist of fine sand to fine sandy clay, with some gravel and cobbles. The soil samples from borings located in the valley or

alluvial fans (such as P-10, P-7, P-9, MW-5, MW-8 and MW-9) consist of fine sand to clay. The soil samples from the borings located on the mesas, plateaus and terraces (such as E-10, E-11, E-9, MW-6 and MW-7) consist of fine sand with some gravel and cobble layers and some unconsolidated sandstone and shales. The uppermost and most prevalent lithology at the site is alluvial sediments, consisting of fluvial deposits and, to a lesser extent, terrace deposits of gravel and cobbles. Beneath the alluvium are the consolidated sedimentary units of the Kirtland Shale Formation, which includes both shales and sandstone members. The portion of the site to the north of the SJRP plant, itself, is underlain by a shale member of the Kirtland Formation. The plant and the flare hill are underlain by a sandstone member of the Kirtland Formation. During remediation of the south flare pit in September 1992, a distinct clay layer was encountered at a depth of approximately 15 feet below the original bottom of the pit.

During the Geoprobe investigation performed by EPNG February 13-14, 2006, refusal was met in hard shale, siltstone, a silty sand mix, and sandstone at interval depths of 8 to 15 ft bgs. Lithology generally changed from a clay soil near the surface to alternating weathered shale and sandstone. This is consistent with previous assessments of the geology, and it is likely the majority of the soil borings met refusal in the Kirtland Formation.

2.2.2 Site Hydrogeology

Regional groundwater flow in the San Juan Basin is from the topographically high outcrop areas around the edges of the basin, towards the lower outcrop areas. The San Juan River Valley is indicated as the main discharge area of the San Juan Basin (Stone, 1983). The San Juan River is located approximately two miles to the south of the SJRP site.

A potentiometric surface map is presented on Figure 2 based on water-level measurements collected in November 2005. These measurements indicate a groundwater flow divide just north of the plant that directs flow to the southwest through the southern portion of the site, and to the northwest through the northern portion of the site, including the Praxair pond area.

Based on Praxair's well construction logs for monitoring wells near the Praxair pond, groundwater was encountered during drilling at approximately 60 to 70 feet bgs. These wells were screened between the interval of 58 to 83 feet bgs, and static groundwater levels in these wells have been measured at approximately 28 to 43 feet bgs. Based on the Praxair well log for

MW-3 (recently abandoned), there may be a perched water zone at approximately 30 feet bgs. Praxair installed MW-5 within the same boring as MW-3, and screened the well from 30 to 45 feet bgs. In 2004, the water-level elevation in well MW-5 was measured at 5258.15 feet above mean sea level (msl); the corresponding water-level elevation in the deeper-screened well MW-3 was 5258.59 feet msl. Given these water-level elevations, it appears that the water table is at a higher potential than the so-called perched zone. This situation does not appear to be technically valid, and thus, the theory of a perched water table needs to be tested. This testing will be undertaken in this proposed workplan.

During the February 2006 Geoprobe investigation, groundwater was not encountered in any of the boreholes during drilling. Temporary piezometers were installed in the four borings that reached the estimated depth to water based on nearby wells MW-8 and MW-9 (GPH-6 through GPH-9, shown in Figure 3), of which only one (GPH-7) yielded enough water to collect a sample. Moist soils were encountered in the other three locations, however an appreciable amount of water was never recovered in these wells.

2.3 PREVIOUS SITE PROJECT HISTORY

Dissolved-phase hydrocarbons have been observed in the northern portion of the site at MW-8 and MW-9. EPNG has been aggressively implementing active groundwater remediation in this area to reduce dissolved-phase hydrocarbons. The remediation consists of chemical oxygen enhancement and air sparging. Due to the investigation in the area, the air sparging system is not operating.

In general, the most elevated hydrocarbon concentrations have been detected in shallow groundwater at Praxair well MW-5 and EPNG wells MW-8 and MW-9, with only slightly elevated concentrations in groundwater in Praxair wells MW-2 and MW-3. Therefore, hydrocarbon impacts to the east of the pond, in the vicinity of Praxair MW-5 were the focus of the previous phase I Geoprobe investigation. Because free product is confined to one well and the well is screened in shallow groundwater, the source of the hydrocarbons is likely to be local.

As part of the first phase of investigation for a Stage I Abatement Plan, a Geoprobe soil boring investigation was conducted February 13-14, 2006. This investigation consisted of 15 soil borings at various locations to the north and east of the Praxair pond (shown on Figure 3). The majority

of soil contamination was encountered in the area to the northeast of the Praxair pond, in the vicinity of MW-8 and MW-9. One groundwater sample was collected at GPH-7, where the benzene concentration was just above New Mexico Water Quality Control Commission (NMWQCC) standards at 10.5 µg/L. The areas to the southeast of the pond showed little or no hydrocarbon impacts. However, this investigation failed to reach adequate depth for all but four of the attempted locations, and it was determined that additional investigation was necessary.

3.0 SCOPE OF WORK

A hollow-stem auger investigation will be conducted in the area north and east of the Praxair pond in order to further investigate the extent of hydrocarbon impacts, as well as to investigate potential sources in the vicinity. Based on the results of the phase I geoprobe investigation, EPNG has identified 8 areas for further investigation with a hollow-stem auger rig, shown on Figure 4. This investigation will focus on the area to the north and northeast of the Praxair pond, in the area showing the most impact during the Phase I geoprobe investigation. Additional soil borings are proposed to the northwest of Former Pond #1 and to the northwest of the Praxair pond to address possible upgradient sources in these areas as well as identifying the extent of contamination. The additional locations may be modified in the field based on observations of the level of impact in these areas.

Soil cores will be logged and sampled as described in Section 4.1, below. Logging will include soil descriptions and measurements of headspace vapor photoionization detector (PID) readings. The borings will be advanced to approximately 10 feet below the depth of first encountered groundwater. Soil samples will be collected at least every 10 feet, or at every significant change in lithology. A soil sample will also be collected at the depth of the highest PID measurement; however, if there are no elevated PID measurements, a soil sample will be collected from immediately above the saturated zone, or, in the case of a dry hole, at the terminus of the boring. Samples will be submitted to a qualified laboratory for analysis of BTEX by EPA SW-846 Method 8021B and TPH by EPA SW-846 Method 8015M.

Shallow groundwater samples will be collected from temporary monitoring wells installed in each boring, using either dedicated disposable bailers or a peristaltic pump and dedicated tubing. All groundwater samples will be submitted to a qualified laboratory for analysis of BTEX by EPA SW-846 Method 8021B and TPH by EPA SW-846 Method 8015M. The temporary wells will be surveyed, and groundwater elevation data will be utilized to generate a more accurate shallow groundwater elevation map of this area. Following the data review, some temporary wells may be completed as permanent monitoring wells; others will be abandoned by removing the casing (if possible) and backfilling the boring with bentonite chips and hydrating.

4.0 FIELD METHODS

The following sections present details for the soil and groundwater field investigations.

4.1 HOLLOW STEM AUGER SOIL INVESTIGATION

A truck-mounted, hollow stem rig will be utilized to advance soil borings and collect soil samples. The borings will be advanced to approximately five feet below the depth where groundwater is first observed. Soil cores will be continuously collected during auger advancement. Upon recovery, the cores will be logged by a field geologist in general accordance with Unified Soil Classification System (USCS) protocol. The cores will then be split in half. The first half will be utilized for PID headspace logging. At select depths, the second half will be sampled for laboratory analysis.

A composite sample will be collected from one half of each core, at either 1-foot or 2-foot intervals, and placed into a zip-lock bag. After waiting at least 10 minutes, the headspace gas PID reading in the bag will be noted. At depth intervals of no greater than 10 feet, composite soil samples from the remaining, undisturbed core halves will be containerized in either 4 or 8 ounce jars and analyzed for BTEX by EPA SW-846 Method 8021B and TPH by EPA SW-846 Method 8015M. In particular, samples will be collected from encountered soils of differing lithologies, and a soil sample will be collected from each boring at the depth interval exhibiting the highest PID reading. If no PID screening results indicate hydrocarbon impact, then a sample will be collected from either just above the observed saturated zone or, in the case of a dry hole, the total depth of the boring. The soil samples will all be labeled, handled, and shipped according to the procedures outlined below.

4.2 SHALLOW GROUNDWATER INVESTIGATION

4.2.1 Temporary Groundwater Monitoring Points

Each of the soil borings will be advanced to approximately 10 feet below the depth of first encountered groundwater. Temporary points will be constructed of 2-inch Schedule 40 PVC screen (15 feet in length) and blank casing. The well screen will be installed in and above the depth interval where shallow groundwater will likely be encountered, based on the soil boring log and/or adjacent well locations. The screen will be set from approximately 5 feet above to approximately 10 feet below the groundwater potentiometric surface. The PVC blank casing will

extend from the top of the well screen to about two feet above the ground surface. The annular space adjacent to the PVC well screen will be filled with an appropriately sized sand pack from the bottom of the borehole to two feet above the top of the well screen. Approximately three feet of hydrated bentonite pellets will be placed above the sand pack, and a cement/bentonite grout will be placed above the bentonite seal to the ground surface, to prevent downward migration of surface water into the well.

The new wells will be developed by purging at least three to five casing volumes of water. Then, at least twenty-four hours after construction and development, both pre-existing and new wells will be gauged to measure depth to groundwater relative to the top of casings. Groundwater samples will then be collected from the temporary monitoring wells as described below. Some well points may be completed as permanent monitoring wells after receipt of laboratory analytical data.

4.2.2 Shallow Groundwater Sampling

Groundwater samples will be recovered from each well point using disposable, dedicated bailers or a peristaltic pump and clean, dedicated polyethylene tubing. Groundwater samples will be collected in VOA vials for delivery to the analytical laboratory and analyzed for BTEX by EPA SW-846 Method 8021B. Groundwater samples will be labeled, handled, and shipped according to the procedures outlined below.

4.3 GENERAL INVESTIGATION PROTOCOLS

This section presents a discussion of documentation procedures, location identification, sampling methods, and other procedures to be performed as part of the investigation.

4.3.1 Documentation Procedures

Data generated during the field investigation will be recorded on sampling logs that are specific to the type of sampling being performed or the type of samples collected. Each soil sample will be generally classified according to the USCS procedures. The soil samples will be classified based on visual evaluation of grain size, degree of sorting, and consistency. The visual soil description also will include color, soil particle angularity, plasticity, and moisture content.

In addition, the field hydrogeologist/environmental scientist will maintain daily field reports. At the end of each field day, the daily reports will be dated and signed by the field person performing the work. Daily field reports will include:

- Date
- Name and location of the work activities
- Weather conditions
- Personnel and visitors on Site
- Sample locations and methods (including sampling equipment), time of sample collection, and sample depths
- Samples submitted to the laboratory for analyses
- Sample type (soil, groundwater, duplicate, blank)
- Name of carrier transporting the sample (e.g., name of laboratory and shipping agent)
- Photograph numbers and descriptions (if applicable)
- Description of decontamination activities (if applicable)
- Schematic drawings of sample locations
- Any deviations from the Work Plan
- Other relevant observations as the field work progresses
- Problems and corrective actions

4.3.2 Boring Locations and Utility Identification

Proposed boring locations will be marked in the field prior to initiation of fieldwork. The "One-Call" Service will be contacted a minimum of 48 hours prior to drilling for clearance, and the necessary Right-of-Way clearances will be obtained.

4.3.3 Sample Labeling

A sample label will be placed on each sample container submitted for analysis and will include the project name and location, sample designation (including depth interval, if appropriate), date and time of collection, preservative (if applicable), sampler's initials, and required analyses. Sample designations are presented below in Section 4.3.5. Labels will be sufficiently durable to remain legible and attached to the sample container when wet. Sample labels will be completed with indelible ink.

4.3.4 Chain-of-Custody

A project-specific chain-of-custody form will be completed and will accompany each sample cooler. The chain-of-custody form includes project identification, project location, sample designation, analysis type, and shipping account information. In addition, there are spaces for entry of the sample collection date and time, sample depth, signature of the persons relinquishing and receiving samples, and the status of the samples upon receipt by the laboratory. The chain-of-custody form will be in duplicate. The original of the form will be shipped to the laboratory with the samples, one duplicate copy will be reviewed and filed with the EPNG project. Each form will be completed properly in the field at the time of collection to ensure that sample custody is documented, appropriate amount of sample has been collected, and that scheduled analyses are properly assigned. All entries will be made using indelible ink on the chain-of-custody form. Any errors will be corrected by drawing a single line through the incorrect entry, entering the correct information, and then initialing and dating the change. Unused portions of the chain-of-custody form will be crossed out and initialed. All samples will be transported by field personnel or via a commercial carrier (e.g., Federal Express Priority Service). The signed shipping tracking number and receipt will serve as evidence of custody transfer between the field sampler and carrier, and the carrier and laboratory. The sampler will retain and file copies of the chain-of-custody record and the shipping tracking number and carrier name after the samples are shipped. The carrier will relinquish samples to the laboratory upon arrival, and the laboratory personnel will then complete the chain-of-custody form. The original completed chain-of-custody form will be returned to EPNG and filed in the project files.

Sample Handling and Shipping. All laboratory samples will be shipped or transported in coolers containing ice and maintained at 4°± 2 °C. Each cooler will contain a temperature blank consisting of a 40 ml vial. Upon receipt, the laboratory will record the temperature of the temperature blank on the chain-of-custody form. All samples will be either hand delivered, or will be shipped via a commercial carrier. Sampling personnel will prepare air-courier waybill identification labels in strict accordance with the U.S. Department of Transportation procedures.

Sample Packing. Sample containers will be placed in clean protective foam or bubble pack sleeves. The caps of all sample bottles shall be checked for tightness to prevent sample leakage during transport. Care will be taken to prevent over-tightening and breakage of bottle caps.

Sample containers will be immediately placed on ice in a waterproof hard plastic ice chest. Samples will be stored and shipped on ice to maintain the samples at 4°± 2 °C. The ice will be double wrapped in re-sealable plastic bags. Sufficient packing material will be placed in each ice chest to minimize the potential for sample bottles to shift and become damaged or broken during shipment. Packing material may include bubble pack or foam material. Samples should be thoroughly cooled before placing in packing material so the packing material serves to insulate the pre-cooled sample. The drain plug on the shipping container will be closed and sealed on the inside and outside with duct tape.

Sampling personnel will inventory the sample bottles from the Site prior to shipment to ensure that all samples listed on the chain-of-custody form are present. All bottles collected from a specific sampling interval will be packed and shipped together in the same shipping container.

The originals of the analysis request and chain-of-custody forms will be sealed in a waterproof plastic bag and placed inside the shipping container prior to sealing of the container. The cooler will be taped shut using strapping tape over the hinges and custody seals placed across the top and sides of the cooler lid. Clear tape will be placed over the custody seals to prevent inadvertent damage during shipping. The tape should not allow the seals to be lifted off with the tape and then reaffix without breaking the seal.

4.3.5 Sample Designation

For this program, each sample will have a unique sample identification, consisting of a boring identifier, sample type identifier, and depth identifier, if appropriate. Hollow stem borings will be given a numeric identifier (1 - #). Samples will be labeled with the temporary monitoring well number (TMW #), the type of sample (soil (SS) or water (GW)), and depth of sample (in feet). For example:

Sample Designation: *TMW 1 - GW(12)*

indicates a groundwater sample collected at a depth of 12 feet bgs from the temporary monitoring well number 1.

4.3.6 Equipment Decontamination

Prior to collecting any sample and between sampling locations, all sampling equipment will be decontaminated using a non-phosphate detergent (e.g., Alconox) or by steam cleaning. Prior to the drilling, all downhole equipment will be steam-cleaned or scrubbed with a non-phosphate detergent (e.g., Alconox). If appropriate and feasible, several sets of decontaminated equipment (e.g., sampling trowels, or core barrels) may be used to minimize downtime during decontamination if multiple samples are to be collected from the same area. 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 on metal cleaning racks that support the equipment for cleaning, rinsing, and air drying. Heavy waterproof gloves will be worn during steam cleaning to reduce the potential for cross-contamination between samples and to protect against skin contact with steam and potential constituents. These gloves will be steam cleaned or replaced each time the equipment is decontaminated.

4.3.7 Investigation-Derived Waste

Introduction. The types of investigation-derived waste (IDW) that are expected to be generated during this sampling program include soil, decontamination water, personal protective equipment (PPE), disposable field equipment, and groundwater. This section describes the activities that will generate each of these wastes and the methods that will be used to minimize the volume of IDW generated whenever possible.

Soil. During the field investigation, excess soil generated from sampling activities will be spread onto the ground surface. If soils appear to be impacted with hydrocarbons, they will be placed into a 55-gallon drum for proper disposal.

Groundwater and Decontamination Water. Groundwater will be generated primarily through the purging and sampling of temporary groundwater monitoring points. In general, very little excess purge water is anticipated to be collected during this investigation. Purge water most likely will be managed at the Rio Vista facility.

Disposable Equipment and PPE. Waste generated during the field investigation, including rope, disposable bailers, latex gloves, Tyvex suits, and etc. will be disposed in standard industrial

"dumpsters." In the event the equipment or PPE is grossly contaminated, it will be decontaminated before disposal.

4.3.8 Field Equipment Calibration Procedures

Organic Vapor Meters

Field personnel will use a PID for screening for the presence of organic vapors and for soil sample screening measurements. 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. All calibration information will be recorded on the daily field records.

Electric Water-Level Indicator

Electric water-level indicators will be checked before the beginning of field activities by comparing the scale on the water-level tape against an engineering measurement tape. If more than one water-level indicator is used on Site, they will be calibrated to assure the depth-to-water readings are consistent between all probes. Water-level measurements will be recorded to the nearest one hundredth (0.01) of a foot.

4.3.9 Survey

A licensed surveyor will be used to determine the coordinates and elevations of ground surface and top of casing for the temporary monitoring points. Field activities associated with the survey will be documented. Entries will include the date, time, personnel on Site, work performed, problems, and corrective actions.

5.0 LABORATORY TESTING

5.1 Soil Samples

Soil samples will be collected and analyzed in a laboratory for the following parameters:

- BTEX by EPA SW-846 Method 8021B
- TPH (GRO and DRO) by EPA SW-846 Method 8015M

5.2 Groundwater Samples

Groundwater samples will be collected for laboratory analysis of the following parameters:

- BTEX by EPA SW-846 Method 8021B

6.0 DATA EVALUATION AND REPORTING

Following completion of the hollow stem investigation, an interim report will be submitted to provide the data results, an interpretation of the nature and extent of hydrocarbon impacts, and conclusions with regard to potential sources. Hydrocarbon isoconcentration maps will be presented based on data collected during this investigation and previous groundwater sampling events. The report will also provide recommendations for monitoring well installations, a monitoring schedule, and any additional site investigation tasks to fulfill the Stage I Abatement Plan requirements. After completion of the second phase of field investigation, a Site Investigation Report will be issued that presents a site conceptual model. This work will be followed by a Stage 2 Abatement Plan which will select and design, if necessary, an abatement option that when implemented will result in attainment of groundwater concentrations in compliance with NMWQCC standards.

7.0 SCHEDULE

This investigation is expected to begin in a timely manner after approval of this proposed work plan by NMOCD, pending access agreements with WGR and Praxair, and other scheduling considerations. NMOCD will be notified at least one week prior to initiation of the fieldwork. Results of the investigation will be provided to NMOCD with recommendations for further activities within 45 days of receipt of analytical data. A schedule for subsequent activities will be provided in that report. EPNG will work with NMOCD to expedite completion of field activities and reporting for the submittal of the final site investigation report pursuant to the Stage I Abatement Plan.

8.0 REFERENCES

K.W. Brown and Associates (KWBA), 1987. *Land Application Feasibility Study, San Juan River Plant, Phase I Final Report*, August 1987.

Philip Environmental, 1998. *Summary of Investigations at the San Juan River Plant, Kirtland, New Mexico.* June 1998. Prepared for El Paso Natural Gas Company.

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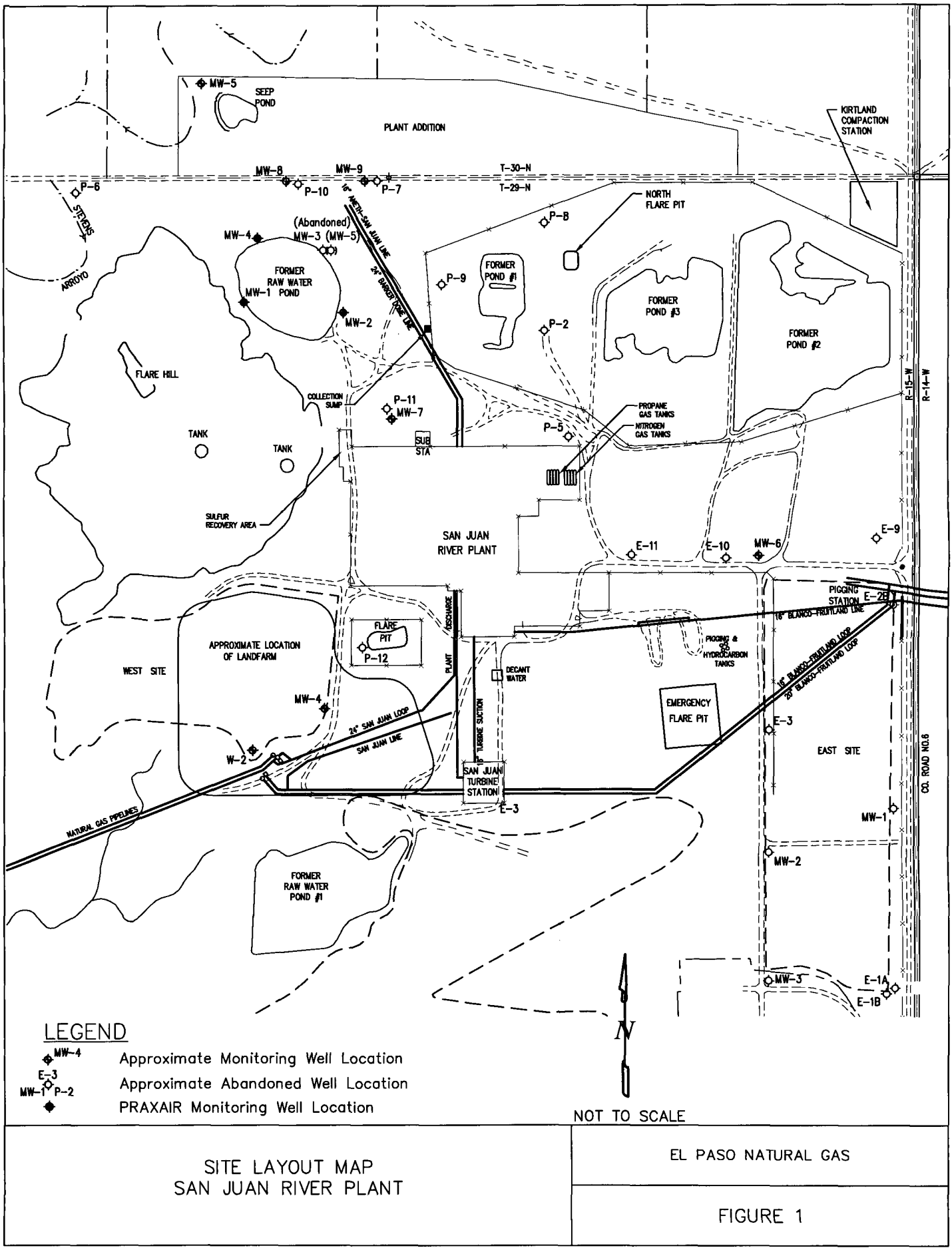
FIGURES

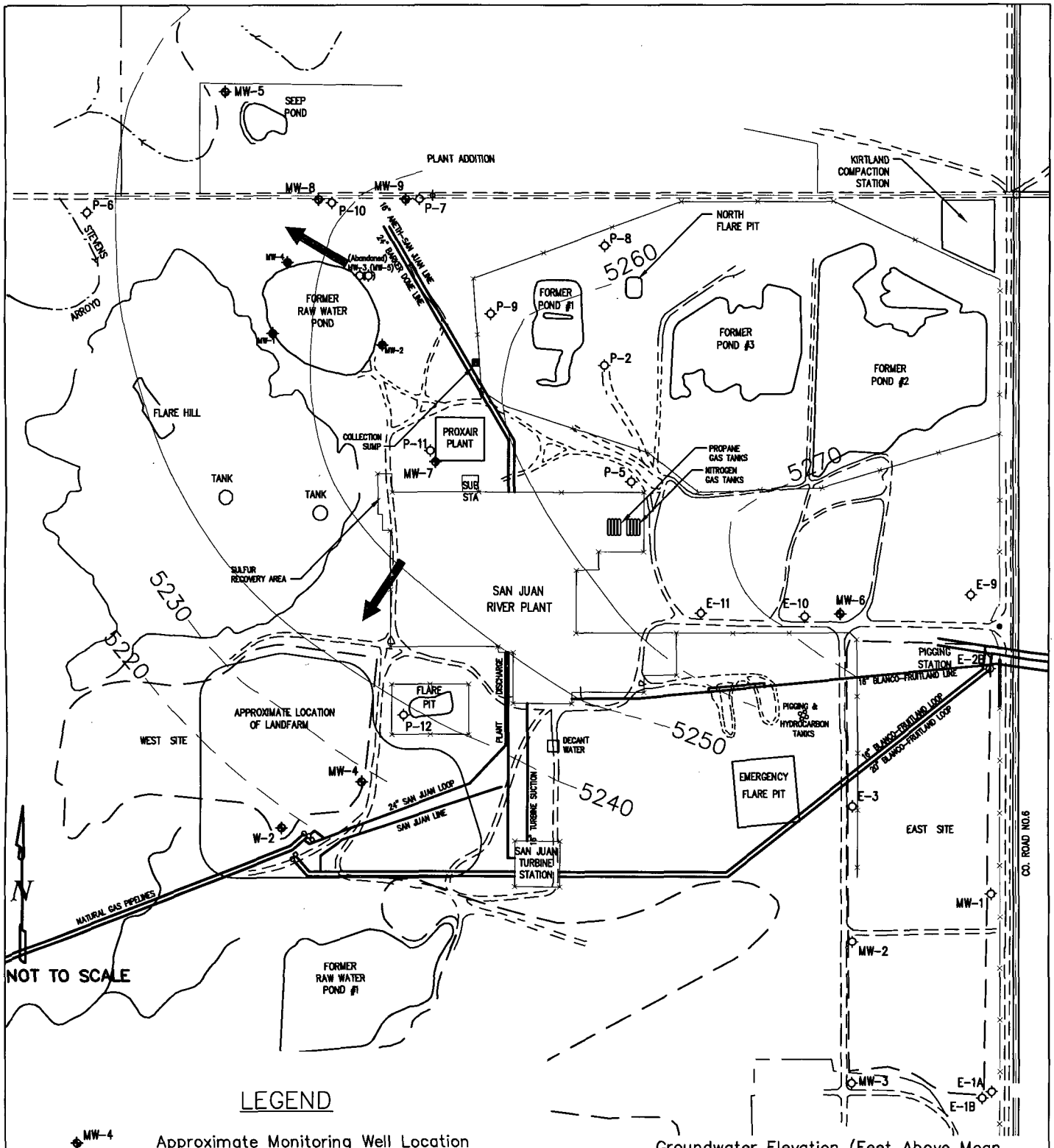


SITE LAYOUT MAP
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 1

SJRP_01-ANREPORT



LEGEND

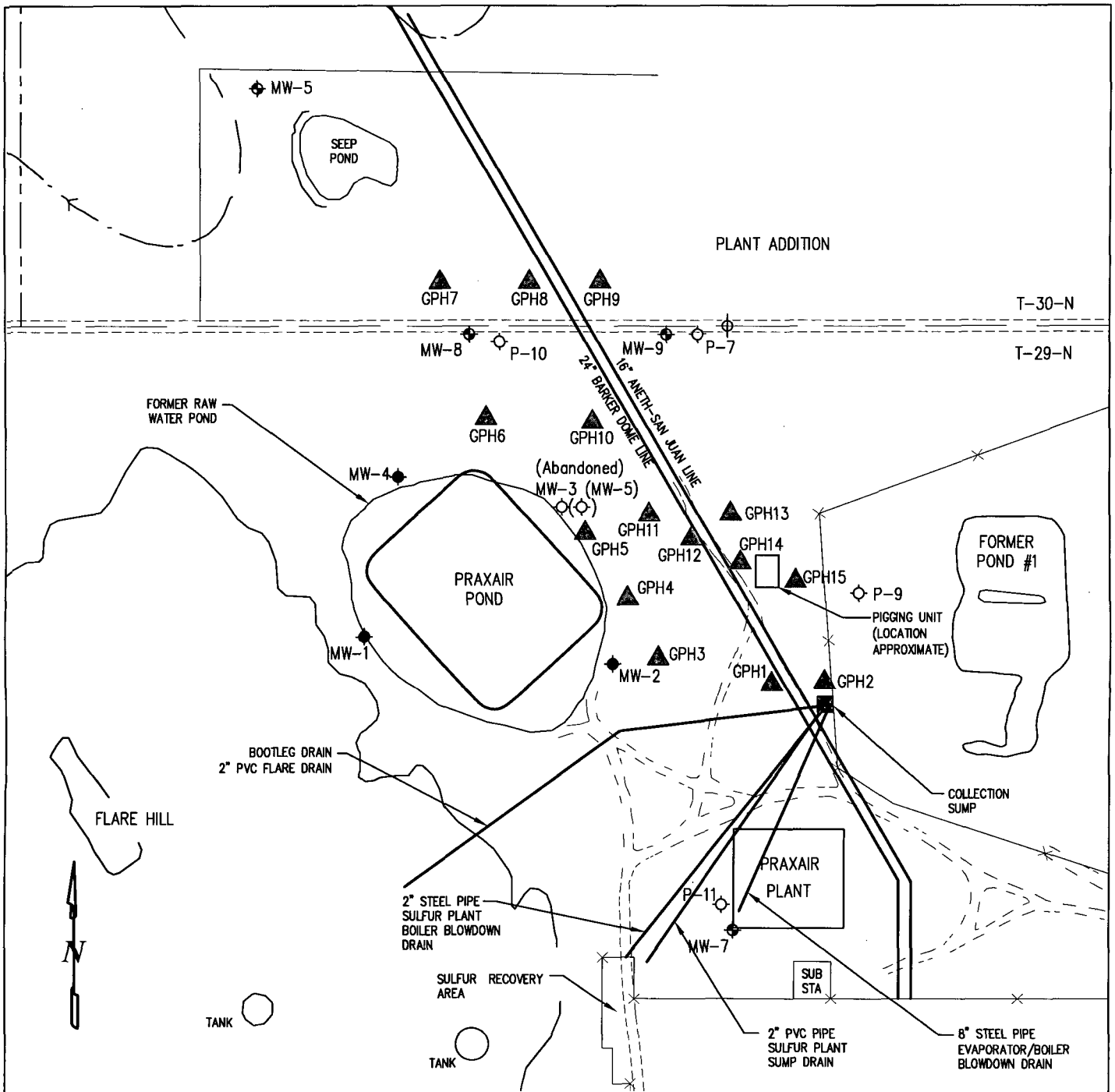
MW-4	Approximate Monitoring Well Location
E-3 MW-1 P-2	Approximate Abandoned Well Location
5260	Potentiometric Surface (Approximate & Assumed Where Dashed)
GWEL	Groundwater Elevation (Feet Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
→	Direction of Groundwater Flow (Estimated)

GROUNDWATER ELEVATION MAP
MARCH 2006
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 2

SJRP 3-06 GW ELEV



LEGEND

MW-4 ◆ GROUNDWATER MONITORING WELL LOCATION (PRAXAIR)

MW-8 ⊕ PERCHED WATER MONITORING LOCATION

P-2 ○ ABANDONED WELL LOCATION

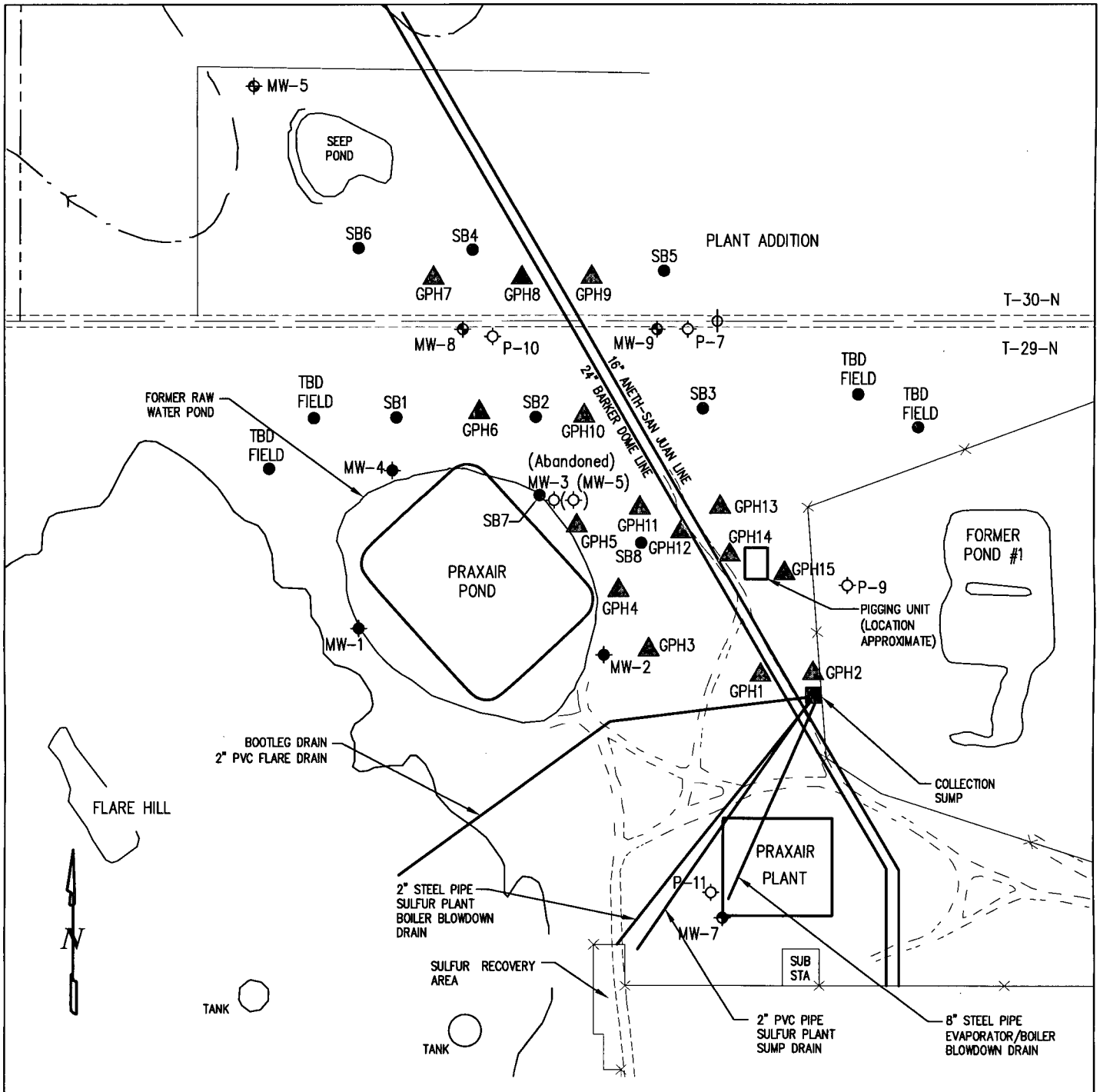
▲ GEOPROBE SOIL BORING LOCATION AND WATER SAMPLE LOCATION (FEBRUARY 2006)

SJRP DETAILED PONDS

PRAXAIR FACILITIES
SAN JUAN RIVER PLANT
GEOPROBE SOIL BORING LOCATIONS

EL PASO NATURAL GAS

FIGURE 3



SJRP DETAILED PONDS

PRAXAIR FACILITIES
SAN JUAN RIVER PLANT
PROPOSED ADDITIONAL SOIL BORING LOCATIONS

EL PASO NATURAL GAS

FIGURE 4