

GW – 071-1

GW WP

12 / 16 / 2014



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

December 16, 2014

Return Receipt Requested
7012 3460 0001 7236 2565

Ms. Freida White, Program Manager
Navajo Nation EPA Superfund Program
P.O. Box 2946
Window Rock, AZ 86511

**RE: Supplemental Site Investigation Work Plan (2014) -
Bisti Receiver Tanks (6/23/07 Release)
Enterprise Field Services, LLC
Chaco Gas Plant (OCD GW-071)
San Juan County, NM
Section 21, Township 26 North, Range 12 West**

Attn: Michele Dineyazhe

Dear Ms. White,

The attached report entitled: *Supplemental Site Investigation Work Plan (2014)*, dated December 11, 2014, provides proposed site investigations necessary to determine the full extent of affected soil and groundwater at the release site referenced above. The site is located immediately south of the Enterprise Field Services, LLC (Enterprise) Chaco Gas Plant, on leased Navajo Land. Initial investigations of the release site indicated that soils and groundwater were impacted. Additional investigations were proposed in the *Supplemental Site Investigation Work Plan*, dated September 26, 2011, as submitted to the Navajo Nation EPA Superfund Program (NNSP) in correspondence dated October 11, 2011. This work plan is pending approval by the NNSP.

The attached *Supplemental Site Investigation Work Plan (2014)* provides an amended site investigation approach based on current site conditions, and recommends proper plugging and abandonment of piezometers (monitor wells) installed during initial site investigations.

Following NNSP review, Enterprise recommends proceeding with the site investigations proposed in the attached work plan. If you have any questions or concerns, please do not hesitate to call me at (713) 381-2286, or drsmith@eprod.com.

Sincerely,



David R. Smith, P.G.

Sr. Environmental Scientist



Gregory E. Miller, P.G.,
Supervisor, Environmental

/dep
Attachment

cc: Michele Dineyazhe, NNEPA Superfund, Window Rock, AZ
Steve Austin, NNEPA WQ/NPDES Program, Shiprock, NM
Brandon Powell, NMOCD, Aztec, NM

ec: Jim Griswold, NMOCD, Santa Fe, NM (ftp submittal)
Glenn von Gonten, NMOCD
Elizabeth Scaggs, APEX, Dallas, TX
Kyle Summers, APEX, Aztec, NM



**SUPPLEMENTAL SITE
INVESTIGATION WORK PLAN (2014)**

Property:

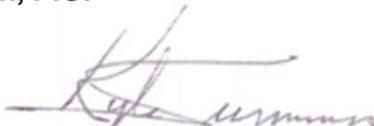
**Former Bisti Receiver Tanks
Chaco Gas Plant
GW Discharge Permit No. (GW-071)
Section 21, Township 26N, Range 12W
Navajo Nation, San Juan County, New Mexico**

December 11, 2014
Apex Project No. 7030410G001C

Prepared for:

**Enterprise Field Services, LLC
P.O. Box 4324
Houston, Texas 77210-4324
Attn: Mr. David R. Smith, P.G.**

Prepared by:



Kyle Summers, CPG
Branch Manager / Senior Geologist



Elizabeth Scaggs, P.G.
Senior Program Manager

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**SUPPLEMENTAL SITE
INVESTIGATION WORK PLAN (2014)**

**Former Bisti Receiver Tanks
Chaco Gas Plant
GW Discharge Permit No. (GW-071)
Section 21, Township 26N, Range 12W
Navajo Nation, San Juan County, New Mexico**

Apex Project No. 7030410G001C

1.0 SITE LOCATION AND HISTORY

The former Bisti Receiver Tanks Site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) $\frac{1}{4}$ of Section 21 in Township 26 North and Range 12 West in San Juan County, New Mexico (36.480222N, 108.120325W), referred to hereinafter as the “Site” or “subject Site”. The Site is located directly south of the Enterprise Chaco Gas Plant on land owned by the Navajo Nation. The property surrounding the Site is primarily natural gas gathering and refining facilities with agricultural land (operated by the Navajo Agricultural Products Industry (NAPI)) to the south.

The Site originally consisted of four (4) natural gas condensate¹ “drip” tanks that formerly received fluids from the Bisti Recovery System. On July 23, 2007, an overflow of one of the condensate tanks resulted in an estimated 60 barrel (bbl) release to the ground surface. Envirotech, Inc. (Envirotech) excavated approximately 612 cubic yards of affected soil from the western portion of the bermed area between July and August 2007. This material was transported to the Envirotech landfarm near Hilltop, NM for treatment/disposal. The excavation activities are documented in the *Enterprise Products Excavation Monitoring Report*, dated October 11, 2007 (Envirotech). A Geoprobe® investigation was subsequently performed at the Site during June 2008 by Lodestar Services, Inc. (Lodestar). Results from the investigation and two subsequent quarterly groundwater sampling events were documented in the letter report *Enterprise Field Services, LLC – Geoprobe Investigation at Bisti*, dated November 5, 2008 (Lodestar). The investigation results indicated remaining impact to soil and groundwater in the vicinity of the tanks, non-aqueous phase liquid (NAPL) on the groundwater at piezometer P-1, as well as potential staining and/or impact at further distances from the tanks. During August 2014, two (2) exploratory excavations were performed within the tank battery footprint. Details from these excavations are presented in the *Interim Corrective Action Report*, dated December 2, 2014 (Apex TITAN, Inc. (Apex)). The Bisti Receiving Tanks are no longer in service, and have been physically removed from the location.

The Site is under the regulatory jurisdiction of the Navajo Nation Environmental Protection Agency (NNEPA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) group which refers to a combination of published guidance from the United States Environmental Protection Agency (EPA), New Mexico Oil Conservation Division (OCD), and New Mexico Water Quality Control Commission (WQCC) for environmental remediation standards for this Site.

The Site location is depicted on Figure 1 of Appendix A which was reproduced from United States Geological Survey (USGS) 7.5-minute series topographic maps. A Site Vicinity Map of the subject Site and adjoining properties is included as Figure 2 of Appendix A.

¹ Natural gas condensate is a low-density mixture of hydrocarbon liquids present as gaseous components in the raw natural gas produced from many natural gas fields, which condenses out of the gas stream during production when the temperature is reduced to below the hydrocarbon dew point temperature.

2.0 CONSTITUENTS OF CONCERN

As a result of the potential source of constituents of concern (COCs) in soil and groundwater at the Site being limited to natural gas condensate, COCs targeted for investigation are limited to total petroleum hydrocarbon (TPH) gasoline range organics (GRO)/diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX), which are the primary constituents in unrefined petroleum products that may present a risk to human health and the environment.

The soil and groundwater samples collected to date indicate remaining COC concentrations in soil and groundwater at the Site. Additionally, NAPL was identified on the groundwater in the vicinity of piezometer P-1.

Figure 3 indicates the approximate locations of the borings/piezometers and excavations completed to date at the Site in relation to pertinent Site features and general Site boundaries.

Soil and groundwater analytical results for the Site borings, piezometers, and excavations are included in Tables 1, 2, and 3 (Appendix A).

3.0 PROPOSED CLEANUP GOALS

The Site is under the regulatory jurisdiction of the NNEPA CERCLA group refers to a combination of published guidance from the United States EPA, New Mexico OCD, and New Mexico WQCC for environmental remediation standards. For this Site, the NNEPA has indicated that it concurs with the remediation levels derived from the OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, with the exception of benzene, which is deferred to the EPA Region 9 Regional Screening Level of 5.4 mg/Kg.

- **Based on this information, the cleanup goals for soil located at the Site include: 5.4 milligrams per kilogram (mg/Kg) for benzene, 50 mg/Kg for total BTEX and 100 mg/Kg for TPH GRO/DRO.**

In addition, NNEPA has indicated accepted cleanup goals for groundwater located at the Site will include a combination of EPA Maximum Contaminant Levels (MCLs) and the New Mexico WQCC *Water Quality Standards*.

- **Based on this information, the cleanup goals for groundwater located at the Site include: 5 micrograms per liter (µg/L) for benzene, 750 µg/L for toluene, 700 µg/L for ethylbenzene, and 620 µg/L for xylenes.**

4.0 SUPPLEMENTAL SITE INVESTIGATION

The primary objective of the proposed supplemental site investigation activities is to further evaluate the magnitude and extent, both horizontal and vertical, of COCs in soil and groundwater at the Site.

In addition, the objective will be to utilize geospatial survey data collected from the proposed monitoring well network to evaluate the direction of groundwater flow within the initial groundwater-bearing unit at the Site.

4.1 Soil Boring and Monitoring Well Installation

Up to fifteen (15) soil borings will be advanced on-site utilizing a direct-push Geoprobe® rig. The soil borings will be advanced in the vicinity of the June 23, 2007 condensate release from the on-Site storage tanks, and surrounding areas, based on visual, olfactory and photoionization detector (PID) evidence of impairment. The soil borings will be advanced to a maximum depth of approximately thirty (30) feet bgs, five feet below the initial water table, or auger refusal, whichever is more shallow. A Site Plan (Figure 3), that indicates the approximate locations of the proposed soil borings, is attached to this work plan. Actual boring locations may vary depending on conditions encountered in the field.

Reusable sampling and drilling equipment will be decontaminated using an Alconox® wash and potable water rinse prior to commencement of the project and between the advancement of each soil boring.

Soil samples will be collected continuously using core barrels or split spoon samplers to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a PID for the presence of volatile organic compounds (VOCs).

Drill cuttings and decontamination water will be stored temporarily on-site in labeled, 55-gallon, DOT-approved drums pending the results of the laboratory analyses. The drum labels will bear the apparent contents of the drum and the accumulation date.

Subsequent to the completion of the soil borings, each soil boring will be converted to either a groundwater monitoring well or a temporary sampling well, as practicable, to further evaluate the initial groundwater-bearing unit on the Site. Subsurface conditions will dictate the ability to install the 2-inch diameter permanent monitoring wells during this stage of the investigation while utilizing the Geoprobe® rig. If permanent monitoring well installations prove feasible, they will be installed in the vicinity of known impact and surrounding the storage tank secondary containment area, while temporary sampling wells will be used to further evaluate the extent of groundwater impact, providing information that will allow the proper placement of future permanent monitoring wells, if necessary. The permanent monitoring wells will be completed as follows:

- Installation of 10 to 15 feet of 2-inch diameter, machine slotted PVC well screen assembly with a threaded bottom plug;
- Installation of riser pipe to surface;
- Addition of graded silica sand for annular sand pack around the well screen from the bottom of the well to two feet above the top of the screen;
- Placement of two (2) feet of hydrated bentonite pellets above the sand pack;
- Addition of cement/bentonite slurry to the surface; and
- Installation of a locking above-grade steel riser.

Temporary sampling wells will be completed as follows:

- Installation of 5 to 10 feet of 1-inch, machine slotted PVC well screen assembly with a threaded bottom plug;
- Installation of riser pipe to the surface; and,
- Addition of graded silica sand for annular sand pack around well screen from the bottom of the well to two (2) feet above the top of the screen.

The monitoring wells and temporary sampling wells will be developed by surging and removing groundwater until the fluid appears relatively free of fine-grained sediment. Development groundwater will be stored temporarily on-site in labeled, 55-gallon, DOT-approved drums pending the results of the laboratory analyses. The drum labels will bear the apparent contents of the drum and the accumulation date.

Following groundwater sample collection, the temporary sampling wells will be plugged and abandoned in accordance with NMAC 19.27.4.30 *RULES AND REGULATIONS GOVERNING WELL DRILLER LICENSING; CONSTRUCTION, REPAIR AND PLUGGING OF WELLS*.

4.2 Sampling Program

The sampling program will consist of the following:

- 1) Collection of two (2) or more soil samples from each soil boring from any of the following locations:
 - a) the zone exhibiting the highest concentration of VOC's based on visual, olfactory or PID evidence,
 - b) from the capillary fringe zone,
 - c) from a change in lithology, or
 - d) from the bottom of the boring (to assess vertical extent of COCs).
- 2) Collection of one (1) groundwater sample from each monitoring well and each temporary sampling well.

Prior to sample collection, each monitoring well or temporary sampling well will be micro-purged utilizing low-flow sampling techniques. Low-flow refers to the velocity with which groundwater enters the peristaltic pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface which can be affected by flow regulators or restrictions. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective is to pump in a manner that minimizes stress (drawdown) to the system to the extent practical taking into account established site sampling objectives. Flow rates on the order of 0.1 to 0.5 L/min will be maintained during the sampling activities using dedicated sampling equipment.

The utilization of low-flow minimal drawdown techniques enables the isolation of the screened interval groundwater from the overlying stagnant casing water. The pump intake is placed within the screened interval such that the groundwater pumped is drawn in directly from the formation with little mixing of casing water or disturbance to the sampling zone.

The monitoring wells will be purged until produced groundwater is consistent in color, clarity, pH, temperature and conductivity.

The groundwater samples will be collected in laboratory prepared glassware and placed on ice in a cooler, which will be secured with a custody seal. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form.

4.3 Laboratory Analytical Program

The soil samples collected from the soil borings/monitoring wells/temporary sampling wells will be analyzed for TPH GRO/DRO utilizing EPA SW-846 Method 8015 and BTEX utilizing EPA SW-846 Method 8021. Groundwater samples will be analyzed for BTEX utilizing EPA SW-846 Method 8021.

A summary of the analysis, sample type, estimated sample frequency and EPA-approved methods are presented in the following table:

Analysis	Sample Type	No. of Samples	EPA Method
TPH GRO/DRO	Soil	30	SW-846 8015
BTEX	Soil	30	SW-846 8021
BTEX	Groundwater	15	SW-846 8021

4.4 Top-of-Casing Survey

Subsequent to the completion of supplemental site investigation activities, and assuming that the installation of permanent monitoring wells was proven practicable, a geospatial survey of the monitoring well network will be performed to identify the top-of-casing elevations to accurately determine the groundwater gradient for the initial groundwater-bearing unit at the facility. The survey will be performed by professional licensed surveyor, and tied to known landmarks or benchmarks. If a benchmark cannot be located nearby, one will be set at the facility as a point of reference.

4.5 Piezometer Plugging and Abandonment

Piezometers installed during previous investigative activities will be plugged and abandoned in accordance with guidance contained in NMAC 19.27.4.30 *RULES AND REGULATIONS GOVERNING WELL DRILLER LICENSING; CONSTRUCTION, REPAIR AND PLUGGING OF WELLS*.

5.0 SUPPLEMENTAL SITE INVESTIGATION REPORT

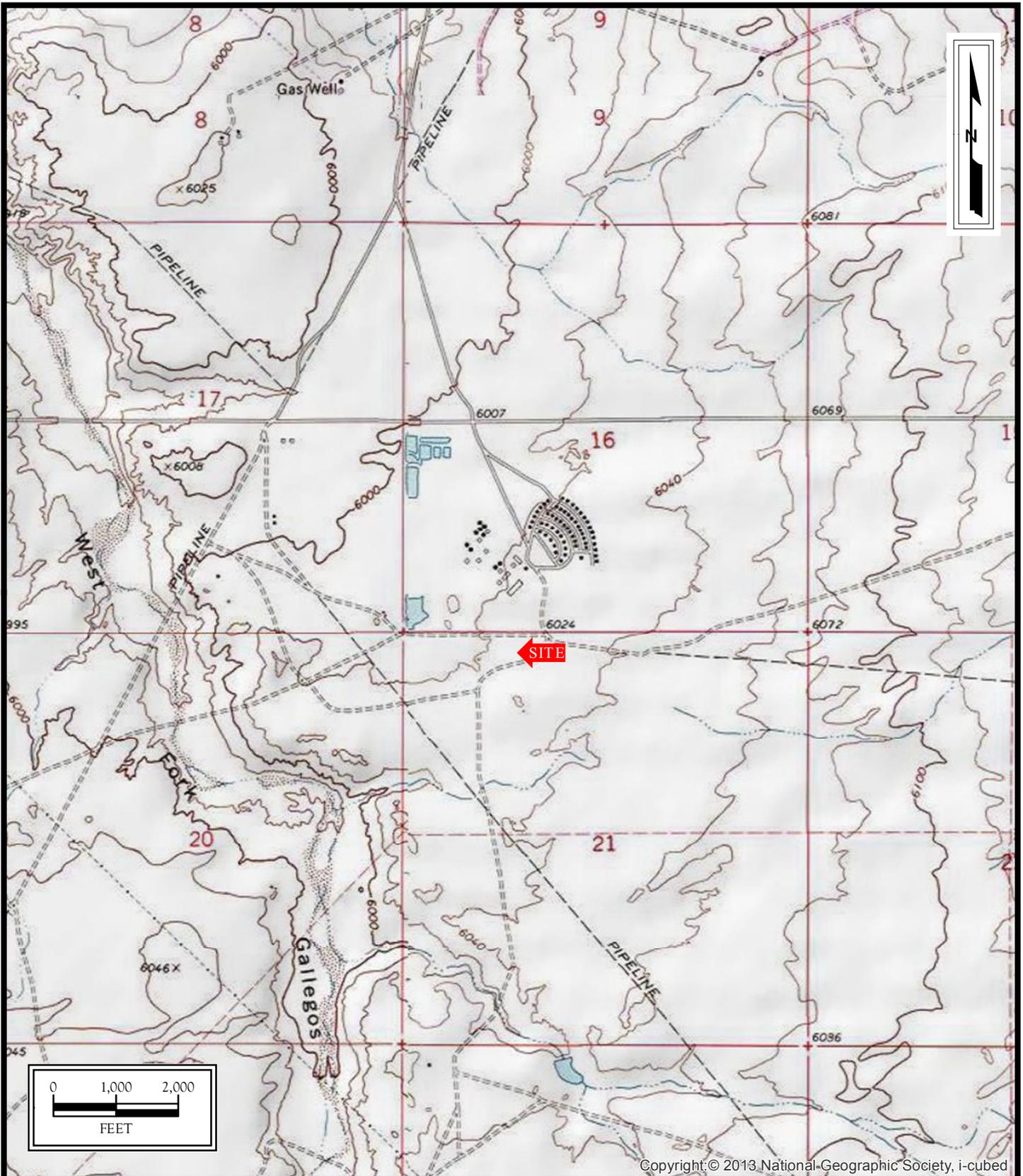
Upon completion of the supplemental site investigation field activities and receipt of final analytical results, a final report will be prepared that will include documentation of field investigation activities, a site plan detailing pertinent site features, logs of subsurface exploration, laboratory analytical results, an evaluation of investigation results, suggested monitoring frequency, discussion regarding the potential need for additional investigation and/or monitoring wells, and recommendations concerning corrective actions. The Supplemental Site Investigation Report will be provided to Enterprise in draft form, three (3) weeks following receipt of final analytical results.

6.0 SCHEDULE

The completion of the proposed supplemental site investigation field activities will require an estimated five (5) days after initiation; however, time estimations regarding the completion of field activities depend upon several factors, many of which cannot be pre-determined.

APPENDIX A

Figures



Former Bisti Receiver Tanks
 NW1/4 S21 T26N R12W
 Rural San Juan County, New Mexico
 Navajo Nation
 36.480222N, 108.120325W

Project No. 7030410G001C.001



Apex TITAN, Inc.
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FIGURE 1
Topographic Map
 Carson Trading Post
 NM Quadrangle
 1966



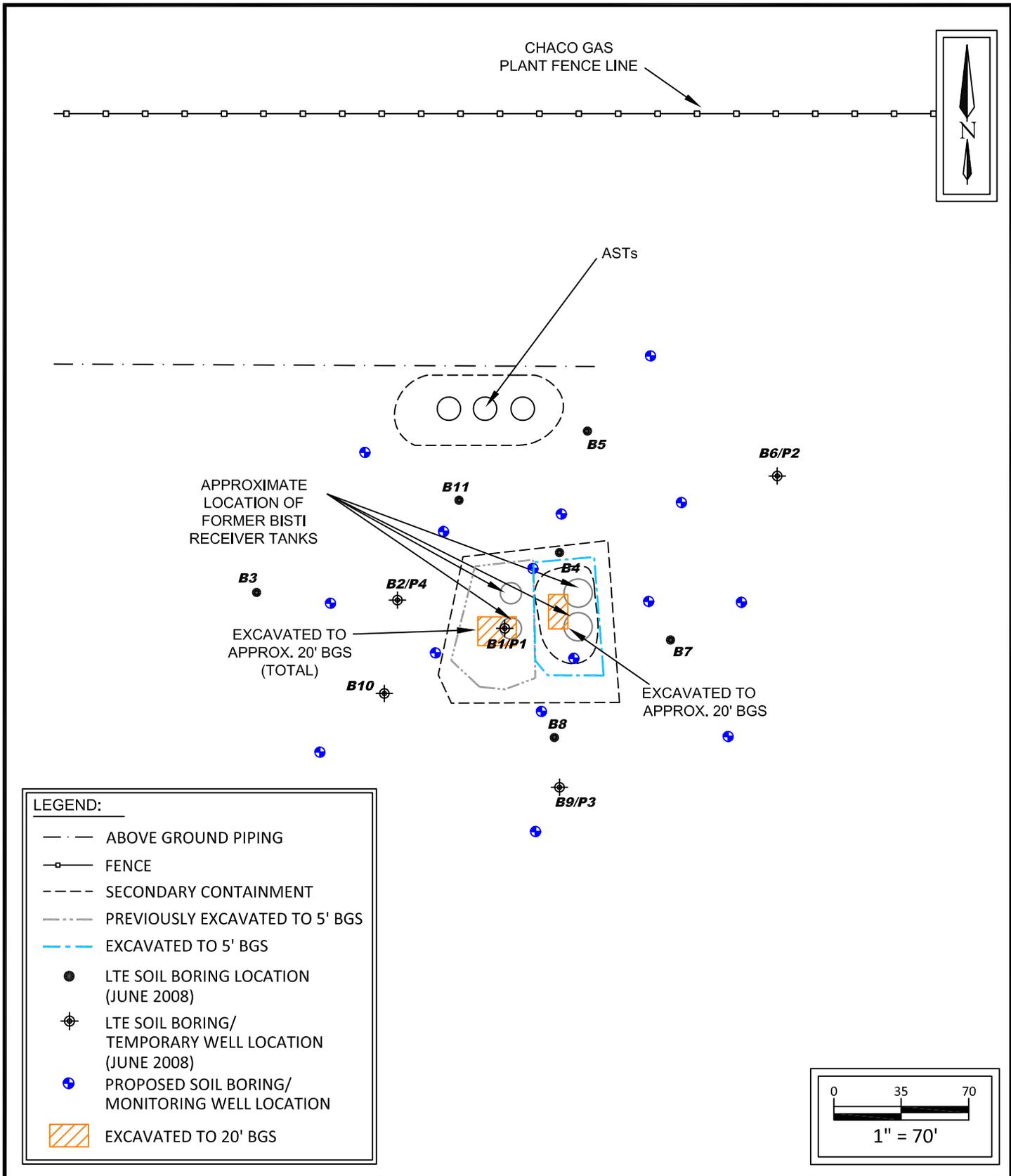
Former Bisti Receiver Tanks
 NW1/4 S21 T26N R12W
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FIGURE 2
Site Vicinity Map



Former Bisti Receiver Tanks
 NW $\frac{1}{4}$ S21 T26N R12W
 Rural San Juan County, New Mexico
 Navajo Nation
 36.480222N, 108.120325W

Project No. 7030410G001C.001



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FIGURE 3
Site Map

APPENDIX B

Tables



TABLE 1
BISTI RECEIVER TANKS RELEASE
SOIL ANALYTICAL SUMMARY - Lodestar Soil Borings

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
New Mexico Entergy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			5.4	NE	NE	NE	50	100	
Lodestar Soil Boring Samples									
B-1	6.24.08	14.5	<0.050	<0.050	<0.050	<0.10	ND	5.2	<10
B-2	6.24.08	23	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-3	6.24.08	22	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-4	6.24.08	20	<0.25	0.73	0.39	3.4	5	91	280
B-5	6.24.08	20	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-6	6.24.08	20	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-7	6.25.08	20	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-8	6.25.08	20	<1.0	3.1	9.4	58	70.5	2,200	1,600
B-8	6.25.08	22	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-9	6.25.08	24	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-10	6.25.08	24	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-11	6.25.08	22	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
B-11	6.25.08	24	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10

Note: Concentrations in **bold** and yellow exceed the NNEPA approved screening level

NE = Not Established

ND = Not Detected above laboratory PQLs



TABLE 2
Former Bisti Reciever Tanks
SOIL ANALYTICAL SUMMARY - Interim Excavations

Sample I.D.	Date	Sample Depth (feet) below grade	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
Navajo Nation Environmental Protection Agency Approved Screening Levels			5.4	NE	NE	NE	50	100	
Exploratory Excavation Samples - Western Excavation									
C-1	8/7/2014	15	<0.097	0.22	0.23	1.50	1.95	43	190
C-2	8/7/2014	10	<0.25	<0.25	<0.25	0.60	0.60	<25	540
C-3	8/7/2014	15	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10
C-4	8/7/2014	10	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<10
C-5	8/7/2014	15	5.2	26	4.8	37	73	1,300	250
C-6	8/7/2014	10	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<10
Exploratory Excavation Sample - Load Line Area									
C-7	8/7/2014	4	<0.93	<1.9	3.3	40	43.3	770	2,600
Exploratory Excavation Samples - Eastern Excavation									
C-8	8/8/2014	14	0.74	<0.98	2.4	18	21.14	520	820
C-9	8/8/2014	9	27	<2.4	19	150	196	5,400	5,900
C-10	8/8/2014	14	1.5	1.2	2.6	20	25.3	690	890
C-11	8/8/2014	10	0.19	<0.24	1.2	8.9	10.29	220	660
C-12	8/8/2014	11	0.14	<0.047	0.12	0.74	1	26	120
C-13	8/8/2014	14	1.7	<0.96	3.3	23	28	880	900
C-14	8/8/2014	10	6.2	12	6.7	48	72.9	1,800	2,000

Note: Concentrations in **bold** and yellow exceed the NNEPA approved screening level

NA = Not Analyzed

ND = Not Detected above laboratory reporting limits



TABLE 3 BISTI RECEIVER TANKS RELEASE GROUNDWATER ANALYTICAL SUMMARY					
Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		5	750	700	620
Lodestar Groundwater Results					
P-1*	6.30.08	9,700	15,000	870	7,400
P-1*	8.20.09	NAPL	NAPL	NAPL	NAPL
P-1*	11.24.09	NAPL	NAPL	NAPL	NAPL
P-2	6.30.08	<1.0	2.3	<1.0	<2.0
P-2	8.20.09	<1.0	<1.0	<1.0	<2.0
P-2	11.24.09	<1.0	<1.0	<1.0	<2.0
P-3	6.30.08	1.2	2.6	<1.0	<2.0
P-3	8.20.09	<1.0	<1.0	<1.0	<2.0
P-3	11.24.09	<1.0	<1.0	<1.0	<2.0
P-4	6.30.08	<1.0	<1.0	<1.0	<2.0
P-4	8.20.09	NA	NA	NA	NA
P-4	11.24.09	NA	NA	NA	NA
Southwest Geoscience Groundwater Results (APEX)					
P-1	8.22.13	NAPL	NAPL	NAPL	NAPL
P-2	8.22.13	NA	NA	NA	NA
P-3	8.22.13	<1.0	<1.0	<1.0	<2.0
P-4	8.22.13	NA	NA	NA	NA

Note: Concentrations in **bold** and yellow exceed the NNEPA approved GQs or MCLs

NA = Not Analyzed

NE = Not Established

* = NAPL Present (Non-Aqueous Phase Liquid)

APPENDIX C

NNEPA September 2014 Review of Project

September 14, 2011

TO: Freida White, Program Manager
NNEPA Superfund

FROM: Michele Dineyazhe, Remedial Project Manager, IPA
NNEPA Superfund

RE: BISTI Receiver Tanks Overflow

On June 23, 2007, Enterprise Field Services, LLC (Enterprise) experienced a condensate release due to a tank overflow at the Bisti Receiver Tanks. November 10, 2008.

- Enterprise hired Envirotech Inc. to pick up contaminated soils. An initial response by Envirotech on July 26, 2007 removed 612 yards of contaminated soil. All impacted soil had not been excavated (10/11/07 letter to Enterprise).
- In June of 2008, Lodestar Services Inc. conducted a geoprobe investigation at the release site. The study was to determine lateral and vertical extent of affected soil before proceeding further. Constituents of concern include benzene, toluene, ethyl benzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH).
- On November 10, 2008, a letter detailing this incident was sent to New Mexico Oil Conservation Division (NMOCD) by Enterprise Products. Enterprise stated that a remedial action plan will be submitted to the NMOCD and NNEPA within 90 days for approval. Study results from Lodestar's investigation were attached.

Lodestar Services, Inc. Investigation Report, November 5, 2008.

Subsurface Soil. Lodestar concluded that impacted soil is limited to within the bermed area from the ground surface to the groundwater table at a depth of approximately 20 ft. bgs. They further concluded that impacted soil extends south of the bermed area (near B-8)...but only in a small lens....2 inches thick.

The majority of the data indicates that there is impacted soil as a result from this operation, either from recent or historic operations, within and outside the bermed area in all directions. Soil laboratory results indicate contamination in B-1, B-4, and B-8. Although some of these results are low, they shouldn't be in the soil at all. Additionally, the contamination appears to be at levels down to at least 23 ft. bgs. In B-8, according to the drill log, the lens of contamination is most likely from 13-23 bgs. That is within a 7 inch lense and not a 2 inch lense (as Lodestar stated and also at a deeper depth of at least 23 bgs). There is no indication how deep the contamination goes for the soil boring was only taken to 23 feet.

Further evidence of impacted soil outside the berm is contained within the drill logs themselves. Logs from B2, B5, B7, B8, B9, B10, and B11 all had indications of black staining or odor.

Groundwater. Lodestar concluded *that groundwater sampled from piezometers installed outside of the bermed area does not contain detectable levels of BTEX, indicating migration of the product along the water table is limited. Following manual bailing, this well did not yield any additional free-phase hydrocarbon.*

The data on Table 2 does indicate that there are detectable levels of BTEX outside of the bermed area. Additionally, there are no monitoring wells in the direct gradient of the groundwater flow, except for P4 which could be above a possible source, and P3 which is at the edge of the site in question.

On August 20, 2009, Lodestar Services conducted quarterly groundwater sampling at the site. No BTEX was found in 2 (P2 & P3) out of 4 wells sampled. In one well that was not sampled (P1-located within a bermed area) there was .86 feet of free product. P4 was not sampled due to low water content. When Lodestar initially developed P1 in June of 2008, P1 had .02 feet of free product. Without further groundwater results the conclusion is that there is a possible source of free product that is about 15 feet below ground surface (bgs) in the vicinity of P1.

The Navajo Nation expects the site to be cleaned up and appreciates the work that Enterprise Field Services has done to date to accomplish this goal. Table 1 has some Soil Standards from NMOCD. Navajo is in agreement with these proposed standards except for benzene. Since benzene is a known carcinogen, a Soil Screening¹ value of 5.4 mg/kg should be used for benzene. This may be a non-issue now; however, if any soil is tested in the future, then this value will apply.

Table 2 lists Groundwater Standards from NMWQCC. Navajo applies standards which are most protective of human health and the environment. In this case, for benzene and ethyl-benzene the Maximum Contaminant Level (MCL) will apply. The table lists a standard of 10 µg/L for benzene. The MCL for benzene is 5 µg/L. The table lists a standard of 750 µg/L for ethyl-benzene. The MCL for ethyl-benzene is 700 µg/L.

Navajo Superfund Program has determined that the full extent of the impacted site has not been fully delineated. In a correspondence sent (to Navajo Nation) dated February 16, 2010, Enterprise was considering drilling 7 groundwater wells at the Bisti site. Please inform our office if these wells were drilled. If so, please send all drilling information. Additional groundwater samples are advisable as indicated in the September 12, 2011 email from David Smith to Freida White. We look forward to additional data and would like a Remediation Plan on how Enterprise will be addressing both soil and groundwater contamination.

¹ USEPA Region 9 Regional Screening Level (RSL)