

3R - 437

WORKPLAN

05 / 30 / 2012

Animas Environmental Services, LLC

3 R-437

624 E. Comanche . Farmington, NM 87401 . TEL 505-564-2281 . FAX 505-324-2022 . www.animasenvironmental.com

RECEIVED

May 30, 2012

2012 MAY 31 A 10:28

Mr. Glen von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

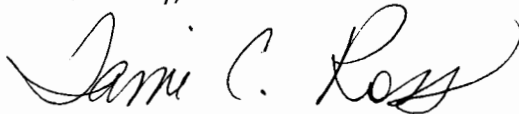
RE: Enterprise Products Company Smyers LS #1 Groundwater Investigation Workplan

Dear Mr. von Gonten:

On behalf of Enterprise Products Company (Enterprise), Animas Environmental Services, LLC (AES) is pleased to submit one copy of the Groundwater Investigation Workplan for the Smyers LS #1 pipeline release located in San Juan County, New Mexico.

If you have any questions regarding AES' qualifications or the contents of the workplan, please do not hesitate to contact Ross Kennemer at (505) 564-2281.

Sincerely,



Tami C. Ross, CHMM
Project Manager

Enclosure: Workplan

Cc: Mr. Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Mr. Aaron Dailey
Enterprise Products Company
614 Reilly Avenue
Farmington, NM 87401

Mr. Bill Lies/Mr. Scott Hall
Bureau of Land Management
6251 College Blvd.
Farmington, NM 87402





Animas Environmental Services, LLC

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924 E. Comanche
Farmington, NM 87401
505.624.2251

Environmental Services
970.408.8274

May 24, 2012

Aaron Dailey
Enterprise Products Company
614 Reilly Avenue
Farmington, New Mexico 87401

**RE: Groundwater Investigation Work Plan for the Smyers LS #1
San Juan County, New Mexico**

Dear Mr. Dailey:

Animas Environmental Services, LLC (AES) is pleased to submit this work plan to complete a groundwater investigation associated with a small release of natural gas condensate, which occurred along the Enterprise Products Company (Enterprise) 3-inch diameter Smyers LS #1 pipeline in December 2011. The release location is approximately 7 miles northeast of Aztec, San Juan County, New Mexico, on Federal land under jurisdiction of the Bureau of Land Management (BLM) land.

1.0 Release Information

1.1 Location

Location - SW¼ SW¼, Section 2, T31N, R11W, San Juan County, New Mexico

Latitude/Longitude - N36.9234° and W107.96485°, respectively

Surface Owner – Federal (BLM)

Figure 1 - Topographic Site Location Map

Figure 2 - Aerial Site Location Map

Figure 3 - Soil Boring Locations and Soil Sample Results, December 2011

Figure 4 - Excavation Location and Soil Sample Results, January 2012

Figure 5 - Groundwater Sample Locations and Analytical Results,
December 2011 and January 2012

Figure 6 – Proposed Temporary Monitoring Well Locations

1.2 Release Assessment and Mitigation

On December 26, 2011, the release was discovered by Enterprise personnel. On the same date, Enterprise employees were dispatched to confirm the release and proceeded to shut in the affected well, de-pressurize the associated lines, and lock out/tag out associated control valves. Enterprise continued the release assessment on December 27, 2011, when it was determined that the release resulted from two ruptures in the pipeline due to

freezing. On the same day, Enterprise contractor Southwest Field Services (SWFS) excavated impacted soil within the two release areas.

On December 28, 2011, an initial release assessment was completed by AES personnel. Using a hand auger, four soil borings were each advanced to a total depth of 3 feet below ground surface (bgs), at which point groundwater was encountered. Soil samples were field screened, and confirmation soil and water samples were collected for laboratory analysis. Groundwater impact was confirmed, and excavation activities were scheduled.

On January 12 and 13, 2012, approximately 142 cubic yards of hydrocarbon contaminated soil were excavated and transported off-site for disposal by SWFS. The final excavation dimensions measured approximately 21 feet by 29 feet by 3 feet deep. Prior to the excavation being backfilled, AES collected confirmation soil and groundwater samples, the results of which indicated that all hydrocarbon contaminated soil had been excavated, but that groundwater had been impacted by the release and would require further assessment. Soil and groundwater sampling results are summarized below in Table 1 and Table 2, and soil and groundwater sampling locations are shown on Figures 3, 4, and 5.

Table 1. Soil Field Screening and Analytical Results
Smyers LS#1 Pipeline Release, December 2011 and January 2012

Sample ID	Date	Depth (ft bgs)	VOCs OVM (ppm)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
NMOCD Action Level*			100	10	50	100	
SB-1	12/28/11	1	2,433	<0.049	<0.244	<4.9	<9.9
	12/28/11	3	521	0.14	3.41	37	<10
SB-2	12/28/11	3	3.5	<0.047	<0.236	<4.7	<9.8
SB-3	12/28/11	3	1.3	<0.048	<0.240	<4.8	<10
SB-4	12/28/11	3	1,643	98	1,800	140	15,000
EXC-1	1/12/12	2	3.2	<0.047	<0.235	<4.7	<10
EXC-2	1/12/12	2	46	<0.048	<0.241	<4.8	<10
EXC-3	1/13/12	2	32	<0.047	<0.236	<4.7	<10
EXC-4	1/13/12	2	43	<0.050	<0.25	<5.0	<10
TH-1	1/13/12	3	3.2	<0.050	<0.25	<5.0	<9.9

* Action level determined by the NMOCD ranking score per *NMOCD Guidelines for Leaks, Spills, and Releases* (August 1993)

Table 2. Groundwater Analytical Results
Smyers LS#1 Pipeline Release, December 2011 and January 2012

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth (ft)</i>	<i>Benzene (µg/L)</i>	<i>Toluene (µg/L)</i>	<i>Ethyl-benzene (µg/L)</i>	<i>Total Xylenes (µg/L)</i>
<i>WQCC Standards</i>			10	750	750	620
SB-2W	12/28/11	3	<2.0	<2.0	<2.0	<4.0
SW-1	12/28/11	Surface	<1.0	11	2.0	28
EXCW-1	1/12/12	3	15,000	81,000	<10,000	53,000
EXCW-2	1/13/12	3	1,000	4,800	270	3,100
THW-1	1/13/12	3	5.1	81	17	200

2.0 Proposed Groundwater Investigation

In order to delineate the extents of petroleum hydrocarbon impact to groundwater, AES proposes to install at least nine temporary groundwater sampling points, which will be removed following sample collection. The proposed locations of the temporary wells, along with a construction schematic of a temporary well, are shown on Figure 6.

2.1 Notifications and Access Agreement

The Bureau of Land Management (BLM) Farmington Field Office (FFO) and the NMOCD require notification prior to implementing the groundwater investigation. Approval from the BLM-FFO will be required in the event that the investigation extends beyond the Enterprise pipeline right-of-way (ROW). The investigation is non-invasive, no vehicles will enter Kiffen Wash, and no "filling" will occur as part of the investigation. Therefore, U.S. Army Corps of Engineers (USACE) consultation and/or permitting is not anticipated.

2.2 Utilities Notification

AES will utilize the New Mexico One-Call system to identify and mark all underground utilities at the site before initiating the investigation.

2.3 Health and Safety Plan

AES has a company health and safety plan in place, and each employee is required to complete a health and safety orientation prior to participating in field operations for the first time. All on-site personnel are 40-hour HazWoper trained in accordance with OSHA regulations outlined in 29 CFR 1910.120(e). Prior to the start of the investigation, AES will

prepare and implemented a comprehensive site-specific Job Safety Analysis (JSA) addressing the investigation activities and associated groundwater sampling. All employees and subcontractors will be required to read and sign the JSA to acknowledge their understanding of the information contained within the JSA. The JSA will be implemented and enforced on site by the assigned Site Safety and Health Officer.

2.4 Temporary Well Installation

In order to complete the investigation in a non-invasive manner, all wells will be "temporary" and installed by hand. If the results of the investigation warrant the installation of permanent monitoring wells, a separate work plan will be submitted at that time.

Each temporary well will be installed utilizing a hand-driven HydroPunch sampling tool, which allows for in-situ collection of groundwater samples (see Figure 6 for schematic). At least nine separate Hydropunch temporary wells will be installed within and surrounding the release area. Following installation, each temporary well will be purged and then allowed to stabilize for a minimum of one hour prior to sample collection. Following sample collection, each well will be fully removed and the well void allowed to collapse.

2.5 Groundwater Sample Collection

Groundwater is expected to be encountered within 3 feet of the ground surface. A peristaltic pump, with new tubing for each sampling point, will be used to collect the groundwater samples. Prior to collection of each sample, depth to groundwater will be measured with a water level indicator. Additionally, water quality parameters (pH, temperature, electrical conductivity, dissolved oxygen and oxygen reduction potential) will be measured and recorded on sampling forms.

2.6 Laboratory Analysis

All groundwater analytical samples will be submitted for laboratory analysis of the following parameters:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8021B;
- Total petroleum hydrocarbons (TPH) for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015B.

Once collected, all samples will be preserved in laboratory-supplied containers and stored in an insulated cooler containing ice. Samples will be shipped via bus to the laboratory, Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico, in insulated coolers containing ice at less than 6°C.

2.7 Deliverables - Investigation Report

Once the groundwater sampling results are received, a detailed report will be prepared. The investigation report will include:

- A summary of the field work performed;
- Tabulated soil and groundwater laboratory analytical results;
- Photographic documentation;
- Scaled site maps showing temporary well locations and contaminant concentration results and contours;
- Conclusions and recommendations.

2.8 Project Schedule

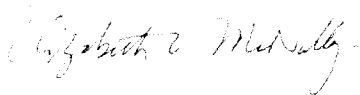
Upon work plan approval, AES will confirm approval from BLM-FFO for the proposed scope of work. AES will complete utility locates and project notifications prior to beginning field work. AES anticipates that field work will take about two days to complete.

If you have any questions regarding site conditions or this work plan, please do not hesitate to contact me at (505) 564-2281.

Sincerely,



Ross Kennemer
Senior Project Manager

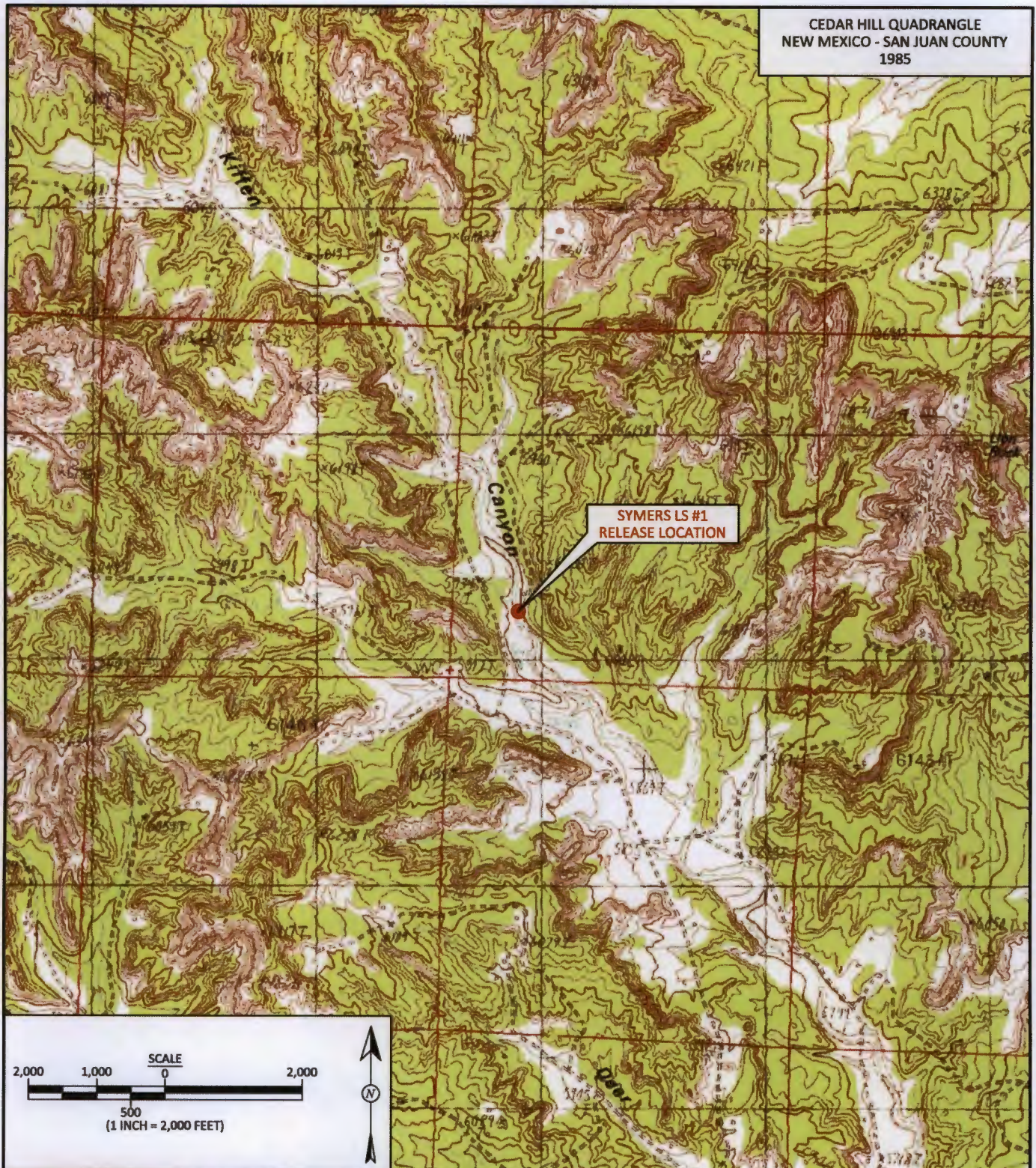


Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Location Map
- Figure 3. Soil Boring Locations and Soil Sample Results, December 2011
- Figure 4. Excavation Location and Soil Sample Results, January 2012
- Figure 5. Groundwater Sample Locations and Analytical Results, December 2011 and January 2012
- Figure 6. Proposed Temporary Monitoring Well Locations

CEDAR HILL QUADRANGLE
NEW MEXICO - SAN JUAN COUNTY
1985



2,000 1,000 SCALE 0 2,000
500
(1 INCH = 2,000 FEET)



AES



Animas Environmental Services, LLC

DRAWN BY:
N. Willis

DATE DRAWN:
December 30, 2011

REVISIONS BY:
C. Lameman

DATE REVISED:
February 1, 2012

CHECKED BY:
T. Long

DATE CHECKED:
February 1, 2012

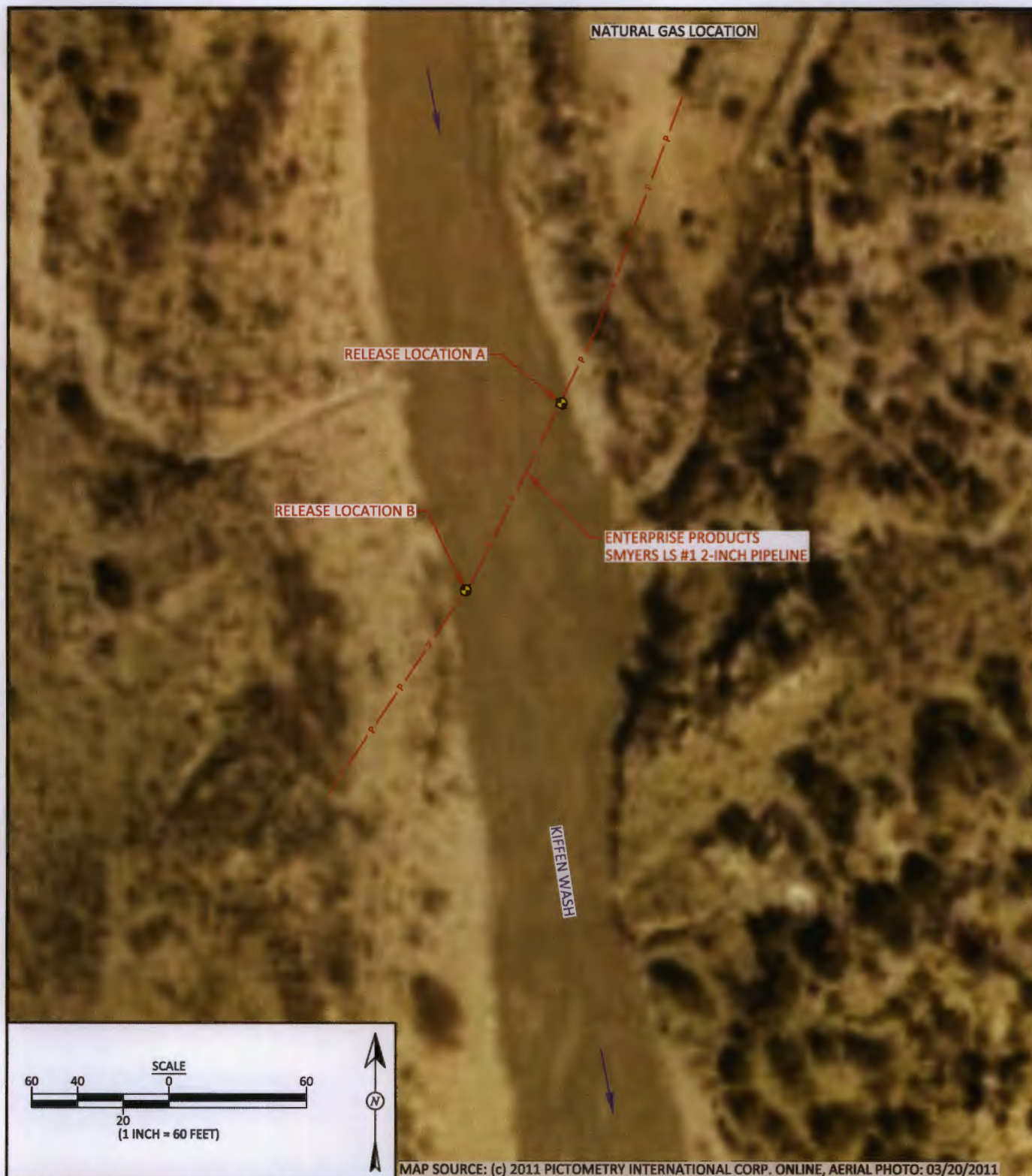
APPROVED BY:
E. McNally

DATE APPROVED:
February 1, 2012

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP

ENTERPRISE PRODUCTS COMPANY
SYMERS LS #1 RELEASE LOCATION
SAN JUAN COUNTY, NEW MEXICO
SW¼, SW¼, SEC. 2, T31N, R11W
N 36°55.404', W 107°57.897'



DRAWN BY: N. Willis	DATE DRAWN: December 30, 2011
REVISIONS BY: C. Lameman	DATE REVISED: February 17, 2012
CHECKED BY: T. Long	DATE CHECKED: January 9, 2012
APPROVED BY: E. McNally	DATE APPROVED: March 9, 2012


FIGURE 2

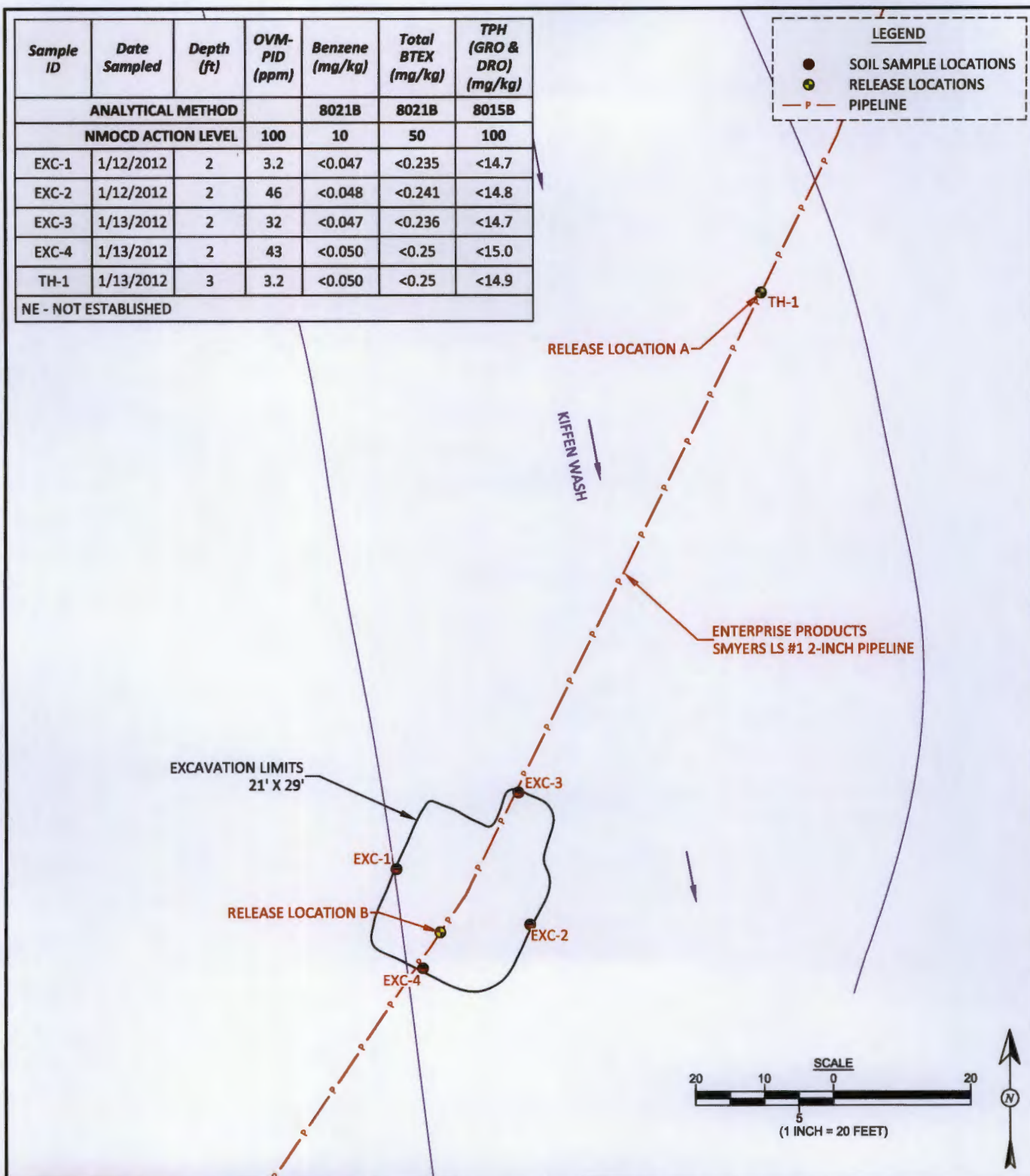
AERIAL SITE LOCATION MAP
 ENTERPRISE PRODUCTS COMPANY
 SMYERS LS #1 RELEASE LOCATION
 SAN JUAN COUNTY, NEW MEXICO
 SW¼, SW¼, SEC. 2, T31N, R11W
 N36.9234, W107.96485


Sample ID	Date Sampled	Depth (ft)	OVM-PID (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (GRO & DRO) (mg/kg)
ANALYTICAL METHOD				8021B	8021B	8015B
NMOCD ACTION LEVEL			100	10	50	100
SB-1	12/28/2011	1	2,433	<0.049	<0.244	<14.8
		3	521	0.14	3.41	37
SB-2	12/28/2011	3	3.5	<0.047	<0.236	<14.5
SB-3	12/28/2011	3	1.3	<0.048	<0.240	<14.8
SB-4	12/28/2011	3	1,643	98	1,800	15,140
NE - NOT ESTABLISHED						

LEGEND	
●	SOIL SAMPLE LOCATIONS
●	RELEASE LOCATIONS
— P —	PIPELINE

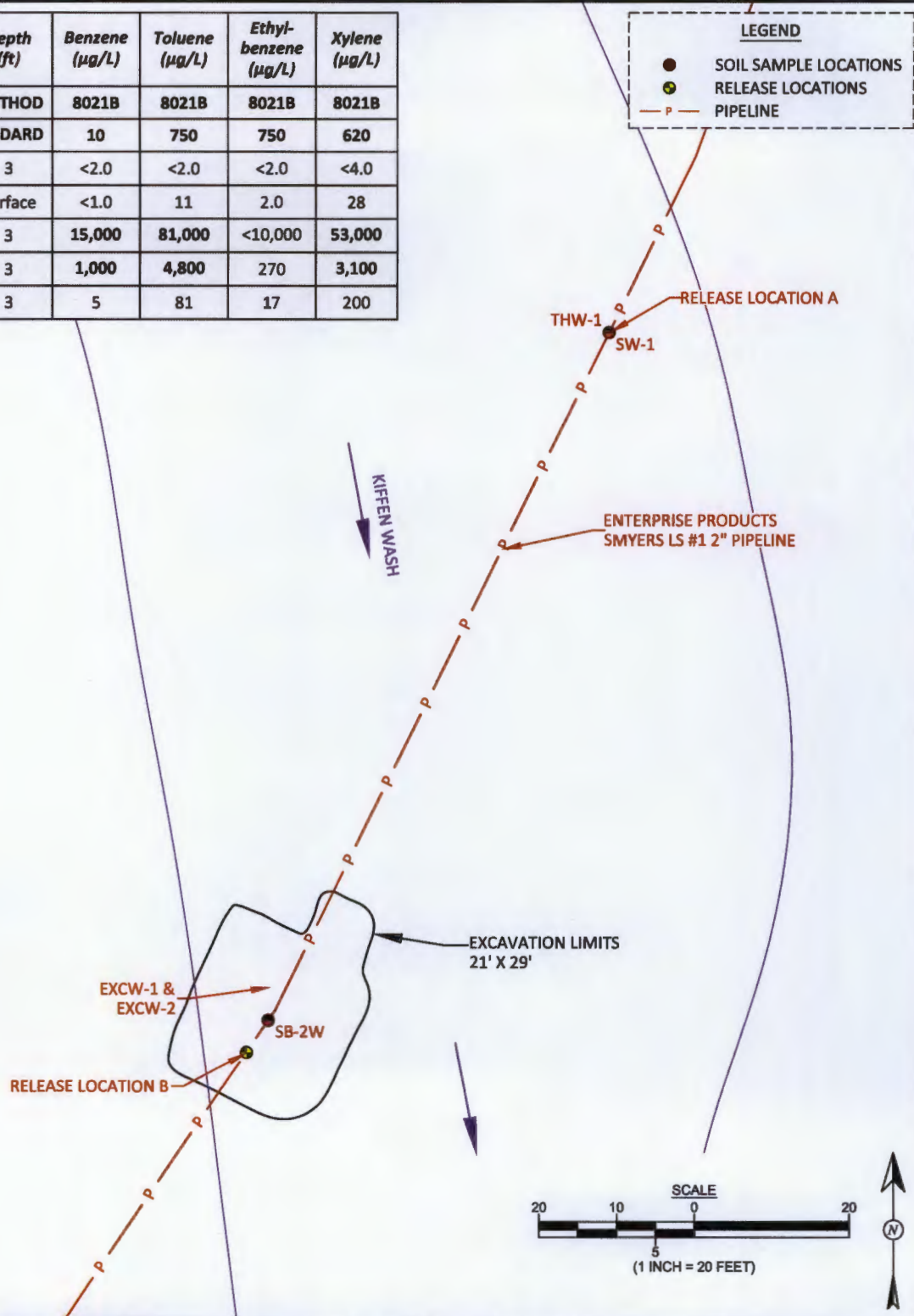


 <p>Animas Environmental Services, LLC</p>	DRAWN BY: N. Willis	DATE DRAWN: December 30, 2011	FIGURE 3 SOIL BORING LOCATIONS AND SOIL SAMPLE RESULTS, DECEMBER 2011 ENTERPRISE PRODUCTS COMPANY SMYERS LS #1 RELEASE LOCATION SAN JUAN COUNTY, NEW MEXICO SW¼, SW¼, SEC. 2, T31N, R11W N36.9234, W107.96485
	REVISIONS BY: C. Lameman	DATE REVISED: February 17, 2012	
	CHECKED BY: T. Ross	DATE CHECKED: February 17, 2012	
	APPROVED BY: E. McNally	DATE APPROVED: March 9, 2012	



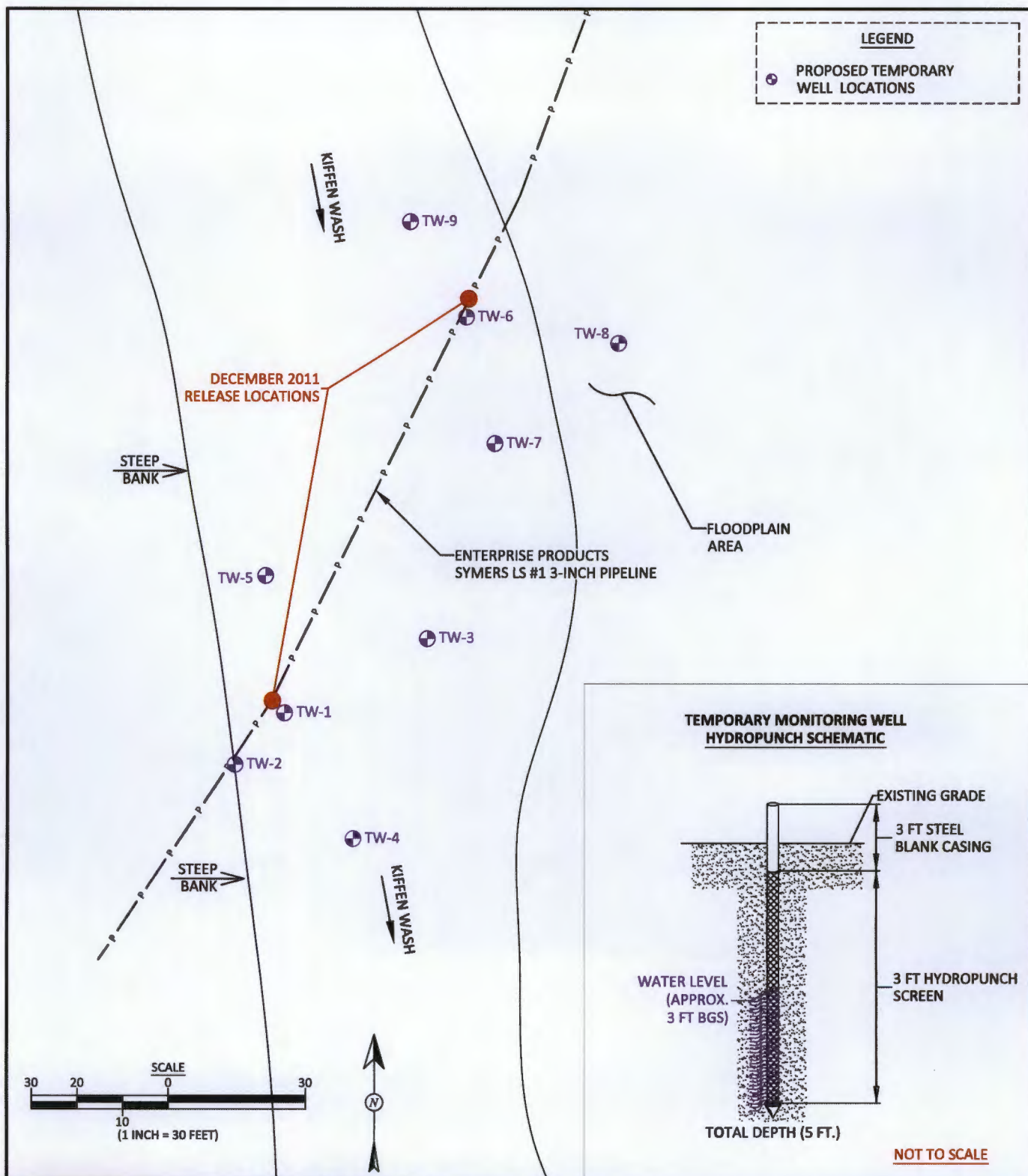
 <p>AES</p> <p>Animas Environmental Services, LLC</p>	DRAWN BY: N. Willis	DATE DRAWN: December 30, 2011	<p>FIGURE 4</p> <p>EXCAVATION LOCATION AND SOIL SAMPLE RESULTS, JANUARY 2012</p> <p>ENTERPRISE PRODUCTS COMPANY SMYERS LS #1 RELEASE LOCATION SAN JUAN COUNTY, NEW MEXICO SW¼, SW¼, SEC. 2, T31N, R11W N36.9234, W107.96485</p>
	REVISIONS BY: C. Lameman	DATE REVISED: February 17, 2012	
	CHECKED BY: T. Ross	DATE CHECKED: February 17, 2012	
	APPROVED BY: E. McNally	DATE APPROVED: March 9, 2012	


Sample ID	Date Sampled	Depth (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylene (µg/L)
ANALYTICAL METHOD			8021B	8021B	8021B	8021B
WQCC STANDARD			10	750	750	620
SB-2W	12/28/11	3	<2.0	<2.0	<2.0	<4.0
SW-1	12/28/11	Surface	<1.0	11	2.0	28
EXCW-1	1/12/12	3	15,000	81,000	<10,000	53,000
EXCW-2	1/13/12	3	1,000	4,800	270	3,100
THW-1	1/13/12	3	5	81	17	200



DRAWN BY: N. Willis	DATE DRAWN: December 30, 2011
REVISIONS BY: C. Lameman	DATE REVISED: February 17, 2012
CHECKED BY: T. Ross	DATE CHECKED: February 17, 2012
APPROVED BY: E. McNally	DATE APPROVED: March 9, 2012

FIGURE 5
GROUNDWATER SAMPLE LOCATIONS AND ANALYTICAL RESULTS
DECEMBER 2011 AND JANUARY 2012
 ENTERPRISE PRODUCTS COMPANY
 SMYERS LS #1 RELEASE LOCATION
 SAN JUAN COUNTY, NEW MEXICO
 SW¼, SW¼, SEC. 2, T31N, R11W
 N36.9234, W107.96485



 <p>AES</p> <p>Animas Environmental Services, LLC</p>	<p>DRAWN BY: N. Willis</p>	<p>DATE DRAWN: December 30, 2011</p>	<p>FIGURE 6</p> <p>PROPOSED TEMPORARY WELL LOCATIONS ENTERPRISE PRODUCTS COMPANY SYMERS LS #1 DECEMBER 2011 RELEASE LOCATION SAN JUAN COUNTY, NEW MEXICO SW¼, SW¼, SEC. 2, T31N, R11W N 36°55.404', W 107°57.897'</p>
	<p>REVISIONS BY: R. Kennermer</p>	<p>DATE REVISED: May 24, 2012</p>	
	<p>CHECKED BY: E. McNally</p>	<p>DATE CHECKED: May 24, 2012</p>	
	<p>APPROVED BY: E. McNally</p>	<p>DATE APPROVED: May 24, 2012</p>	