

**3R – 454**

**Q3 2012  
GWMR**

**01 / 16 / 2013**



LAT 2D-1LP (Olmer #4) / 2011

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

ENTERPRISE PRODUCTS OPERATING LLC

RECEIVED

JAN 16 2013 1:33

January 16, 2013

EMNRD Oil Conservation Division  
Aztec District III Office  
Attn: Brandon Powell  
1000 Rio Brazos Road  
Aztec, NM 87410

**Return Receipt Requested**  
**7012 2210 0001 2251 3986**

EMNRD Oil Conservation Division  
Environmental Bureau  
Attention: Glen von Gonten  
122 South St. Francis Drive  
Santa Fe, NM 87505

**Return Receipt Requested**  
**7012 2210 0001 2251 3993**

BLM Farmington Field Office  
Lands Team  
Attn: Scott Hall/Sherrie Landon  
6251 College Blvd. Suite A  
Farmington, NM 87402

**Return Receipt Requested**  
**7012 2210 0001 2251 4006**

**RE: Enterprise Field Services, LLC**  
**3<sup>rd</sup> Quarter 2012 Groundwater Monitoring Report**  
**Lateral 2D-1LP (Olmer #4) August 2011 Pipeline Release**  
**San Juan County, New Mexico**

Dear Sir or Madam:

Enclosed please find the 3<sup>rd</sup> Quarter 2012 Groundwater Monitoring Report for the Lateral 2D-1LP (Olmer #4) August 2011 Pipeline Release in San Juan County.

If you have any questions or need more information, please contact Aaron Dailey, Field Environmental Representative, by phone at 505-599-2286, by email at [amdailey@eprod.com](mailto:amdailey@eprod.com) or me at 713-381-6684.

Regards,

*Matthew E. Marra*  
(for)

Matthew E. Marra  
Sr. Director, Environmental

/bjm  
enclosure

December 13, 2012

Glenn von Gonten  
New Mexico Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

624 E. Comanche  
Farmington, NM 87401  
505-564-2281

Durango, Colorado  
970-403-3274

**RE: 3rd Quarter 2012 Groundwater Monitoring Report  
Enterprise Field Services, LLC  
Lateral 2D-1LP (Olmer #4) August 2011 Pipeline Release  
San Juan County, New Mexico**

Dear Mr. von Gonten:

Animas Environmental Services, LLC (AES), on behalf of Enterprise Field Services, LLC (Enterprise), has prepared this *3<sup>rd</sup> Quarter 2012 Groundwater Monitoring Report* for the Lateral 2D-1LP (Olmer #4) August 2011 Pipeline Release in accordance with New Mexico Oil Conservation Division (NMOCD) and New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) regulations. This is the fourth consecutive quarterly monitoring and sampling event for the subject release location.

A quarterly groundwater monitoring and sampling event was completed September 19, 2012, in accordance with a workplan previously prepared by AES and dated September 28, 2011. The workplan was submitted to the NMOCD for review prior to implementing the proposed scope of work.

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## 1.0 Site Information

### 1.1 Site Location

The release is located along the Enterprise Lateral 2D-1LP leading from the Olmer #4 well tie within the SW¼ NE¼, Section 26, T28N, R10W, San Juan County, New Mexico. Latitude and longitude of the release were recorded as N36.63388 by W107.86387, respectively. A topographic site location map is included as Figure 1.

The location of the release is within a floodplain associated with Armenta Wash. Surface runoff drains north to an unnamed arroyo which discharges into the Armenta Wash, and depth of groundwater is approximately 8 feet below ground surface (bgs).

## *1.2 Release History*

A release was reported at the location on August 2, 2011, by Shane Cooley of Enterprise. The cause of the release was attributed to a line leak due to corrosion. Remedial excavation activities were conducted on August 8, 2011, and AES collected soil samples from the base and mid-walls of the excavation, which measured approximately 20 feet by 20 feet by 8 feet deep. Benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbon (TPH) concentrations for all three soil samples collected were either below laboratory detection limits or below applicable NMOCD action levels. A grab sample from shallow groundwater was also collected from near the base of the excavation for laboratory analysis. Dissolved phase benzene, toluene, and total xylene concentrations were reported above the New Mexico Water Quality Control Commission (WQCC) standards for groundwater.

On August 23, 2011, the excavation was extended to approximately 4 feet below the pipeline, for a total depth of 12 feet bgs. The excavation was extended horizontally resulting in an excavation area approximately 30 feet by 20 feet. Prior to backfilling the excavation, one groundwater sample was collected from the excavation for laboratory analysis. Dissolved phase benzene concentrations were reported above the WQCC standard with 31 µg/L. No soil samples were collected during the August 23, 2011, excavation activities since the confirmation soil samples collected from the excavation on August 8, 2011, were below NMOCD action levels.

## *1.3 Groundwater Investigation – November 2011*

On November 29, 2011, a groundwater investigation was conducted by AES in order to delineate the full extent of petroleum hydrocarbon impact on groundwater resulting from the release. The investigation included the installation of four soil borings (SB-1 through SB-4), which were completed as groundwater monitor wells (MW-1 through MW-4).

Soil analytical results confirmed that soil samples collected from SB-1 through SB-4 were below NMOCD action levels or below laboratory detection limits for benzene, total BTEX, and TPH. Groundwater analytical results for samples collected from MW-1 through MW-4 showed that concentrations for BTEX were below applicable WQCC standards, and TPH concentrations were below laboratory detection limits.

Based upon the results of the groundwater investigation associated with the Lateral 2D-1LP (Olmer #4) Pipeline release, it was determined groundwater was not impacted within the source area above applicable WQCC standards, and AES recommended at least three additional quarterly groundwater monitoring and sampling events to confirm contaminant concentrations remain below WQCC standards.

#### **1.4 Groundwater Monitoring – March and June 2012**

AES conducted groundwater monitoring and sampling on March 9 and June 28, 2012. Groundwater analytical results showed that BTEX and TPH concentrations were either below laboratory detection limits or well below applicable WQCC standards for contaminants of concern.

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### **2.0 Groundwater Monitoring and Sampling – September 2012**

On September 19, 2012, groundwater monitoring and sampling were conducted by AES in MW-1 through MW-4. Work was completed in accordance with the workplan prepared by AES and dated September 28, 2011, and also in accordance with U.S. Environmental Protection Agency (USEPA) Environmental Response Team's Standard Operating Procedures (SOPs), and applicable American Society of Testing and Materials (ASTM) standards.

#### **2.1 Groundwater Measurements and Water Quality**

Prior to sample collection, depth to groundwater in each well was measured with a Keck Water Level Indicator, and water quality data was measured with a YSI Water Quality Meter. Water quality measurements were recorded and included pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP). Depth to groundwater measurements and water quality data were recorded onto Water Sample Collection forms. Depths to groundwater varied across the site and were observed to range from 8.61 feet below top of casing (TOC) in MW-3 to 12.11 feet below TOC in MW-4. The groundwater gradient was calculated to be approximately 0.006 foot/foot to the north-northeast, and groundwater gradient contours are included on Figure 3.

Following depth to water measurement, each well was purged with a disposable bailer until recorded temperature, pH, conductivity, and DO measurements were stabilized. All data was recorded onto Water Sample Collection Forms. Groundwater temperature ranged from 17.60°C in MW-1 to 19.49°C in MW-3, and conductivity ranged from 4.599 mS in MW-1 to 4.991 mS in MW-4. DO concentrations were between 1.10 mg/L in MW-2 and 2.15 mg/L in MW-3, and pH ranged from 6.97 in MW-3 to 7.58 in MW-4. Although DO was recorded during field activities, it should be noted that due to the use of bailers, the accuracy of dissolved oxygen measurements is limited. Depth to groundwater measurements and water quality data are summarized in Table 1. Water Sample Collection forms are presented in the Appendix.

#### **2.2 Groundwater Laboratory Analyses**

Groundwater samples were collected with new disposable bailers from a total of four monitor wells and transferred into appropriate sample containers, labeled accordingly, and documented on Water Sample Collection Forms. Samples were shipped in insulated coolers containing ice at less than 6°C to Hall Environmental Analytical Laboratory (Hall) in

Albuquerque, New Mexico. All groundwater analytical samples were analyzed for BTEX per USEPA Method 8021B and TPH as gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015B.

### **2.2.1 Groundwater Analytical Results**

Analytical results from groundwater samples collected during the September 2012 sampling event showed that BTEX concentrations were reported below the laboratory detection limits in MW-1, MW-2, and MW-4. The dissolved phase benzene concentration was reported at the detection limit of 1.0 µg/L in MW-3. TPH as GRO/DRO concentrations were reported below the laboratory detection limits for monitor wells MW-1, MW-2, and MW-4. MW-3 had reported GRO concentrations of 0.066 mg/L. Groundwater analytical results are included in Table 2 and on Figure 4. Groundwater analytical laboratory reports are presented in the Appendix.

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## **3.0 Conclusion and Recommendations**

On September 19, 2012, AES personnel conducted groundwater monitoring and sampling at the Lateral 2D-1LP (Olmer #4) August 2011 pipeline release location. Groundwater analytical results showed that contaminants of concern (BTEX) were below applicable WQCC standards for the fourth consecutive quarter for all the monitor wells (MW-1 through MW-4). TPH concentrations were below laboratory detection limits, except in MW-3 with 0.066 mg/kg.

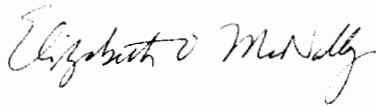
Based on current site data and in accordance with the project workplan, quarterly sampling has shown four consecutive quarters of groundwater contaminant concentrations below WQCC standards. No further work is recommended, and AES proposes to plug and abandon all site monitor wells. AES respectfully requests No Further Action status for this site.

If you have any questions regarding site conditions or this report, please do not hesitate to contact Tami Ross or Ross Kennemer at (505) 564-2281.

Sincerely,



Corwin Lameman  
Geology Intern



Elizabeth McNally, P.E.

Attachments:

Tables

- Table 1. Summary of Groundwater Measurement and Water Quality Data  
Table 2. Summary of Groundwater Analytical Results

Figures

- Figure 1. Topographic Site Location Map  
Figure 2. General Site Map and Groundwater Elevations, September 2012  
Figure 3. Groundwater Elevation Contours, September 2012  
Figure 4. Groundwater Contaminant Concentrations, September 2012

Appendix

Water Sample Collection Forms  
Groundwater Analytical Laboratory Reports (Hall 1209904)

cc: Brandon Powell  
New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Aaron Dailey  
Enterprise Field Services, LLC  
614 Reilly Avenue  
Farmington, New Mexico 87401

C:\Dropbox\2012 December 2012 (Former Trial File)\Enterprise\Olmer #4\Reports\3rd Qtr 2012\Olmer#4  
3rd Qtr Monitoring Report 121312.docx

TABLE 1  
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA  
Enterprise Field Services, LLC Lateral 2D-1LP (Olmer #4) Pipeline Release  
San Juan County, New Mexico

Well ID	Date	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)
MW-1	29-Dec-11	9.92	5480.29	5470.37	7.14	4.530	1.48	12.47	382.3
MW-1	09-Mar-12	9.74	5480.29	5470.55	7.46	4.648	1.46	10.97	78.3
MW-1	28-Jun-12	10.36	5480.29	5469.93	7.03	4.642	1.56	15.94	31.4
MW-1	19-Sep-12	10.59	5480.29	5469.70	7.50	4.599	3.22	17.60	18.6
MW-2	29-Dec-11	9.10	5479.69	5470.59	7.13	4.624	1.28	12.06	382.1
MW-2	09-Mar-12	8.92	5479.69	5470.77	7.25	4.691	1.18	11.22	57.3
MW-2	28-Jun-12	9.53	5479.69	5470.16	7.16	4.700	1.68	16.42	20.3
MW-2	19-Sep-12	9.77	5479.69	5469.92	7.49	4.693	1.10	17.80	16.9
MW-3	29-Dec-11	7.94	5478.93	5470.99	6.67	8.440	2.29	10.44	295.1
MW-3	09-Mar-12	7.75	5478.93	5471.18	6.70	9.782	2.20	9.51	-100.7
MW-3	28-Jun-12	8.34	5478.93	5470.59	6.59	9.630	2.51	19.17	-78.2
MW-3	19-Sep-12	8.61	5478.93	5470.32	6.97	4.947	2.15	19.49	-64.0
MW-4	29-Dec-11	11.51	5482.33	5470.82	6.42	4.712	3.19	13.15	374.7
MW-4	09-Mar-12	11.33	5482.33	5471.00	7.30	5.345	4.30	10.77	99.9
MW-4	28-Jun-12	11.93	5482.33	5470.40	7.44	5.289	2.83	17.05	18.9
MW-4	19-Sep-12	12.11	5482.33	5470.22	7.58	4.991	3.30	18.40	18.7



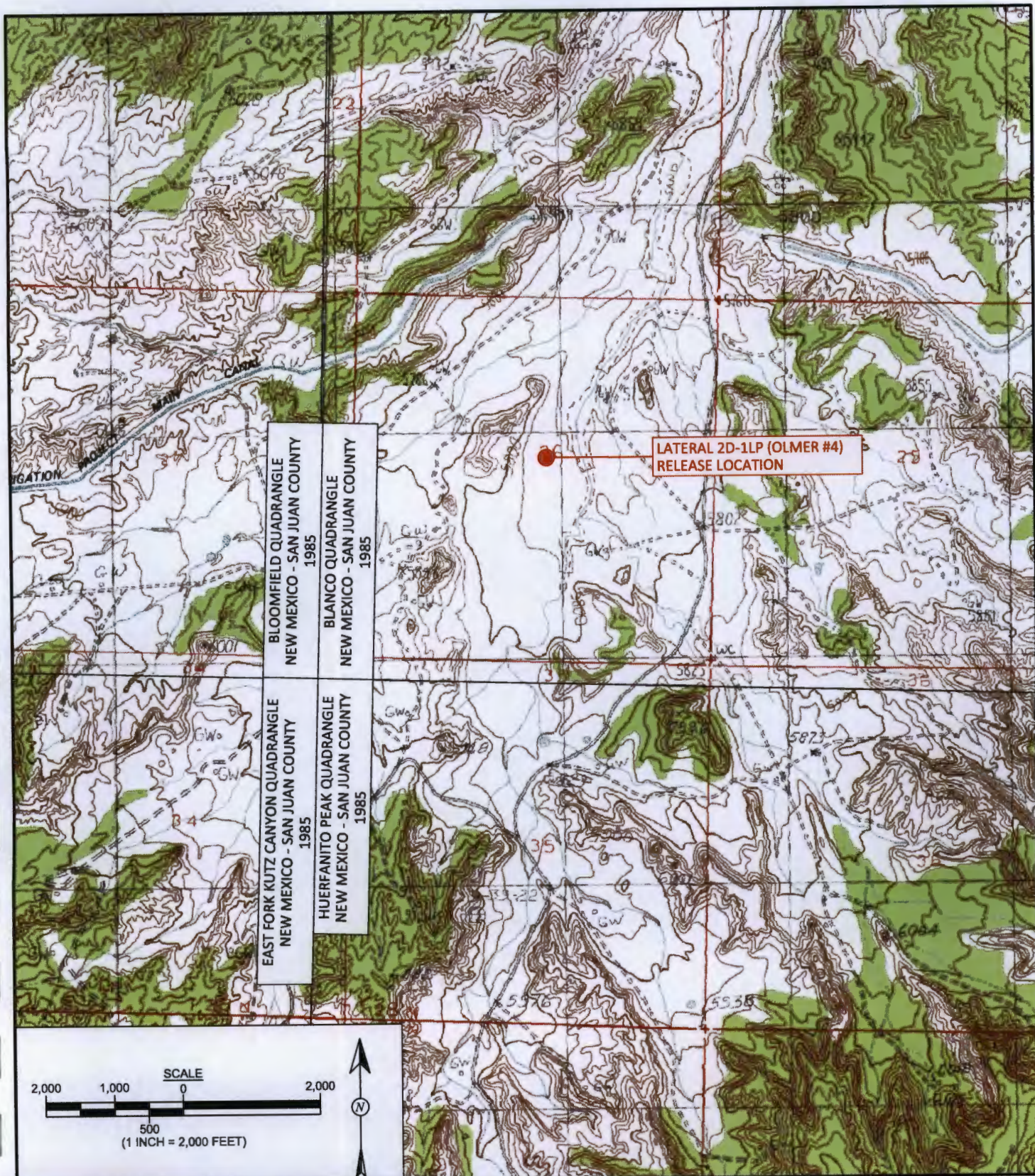
TABLE 2  
SUMMARY OF GROUNDWATER ANALYTICALS RESULTS  
Enterprise Field Services, LLC Lateral 2D-1LP (Olmer #4) Pipeline Release  
San Juan County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	GRO C6-C10	DRO C10-C22
		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
Sample Method		EPA Method 8021/8260				EPA Method 8015B	
WQCC STANDARD		10	750	750	620	NE	NE
MW-1	29-Dec-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-1	09-Mar-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-1	28-Jun-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-1	19-Sep-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-2	29-Dec-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-2	09-Mar-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-2	28-Jun-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-2	19-Sep-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-3	29-Dec-11	<2.0	<2.0	2.4	<4.0	<0.10	<1.0
MW-3	09-Mar-12	2.2	<1.0	5.1	<2.0	0.1	<1.0
MW-3	28-Jun-12	1.5	<1.0	<1.0	<2.0	0.11	<1.0
MW-3	19-Sep-12	1.0	<1.0	<1.0	<2.0	0.066	<1.0
MW-4	29-Dec-11	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0
MW-4	09-Mar-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-4	28-Jun-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-4	19-Sep-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0

**Notes:**

<	Analyte not detected above listed method limit
NA	Not analyzed
NE	Not established
µg/L	Micrograms per liter (ppb)
mg/L	Milligrams per liter (ppm)
GRO	Gasoline range organics
DRO	Diesel range organics





Animas Environmental Services, LLC

**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
January 19, 2012

**REVISIONS BY:**  
C. Lameman

**DATE REVISED:**  
December 4, 2012

**CHECKED BY:**  
T. Ross

**DATE CHECKED:**  
December 4, 2012

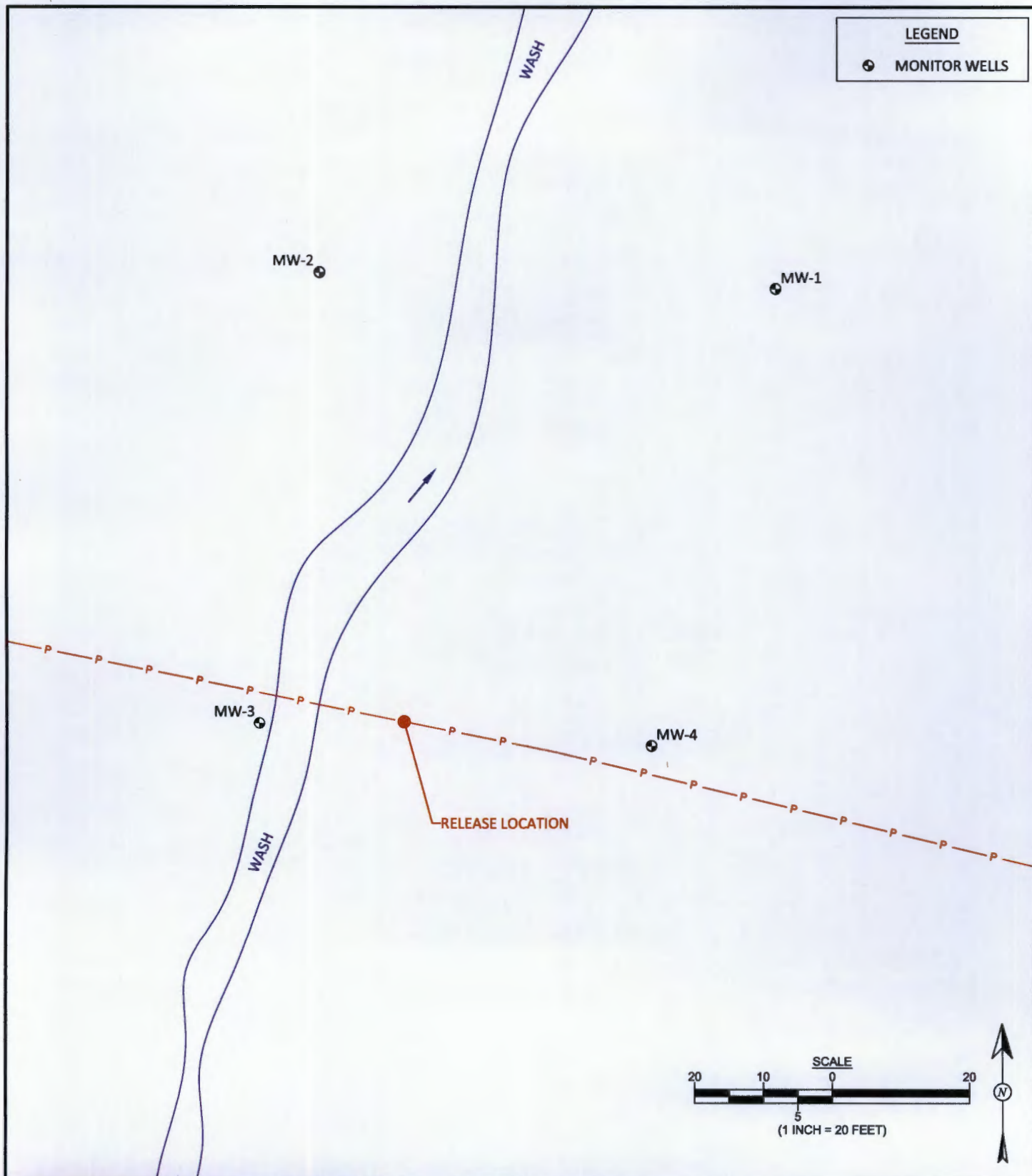
**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
December 4, 2012

## FIGURE 1

**TOPOGRAPHIC SITE LOCATION MAP**  
ENTERPRISE FIELD SERVICES, LLC  
LATERAL 2D-1LP (OLMER #4)  
2011 PIPELINE RELEASE  
SAN JUAN COUNTY, NEW MEXICO  
SW¼ NE¼, SEC. 26, T28N, R10W  
N36.63388, W107.86387

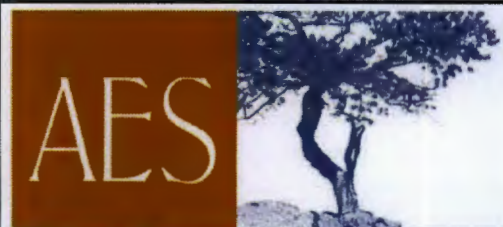
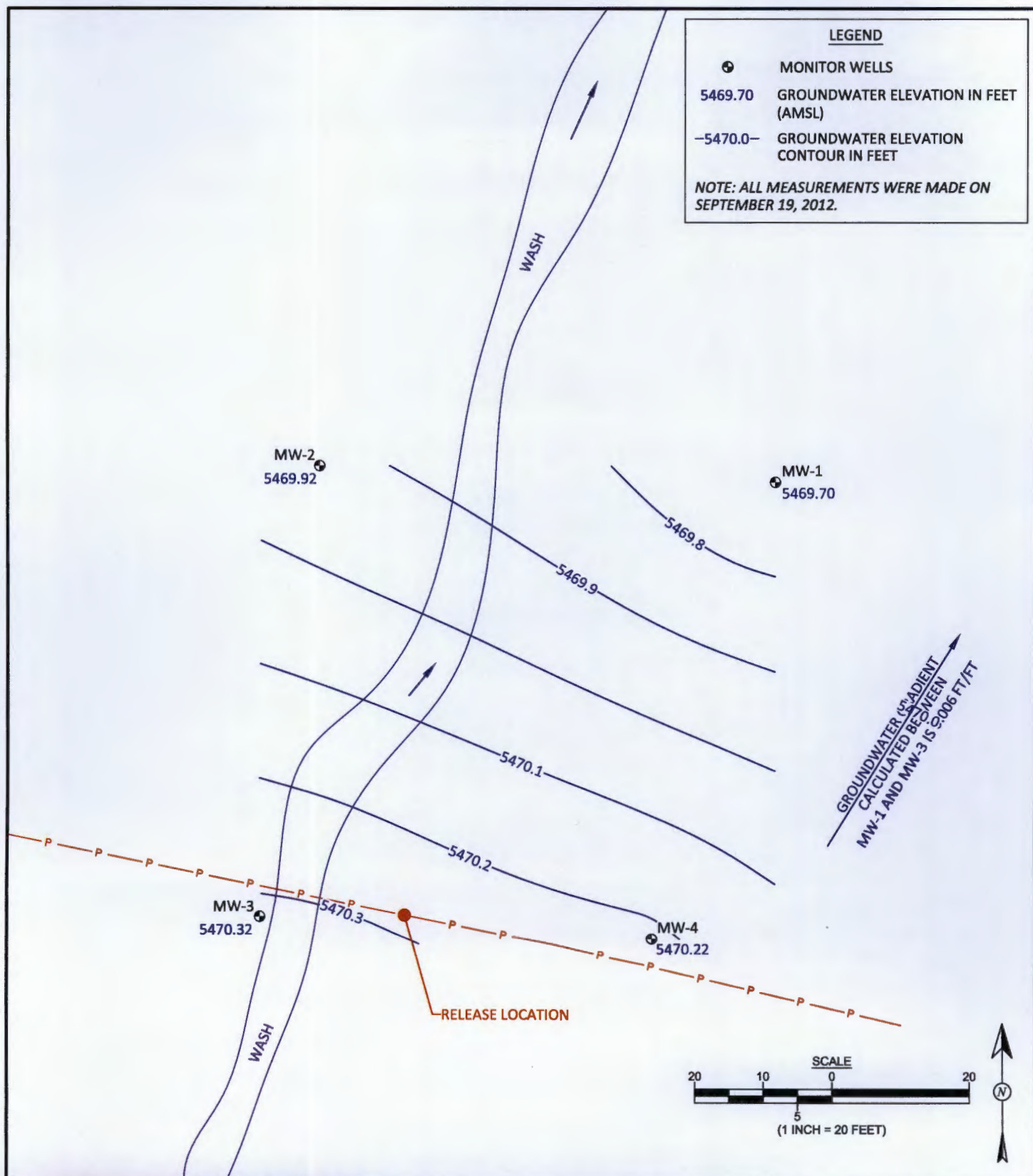




<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> January 19, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> December 4, 2012
<b>CHECKED BY:</b> T. Ross	<b>DATE CHECKED:</b> December 4, 2012
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 4, 2012

**FIGURE 2**

**GENERAL SITE MAP**  
 ENTERPRISE FIELD SERVICES, LLC  
 LATERAL 2D-1LP (OLMER #4)  
 2011 PIPELINE RELEASE  
 SAN JUAN COUNTY, NEW MEXICO  
 SW¼ NE¼, SEC. 26, T28N, R10W  
 N36.63388, W107.86387



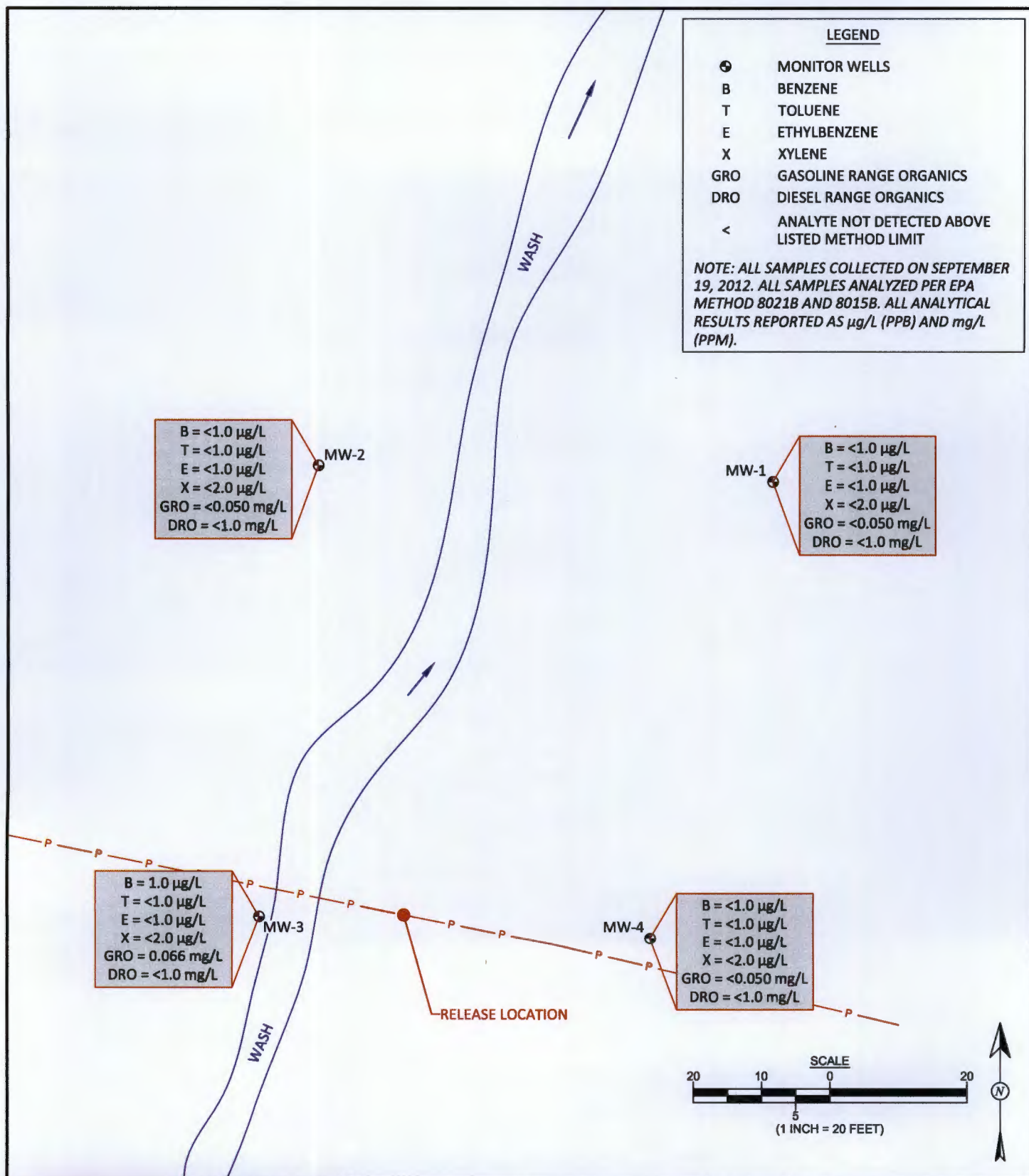
Animas Environmental Services, LLC

<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> February 7, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> December 4, 2012
<b>CHECKED BY:</b> T. Ross	<b>DATE CHECKED:</b> December 4, 2012
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 4, 2012

### FIGURE 3

**GROUNDWATER ELEVATION CONTOURS  
SEPTEMBER 2012**  
ENTERPRISE FIELD SERVICES, LLC  
LATERAL 2D-1LP (OLMER #4)  
2011 PIPELINE RELEASE  
SAN JUAN COUNTY, NEW MEXICO  
SW¼ NE¼, SEC. 26, T28N, R10W  
N36.63388, W107.86387





<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> February 7, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> December 4, 2012
<b>CHECKED BY:</b> T. Ross	<b>DATE CHECKED:</b> December 4, 2012
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 4, 2012

**FIGURE 4**

**GROUNDWATER CONTAMINANT CONCENTRATIONS, SEPTEMBER 2012**  
ENTERPRISE FIELD SERVICES, LLC  
LATERAL 2D-1LP (OLMER #4)  
2011 PIPELINE RELEASE  
SAN JUAN COUNTY, NEW MEXICO  
SW $\frac{1}{4}$  NE $\frac{1}{4}$ , SEC. 26, T28N, R10W  
N36.63388, W107.86387

624 E. Comanche, Farmington NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

Project No.: AES 110802  
Date: 7-19-2012  
Time: 0955  
Form: 1 of 1

[illegible]

Wells measured with KECK water level or KECK interface tape, decontaminated between each well measurement.

[illegible]

# MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: MW-2

624 E. Comanche, Farmington NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Enterprise Olmer #4 (Lateral 2D-1LP)  
Location: 36.62766°N, 107.85458°W  
Project: Groundwater Sampling  
Sampling Technician: LL & ZT  
Purge / No Purge: Purge  
Well Diameter (in): 2  
Initial D.T.W. (ft): 9.77 Time: 1001  
Confirm D.T.W. (ft): Time:  
Final D.T.W. (ft): 9.78 Time: 1040  
If NAPL Present: D.T.P.: D.T.W.: Thickness: Time:

Project No.: AES 110802

Date: 9-19-2012

Arrival Time: 1000

Air Temp:

T.O.C. Elev. (ft): 5468.1

Total Well Depth (ft): 14.18

(taken at initial gauging of all wells)

(taken prior to purging well)

(taken after sample collection)

1041  
Sample  
Time

## Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1037	17.79	4.688	0.92	7.66	21.7	1 <sup>st</sup> Bailed	Clear
1039	17.47	4.687	1.67	7.59	18.9	1.0 gal.	Clear
1041	17.80	4.693	1.10	7.49	16.9	2.25 gal	Clear

## Analytical Parameters (include analysis method and number and type of sample containers)

BTEX by EPA Method 8021 (5 - 40 mL glass preserved w/ HCl)

TPH ( C6 - C36 ) by EPA Method 8015 (1 - 40 mL glass non-preserved)

Disposal of Purged Water: on ground

Collected Samples Stored on Ice in Cooler: yes

Chain of Custody Record Complete: yes

Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM

Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter  
and New Disposable Bailor

Notes/Comments:

4.41 column  
0.71971 volume  
2.15 Purged

H<sub>2</sub>O clear, no sheen, no odor  
Recharge on well is good.



## Animas Environmental Services

624 E. Comanche, Farmington NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

Project No.: AES 110802  
Date: 9-19-2012  
Arrival Time: 0945 (1050 sample tent)  
Air Temp: \_\_\_\_\_  
C. Elev. (ft): 5468.50  
Well Depth (ft): 13.70  
(taken at initial gauging of all wells) ee  
(taken prior to purging well)  
(taken after sample collection)  
Thickness: \_\_\_\_\_ Time: \_\_\_\_\_

### Water Quality Parameters - Recorded During Well Purging

[illegible]

**Analytical Parameters (include analysis method and number and type of sample containers)**

BTEX by EPA Method 8021 (5 - 40 mL glass preserved w/ HCl)

TPH ( C6 - C36 ) by EPA Method 8015 ( 1 - 40 mL glass non-preserved)

Disposal of Purged Water: on ground

Collected Samples Stored on Ice in Cooler: Yes

Chain of Custody Record Complete: yes

**Analytical Laboratory:** Hall Environmental Analysis Laboratory, Albuquerque, NM

**Equipment Used During Sampling:** Keck Water Level or Keck Interface Level, YSI Water Quality Meter  
and New Disposable Bailer

**Notes/Comments:**

4.21 column	Slight odor... "bacterial" not product
0.68707 volume	Well is slow to re-charge
2.06 purged	Effluent in HCL not "agreeing" w/ H <sub>2</sub> O, bubbles.

## Animas Environmental Services

624 E. Comanche, Farmington NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

**Project No.:** AES 110802

Date: 9-19-2017

Arrival Time: 1048

**Air Temp:**

**T.O.C. Elev. (ft):**

**Total Well Depth (ft):**

Time: 0957 (taken at initial gauging of all wells)

Time: 09:00 (taken prior to purging well)

Time: 11 25 (taken after sample collection)

D.T.W.:                      Thickness:                      Time:

[illegible]

BTEX by EPA Method 8021 (5 - 40 mL glass preserved w/ HCl)
TPH ( C6 - C36 ) by EPA Method 8015 (1 - 40 mL glass non-preserved)

**Equipment Used During Sampling:** Keck Water Level or Keck Interface Level, YSI Water Quality Meter  
and New Disposable Bailer

Clear 1120

M.W H<sub>2</sub>O slow to recharge

after 1.5 gal purged

2.11



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

September 25, 2012

Tami Ross

Animas Environmental Services

624 East Comanche

Farmington, NM 87401

TEL: (505) 793-2072

FAX

RE: Enterprise products Olmer #4

OrderNo.: 1209904

Dear Tami Ross:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/20/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1209904

Date Reported: 9/25/2012

**CLIENT:** Animas Environmental Services

**Client Sample ID:** Trip Blank

**Project:** Enterprise products Olmer #4

**Collection Date:**

**Lab ID:** 1209904-001

**Matrix:** TRIP BLANK

**Received Date:** 9/20/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/22/2012 7:13:20 PM
Toluene	ND	1.0		µg/L	1	9/22/2012 7:13:20 PM
Ethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:13:20 PM
Xylenes, Total	ND	2.0		µg/L	1	9/22/2012 7:13:20 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:13:20 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:13:20 PM
Surr: 4-Bromofluorobenzene	98.5	69.7-152		%REC	1	9/22/2012 7:13:20 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1209904

Date Reported: 9/25/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental Services**Client Sample ID:** MW-1**Project:** Enterprise products Olmer #4**Collection Date:** 9/19/2012 10:26:00 AM**Lab ID:** 1209904-002**Matrix:** AQUEOUS**Received Date:** 9/20/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: <b>JMP</b>
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/22/2012 6:44:13 PM
Surr: DNOP	139	79.5-166		%REC	1	9/22/2012 6:44:13 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/22/2012 7:43:34 PM
Surr: BFB	107	69.8-119		%REC	1	9/22/2012 7:43:34 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	1.0		µg/L	1	9/22/2012 7:43:34 PM
Toluene	ND	1.0		µg/L	1	9/22/2012 7:43:34 PM
Ethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:43:34 PM
Xylenes, Total	ND	2.0		µg/L	1	9/22/2012 7:43:34 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:43:34 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 7:43:34 PM
Surr: 4-Bromofluorobenzene	95.6	69.7-152		%REC	1	9/22/2012 7:43:34 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1209904

Date Reported: 9/25/2012

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-2

**Project:** Enterprise products Olmer #4

**Collection Date:** 9/19/2012 10:41:00 AM

**Lab ID:** 1209904-003

**Matrix:** AQUEOUS

**Received Date:** 9/20/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: <b>JMP</b>
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/22/2012 7:09:51 PM
Surr: DNOP	139	79.5-166		%REC	1	9/22/2012 7:09:51 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/22/2012 11:14:18 PM
Surr: BFB	102	69.8-119		%REC	1	9/22/2012 11:14:18 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	1.0		µg/L	1	9/22/2012 11:14:18 PM
Toluene	ND	1.0		µg/L	1	9/22/2012 11:14:18 PM
Ethylbenzene	ND	1.0		µg/L	1	9/22/2012 11:14:18 PM
Xylenes, Total	ND	2.0		µg/L	1	9/22/2012 11:14:18 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 11:14:18 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 11:14:18 PM
Surr: 4-Bromofluorobenzene	95.2	69.7-152		%REC	1	9/22/2012 11:14:18 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1209904

Date Reported: 9/25/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental Services**Client Sample ID:** MW-3**Project:** Enterprise products Olmer #4**Collection Date:** 9/19/2012 10:56:00 AM**Lab ID:** 1209904-004**Matrix:** AQUEOUS**Received Date:** 9/20/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: <b>JMP</b>
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/22/2012 7:35:10 PM
Surr: DNOP	140	79.5-166		%REC	1	9/22/2012 7:35:10 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	0.066	0.050		mg/L	1	9/22/2012 11:44:30 PM
Surr: BFB	107	69.8-119		%REC	1	9/22/2012 11:44:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	1.0	1.0		µg/L	1	9/22/2012 11:44:30 PM
Toluene	ND	1.0		µg/L	1	9/22/2012 11:44:30 PM
Ethylbenzene	ND	1.0		µg/L	1	9/22/2012 11:44:30 PM
Xylenes, Total	ND	2.0		µg/L	1	9/22/2012 11:44:30 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2012 11:44:30 PM
1,3,5-Trimethylbenzene	1.3	1.0		µg/L	1	9/22/2012 11:44:30 PM
Surr: 4-Bromofluorobenzene	104	69.7-152		%REC	1	9/22/2012 11:44:30 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1209904

Date Reported: 9/25/2012

CLIENT: Animas Environmental Services

Client Sample ID: MW-4

Project: Enterprise products Olmer #4

Collection Date: 9/19/2012 11:22:00 AM

Lab ID: 1209904-005

Matrix: AQUEOUS

Received Date: 9/20/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/22/2012 8:00:33 PM
Surr: DNOP	136	79.5-166		%REC	1	9/22/2012 8:00:33 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/23/2012 12:14:43 AM
Surr: BFB	92.9	69.8-119		%REC	1	9/23/2012 12:14:43 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/23/2012 12:14:43 AM
Toluene	ND	1.0		µg/L	1	9/23/2012 12:14:43 AM
Ethylbenzene	ND	1.0		µg/L	1	9/23/2012 12:14:43 AM
Xylenes, Total	ND	2.0		µg/L	1	9/23/2012 12:14:43 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/23/2012 12:14:43 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/23/2012 12:14:43 AM
Surr: 4-Bromofluorobenzene	83.9	69.7-152		%REC	1	9/23/2012 12:14:43 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209904

25-Sep-12

Client: Animas Environmental Services

Project: Enterprise products Olmer #4

Sample ID	MB-3873	SampType:	MBLK	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	PBW	Batch ID:	3873	RunNo:	5691					
Prep Date:	9/21/2012	Analysis Date:	9/22/2012	SeqNo:	163497	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		132	79.5	166			

Sample ID	LCS-3873	SampType:	LCS	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSW	Batch ID:	3873	RunNo:	5691					
Prep Date:	9/21/2012	Analysis Date:	9/22/2012	SeqNo:	163498	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.8	1.0	5.000	0	75.1	74	157			
Surr: DNOP	0.57		0.5000		115	79.5	166			

Sample ID	LCSD-3873	SampType:	LCSD	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSS02	Batch ID:	3873	RunNo:	5691					
Prep Date:	9/21/2012	Analysis Date:	9/22/2012	SeqNo:	163499	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.8	1.0	5.000	0	76.0	74	157	1.16	23	
Surr: DNOP	0.54		0.5000		108	79.5	166	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209904

25-Sep-12

Client: Animas Environmental Services

Project: Enterprise products Olmer #4

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R5693	RunNo:	5693					
Prep Date:		Analysis Date:	9/22/2012	SeqNo:	163570	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		77.6	69.8	119			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R5693	RunNo:	5693					
Prep Date:		Analysis Date:	9/22/2012	SeqNo:	163571	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.4	75.9	119			
Surr: BFB	16		20.00		81.6	69.8	119			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1209904

25-Sep-12

Client: Animas Environmental Services

Project: Enterprise products Olmer #4

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R5693	RunNo:	5693					
Prep Date:		Analysis Date:	9/22/2012	SeqNo:	163597	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	16		20.00		77.5	69.7	152			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R5693	RunNo:	5693					
Prep Date:		Analysis Date:	9/22/2012	SeqNo:	163616	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	22	1.0	20.00	0	109	80	120			
Xylenes, Total	66	2.0	60.00	0	110	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	102	74.3	117			
1,3,5-Trimethylbenzene	22	1.0	20.00	0	108	75.8	117			
Surr: 4-Bromofluorobenzene	18		20.00		90.6	69.7	152			

### Qualifiers:

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- E Value above quantitation range
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- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4101  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Animas Environmental Work Order Number: 1209904

Received by/date: AG 09/20/12

Logged By: Michelle Garcia 9/20/2012 10:00:00 AM

*Michelle Garcia*

Completed By: Michelle Garcia 9/20/2012 3:29:32 PM

*Michelle Garcia*

Reviewed By: [Signature] 09/20/12

### Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒  
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
3. How was the sample delivered? Courier

### Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐  
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
6. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
7. Sample(s) in proper container(s)? Yes ☒ No ☐  
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐  
12. Were any sample containers received broken? Yes ☐ No ☒  
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
15. Is it clear what analyses were requested? Yes ☒ No ☐  
16. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

18. Additional remarks:

### 19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

**Tel. 505-345-3975 Fax 505-345-4107**

## Analysis Request

[illegible]

Remarks: Bill to enterfrise Products Company

Date:	Time:	Relinquished by:	Received by:	Date:	Time:
19-12	1246	Zachary Turner	Chloe Turner Wheeler	9/19/12	1645
9/12	1724	Chloe Turner Wheeler	Chloe Turner Wheeler	09/20/12	1000

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.