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

**ENTERPRISE PRODUCTS OPERATING LLC** 

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September 4, 2003

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

Attn: Jim Griswold

Re: 2<sup>nd</sup> Quarter 2013 Groundwater Monitoring Report

Lateral 6C September 2011 Pipeline Release

NE¼ SW¼, Section 26, T28N, R11W San Juan County, New Mexico

Dear Mr. Von Gonten:

Enterprise Field Services, LLC (Enterprise) is submitting the enclosed report entitled: 2<sup>nd</sup> Quarter 2013 Groundwater Monitoring Report, dated August 26, 2013. This report documents the results of the fourth consecutive quarterly groundwater monitoring event conducted at the above-referenced release site during June 2013.

During this quarterly event, a total of seven monitor wells (MW-3 through MW-9) were monitored and sampled at the release site. Note that during this sampling event non-aqueous phase liquid (NAPL) was observed for the second consecutive quarter in MW-1 (0.26 feet) and for the first time in MW-2 (0.44 feet). Dissolved-phase benzene concentrations exceeding applicable Water Quality Control Commission (WQCC) Groundwater Quality Standards were present in three wells, including MW-3 (780  $\mu$ g/L), MW-4 (600  $\mu$ g/L), and MW-8 (21  $\mu$ g/L). Also, dissolved phase xylene concentrations were above the WQCC standard in MW-6 (1,100  $\mu$ g/L). Dissolved-phase concentrations of toluene and ethylbenzene were below applicable WQCC standards.

Enterprise will continue to monitor and sample site monitor wells on a quarterly basis and will conduct a "free product" bail down recovery test within MW-1 and MW-2 to better estimate free product thickness in the formation and recovery rates. Enterprise will also conduct an aquifer slug test to better determine groundwater characteristics. Additionally, Enterprise will submit a workplan for the installation of additional groundwater monitor wells to delineate the lateral extent of groundwater contaminant impact. Results of the "free product" bail down and recovery test and aquifer slug test will be submitted in the next quarterly report. The next groundwater sampling event is tentatively scheduled for September 2013.

Mr. Glenn von Gonten September 4, 2013 Fage 2

If you have any questions concerning the enclosed report, please do not hesitate to contact me at (713) 381-2286, or via email at: <a href="mailto:drsmith@eprod.com">drsmith@eprod.com</a>.

Sincerely,

David R. Smith, P.G.

Sr. Environmental Scientist

Rodney M. Sartor, REM Sr. Manager, Environmental

/dep

Enclosure – 2<sup>nd</sup> Quarter 2013 Groundwater Monitoring Report - Lateral 6C September 2011 Pipeline Release

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

ec: Mark Kelly, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM

Lany Cupps - Animas Environmental Services, Farmington, NM



August 26, 2013

David Smith
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Via email with delivery confirmation receipt: drsmith@eprod.com

RE: 2<sup>nd</sup> Quarter 2013 Groundwater Monitoring Report Enterprise Field Services, LLC Lateral 6C September 2011 Pipeline Release NE% SW%, Section 26, T28N, R11W San Juan County, New Mexico

Dear Mr. Smith:

Animas Environmental Services, LLC (AES), on behalf of Enterprise Field Services, LLC (Enterprise), has prepared this 2<sup>nd</sup> Quarter 2013 Groundwater Monitoring Report for the Lateral 6C September 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 report documents the fourth consecutive quarterly monitoring and sampling event for the subject release location and the second sampling event for 2013.

A groundwater investigation was completed September 7, 2012, in accordance with a workplan previously prepared by AES and dated August 3, 2012. The workplan was submitted to the NMOCD for review prior to implementing the proposed scope of work.

### 1.0 Site Information

## 1.1 Site Location and NMOCD Ranking

The release area is located on Federal land under jurisdiction of the Bureau of Land Management (BLM) within the NE¼ SW¼, Section 26, T28N, R11W, San Juan County, New Mexico. Latitude and longitude of the release were recorded as N36.63202 and W107.97400, respectively. A topographic site location map is included as Figure 1, and an aerial map showing the release location is included as Figure 2.

In accordance with NMOCD release protocols, action levels were established per NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993) prior to the initial assessment. The release was given a ranking score of 40 based on the following factors:

- Depth to Groundwater: Known depth to groundwater is less than 20 feet below ground surface (bgs). (20 points)
- Wellhead Protection Area: The release location is not within a wellhead protection area. (0 points)
- Distance to Surface Water Body: The release location is within the floodplain of Kutz wash, which is less than 200 feet to the northeast. Kutz Wash flows north and ultimately discharges into the San Juan River. (20 points)

## 1.2 Initial Release Assessment and Investigation

A pipeline release was discovered on September 22, 2011, by Enterprise personnel during routine operations activities. The release was immediately reported to BLM, and a Form C-141 was submitted to NMOCD on September 29, 2011. The estimated quantity of the initial release of natural gas and condensate was 7 barrels.

### 1.2.1 Initial Release Assessment

AES personnel met with Enterprise representatives at the release location on September 22, 2011. Following the repair on September 23, 2011, AES collected one soil sample from the base of the small repair excavation at 6 feet below ground surface (bgs). The sample was field screened for volatile organic compounds (VOCs) with a photo-ionization detector (PID) organic vapor meter (OVM). Based on the field screening reading of 3,974 parts per million (ppm) and the anticipated shallow depth of groundwater, AES and Enterprise determined that a limited investigation of the release extent would be appropriate prior to implementing further contaminant mitigation measures.

#### 1.2.2 Release Assessment - October 2011

On October 11, 2011, AES completed four test hole excavations around the original release location and at distances of up to 100 feet from the release point. AES recorded the encountered soil materials, collected field screening samples and soil samples for laboratory analysis from each test hole, and collected groundwater samples from two of the test holes. Soil concentrations for total benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH) for gasoline range organics (GRO) in sample TP-1 at 10 feet exceeded the applicable NMOCD action levels with 169 mg/kg total BTEX and 1,429 mg/kg TPH. Benzene, total BTEX, TPH-GRO, and TPH for diesel range organics (DRO) concentrations in sample TP-2 at 15 feet also exceeded the applicable NMOCD action levels with 45 mg/kg benzene, 513 mg/kg total BTEX, and 5,170 mg/kg TPH (GRO/DRO). Although some elevated OVM field screening values were recorded, BTEX and TPH concentrations in the remaining soil samples were either below laboratory detection limits or below applicable NMOCD action levels.

Groundwater samples were collected for laboratory analysis from TP-2 and TP-4. During sample collection, a petroleum sheen was observed in TP-2. Dissolved phase benzene, toluene, and xylene concentrations were reported above the New Mexico Water Quality Control Commission (WQCC) standards in TP-2 with 9,800  $\mu$ g/L benzene, 15,000  $\mu$ g/L toluene, and 6,700  $\mu$ g/L xylene. Detailed laboratory results were summarized in the AES letter report entitled *Soil and Groundwater Sampling Results* and dated October 28, 2011.

Following receipt of laboratory analytical results on October 24, 2011, Enterprise notified NMOCD of the confirmed groundwater impact by submitting a Form C-141. Based on field screening and laboratory analytical results, AES recommended that Enterprise conduct further delineation of the soil and groundwater contamination in order to determine the most effective mitigation of the release.

### 1.2.3 Site Investigation - November 2011

On November 30, 2011, AES completed an additional site investigation, which included the installation of eight soil borings and the collection of soil and groundwater samples. Soil samples showed that contaminant concentrations exceeded NMOCD action levels in borings SB-2, SB-7, and SB-8. The highest benzene and total BTEX concentrations were reported in SB-2, with 31 mg/kg benzene and 580 mg/kg total BTEX. The highest TPH concentration was also reported in SB-2 with 7,500 mg/kg.

Dissolved phase analytical results indicated groundwater was impacted above the WQCC standard in SB-2W (benzene, toluene, and xylene), SB-3W (benzene), and SB-7W (benzene and toluene). The highest concentrations for benzene, toluene, and xylenes were reported in SB-2W with 2,800  $\mu$ g/L benzene, 5,700  $\mu$ g/L toluene, and 4,000  $\mu$ g/L xylenes.

## 1.2.4 Groundwater Investigation – September 2012

On August 20 through September 7, 2012, AES completed a groundwater investigation in order to further delineate the extent of the dissolved phase hydrocarbon contaminants associated with the Lateral 6C pipeline release. During the site investigation, AES personnel installed nine soil borings which were advanced to a total depth of 25 feet bgs and completed as monitor wells MW-1 through MW-9.

The local site lithology consists of alluvium and fluvial material from the adjacent Kutz Wash overlaying sandstone bedrock. Soil observed during the investigation was brown to tan, fine to medium grained, silty to clayey sand, with some gravel at depths greater than 20 feet bgs. Moisture level increased with depth from dry to moist in the upper 10 feet to moist to wet down to contact with bedrock. Bedrock material was grey, fine grained, firm to moderately hard, wet sandstone.

During the investigation, soil laboratory analytical results showed that petroleum hydrocarbon concentrations were not above NMOCD action levels in any of the soil borings. Laboratory analytical results showed groundwater contaminant concentrations above the WQCC standard of 10  $\mu$ g/L for benzene in MW-1 (2,200  $\mu$ g/L), MW-2 (270  $\mu$ g/L), MW-4 (18  $\mu$ g/L), and MW-8 (41  $\mu$ g/L). Additionally, dissolved phase toluene above the WQCC standard of 750  $\mu$ g/L was reported in MW-2 with 1,100  $\mu$ g/L, and xylene above the WQCC standard of 620  $\mu$ g/L was reported in MW-1 (650  $\mu$ g/L), MW-2 (1,800  $\mu$ g/L), and MW-6 (2,200  $\mu$ g/L).

### 1.2.5 Groundwater Monitoring and Sampling - December 2012

Site monitor wells were monitored and sampled by AES on December 20, 2012. Laboratory results confirmed dissolved phase benzene concentrations above the WQCC standard of 10  $\mu$ g/L in two wells, including MW-1 (1,100  $\mu$ g/L) and MW-2 (26  $\mu$ g/L). Also, dissolved phase xylene concentrations were above the WQCC standard of 620  $\mu$ g/L in MW-6 with 1,200  $\mu$ g/L. Details of the groundwater sampling event were presented in the *Quarterly Groundwater Sampling Report* dated February 13, 2013.

#### 1.2.6 Groundwater Monitoring and Sampling – March 2013

Site monitor wells were monitored and sampled by AES on March 20, 2013. Note that 0.42 feet of non-aqueous phase liquid (NAPL) or "free product" was observed for the first time in MW-1 during the March 2013 sampling event. Laboratory results confirmed dissolved phase benzene concentrations above the WQCC standard of 10  $\mu$ g/L in two wells, including MW-4 (290  $\mu$ g/L) and MW-8 (41  $\mu$ g/L). Dissolved phase xylene concentrations were above the WQCC standard of 620  $\mu$ g /L in MW-6 with 800  $\mu$ g/L. Details of the groundwater sampling event were presented in the *Quarterly Groundwater Sampling Report* dated May 13, 2013.

## 2.0 Groundwater Monitoring and Sampling – June 2013

On June 19, 2013, groundwater monitoring and sampling were conducted by AES in MW-1 through MW-9. Work was completed in accordance with the workplan prepared by AES and dated August 3, 2012, 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. Note that during this sampling event, NAPL was observed for the

second consecutive quarter in MW-1 (0.26 feet) and for the first time in MW-2 (0.44 feet). Groundwater elevations decreased by an average of 0.12 feet across the site, and depths to groundwater were observed to range from 14.74 feet below top of casing (TOC) in MW-8 to 19.21 feet below TOC in MW-5. The groundwater gradient was calculated to be approximately 0.008 foot/foot to the northwest. Groundwater gradient contours are included on Figure 3.

The average linear groundwater velocity was calculated to be 3.3 feet/day based on estimations of soil characteristics of the aquifer material. Saturated hydraulic conductivity was estimated to be 150 feet/day for the average column of aquifer material but may vary by several orders of magnitude from *in-situ* soil conditions. Porosity was estimated to be approximately 35 percent, and the hydraulic gradient was calculated as 0.0077 foot/foot. Note that grain size analysis of the aquifer material would assist in limiting the range of variance for the calculation.

Following depth to water measurement, each well was purged with a peristaltic pump until recorded temperature, pH, conductivity, and DO measurements were stabilized. All data was recorded onto Water Sample Collection Forms. Groundwater temperature ranged from 14.14 °C in MW-9 to 16.86°C in MW-8, and conductivity ranged from 6.235 mS in MW-8 to 8.451 mS in MW-3. DO concentrations were between 1.15 mg/L in MW-5 and 5.35 mg/L in MW-6, and pH ranged from 5.46 in MW-6 to 7.26 in MW-9. 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 using low flow purging techniques with peristaltic pump from a total of seven 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 8260.

## 2.2.1 Groundwater Analytical Results

Groundwater laboratory analytical results showed that dissolved phase benzene concentrations were above the WQCC standard of 10  $\mu$ g/L in MW-3 (780  $\mu$ g/L), MW-4 (600  $\mu$ g/L), and MW-8 (21  $\mu$ g/L). Dissolved phase xylene concentrations were above the WQCC standard of 620  $\mu$ g/L in MW-6 with 1,100  $\mu$ g/L. Dissolved phase toluene and ethylbenzene concentrations were below the WQCC standard of 750  $\mu$ g/L in all wells sampled. Tabulated groundwater analytical results are presented in Table 2 and on Figure 4, and dissolved phase benzene and xylene contours are presented on Figures 5 and 6, respectively. Groundwater laboratory analytical reports are presented in the Appendix.

## 3.0 Conclusion and Recommendations

A total of seven monitor wells (MW-3 through MW-9) were monitored and sampled at the Lateral 6C September 2011 pipeline release location by AES on June 19, 2013. Note that during this sampling event, NAPL was observed for the second consecutive quarter in MW-1 (0.26 feet) and for the first time in MW-2 (0.44 feet).

Groundwater continues to be impacted above the WQCC standard for benzene and xylenes. Laboratory results confirmed dissolved phase benzene concentrations above the WQCC standard of 10  $\mu$ g/L in three wells, including MW-3 (780  $\mu$ g/L), MW-4 (600  $\mu$ g/L), and MW-8 (21  $\mu$ g/L). Also, dissolved phase xylene concentrations were above the WQCC standard of 620  $\mu$ g/L in MW-6 with 1,100  $\mu$ g/L. Dissolved phase benzene concentrations increased in MW-3 and MW-4 since the March 2013 sampling event. Dissolved phase toluene and ethylbenzene concentrations were below WQCC standards in all sampled monitor wells. Low benzene concentrations and high xylene concentrations in MW-6 may be indicative of weathering or partially degraded petroleum hydrocarbons.

## AES recommends the following:

- Continued monitoring and sampling of site monitor wells on a quarterly basis;
- Conduct a "free product" bail down or recovery test within MW-1 and MW-2 to better estimate free product thickness in the formation and recovery rates;
- Conduct an aquifer slug test in accordance with American Society for Testing and Materials (ASTM) International to better determine groundwater characteristics;
- Proceed with installation of additional groundwater monitor wells to delineate the lateral extent of groundwater contaminant impact; a workplan will be submitted under separate cover.

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

Sincerely,

Sandre R. Luggs
Landrea Cupps

**Environmental Scientist** 

Elizabeth McNally, P.E.

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#### Attachments:

**Tables** 

Table 1. Summary of Groundwater Measurements and Water Quality Data

Table 2. Summary of Groundwater Laboratory Analytical Results

**Figures** 

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map

Figure 3. Groundwater Elevation Contours, June 2013

Figure 4. Groundwater Contaminant Concentrations, June 2013

Figure 5. Dissolved Benzene Concentration Contours, June 2013

Figure 6. Dissolved Xylene Concentration Contours, June 2013

#### **Appendix**

Water Sample Collection Forms
Groundwater Analytical Laboratory Reports (Hall 1306922)

cc: Glenn von Gonten

**New Mexico Oil Conservation Division** 

1220 S. St. Francis Drive Santa Fe, NM 87505

**Brandon Powell** 

**New Mexico Oil Conservation Division** 

1000 Rio Brazos Road Aztec, NM 87410

**Aaron Dailey** 

Via electronic copy

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Mark Kelly

Via email with delivery confirmation receipt

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Bureau of Land Management 6251 College Blvd., Suite A Farmington, NM 87401

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## TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA Enterprise Field Services, LLC Lateral 6C September 2011 Pipeline Release San Juan County, New Mexico

		Surveyed	Depth to NAPL (ft below	Depth to Water (ft below	NAPL Thickness	GW Elev.	Corrected GW Elev.		Conductivity	Dissolved	Temp.
Well ID	Date	TOC (ft)	TOC)	TOC)	(ft)	(ft amsi)	(ft)	pН	Conductivity (mS)	Oxygen (mg/L)	Temp. (ºC)
MW-1	07-Sep-12	5579.73	100	15.78	0.7	5563.95	0.0	7.02	5.616	1.72	17.31
MW-1	20-Dec-12	5579.73		15.69		5564.04		7.38	4.567	1.41	16.71
MW-1	20-Mar-13	5579.73	15.31	15.73	0.42	5564.00	5564.30	NA	NA	NA	NA
MW-1	19-Jun-13	5579.73	15.49	15.75	0.26	5563.98	5564.17	NA NA	NA NA	NA NA	NA NA
10.00 2	13 3411 13	3373.73	13.43	13.73	0.20	3303.30	3304.17	INA	I NA	NA	1100
MW-2	07-Sep-12	5579.39	Al.	16.29		5563.10		7.31	4.234	1.03	16.67
MW-2	20-Dec-12	5579.39		16.22		5563.17		7.61	3.511	1.45	15.42
MW-2	20-Mar-13	5579.39		15.97		5563.42		7.50	6.788	1.06	14.88
MW-2	19-Jun-13	5579.39	15.96	16.40	0.44	5562.99	5563.31	NA	NA	NA	NA
MW-3	07-Sep-12	5579.52		15.98		5563.54		7.33	5.706	2.24	15.29
MW-3	20-Dec-12	5579.52		15.79		5563.73		7.13	4.496	2.30	13.84
MW-3	20-Mar-13	5579.52		15.50		5564.02		7.33	8.893	2.62	13.63
MW-3	19-Jun-13	5579.52		15.66		5563.86		6.08	8.451	2.65	15.30
MW-4	07-Sep-12	5580.36		15.59		5564.77		7.30	5.564	1.46	15.77
MW-4	20-Dec-12	5580.36		15.51		5564.85		7.06	4.106	1.51	14.94
MW-4	20-Mar-13	5580.36		15.25		5565.11		7.23	7.897	1.17	14.00
MW-4	19-Jun-13	5580.36		15.41		5564.95		6.32	7.468	3.21	15.90
150											
MW-5	07-Sep-12	5583.53		19.35		5564.18		7.34	4.137	1.53	14.89
MW-5	20-Dec-12	5583.53		19.28		5564.25		7.00	3.438	2.65	13.74
MW-5	20-Mar-13	5583.53		19.10		5564.43		7.28	6.957	2.29	13.86
MW-5	19-Jun-13	5583.53		19.21		5564.32		7.22	6.377	1.15	15.68
MW-6	07-Sep-12	5582.22		18.55		5563.67		7.38	4.833	1.24	15.43
MW-6	20-Dec-12	5582.22		18.49		5563.73		7.46	3.932	1.09	14.08
MW-6	20-Mar-13	5582.22		18.27		5563.95		7.38	7.571	0.79	14.36
MW-6	19-Jun-13	5582.22		18.38		5563.84		5.46	6.836	5.35	16.86

## TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA Enterprise Field Services, LLC Lateral 6C September 2011 Pipeline Release San Juan County, New Mexico

Date	Surveyed TOC (ft)	NAPL (ft below TOC)	Water (ft below TOC)	NAPL Thickness (ft)	GW Elev. (ft amsi)	Corrected GW Elev. (ft)	рН	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. Temp. (ºC)
07.6 40.7					· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
-			19.03		5563.21		7.59	4.542	1.38	15.24
20-Dec-12	5582.24		18.97		5563.27		7.53	3.660	1.16	13.86
20-Mar-13	5582.24		18.79		5563.45		7.45	7.512	1.45	14.40
19-Jun-13	5582.24		18.87		5563.37		5.67	6.747	3.72	16.68
									-	
07-Sep-12	5577.81		14.96		5562.85		7.57	4.068	1.30	16.16
20-Dec-12	5577.81		14.87		5562.94		7.56	3.339	0.97	15.25
20-Mar-13	5577.81		14.63		5563.18		7.41	7.084	2.06	14.86
19-Jun-13	5577.81		14.74		5563.07		5.68	6.235	4.21	16.43
					-					
07-Sep-12	5582.48		17.55		5564.93		7.45	4.583	1.48	15.61
20-Dec-12	5582.48		17.47		5565.01		7.14	3.369	2.29	13.06
20-Mar-13	5582.48		17.28		5565.20		7.30	6.700	2.56	13.70
19-Jun-13	5582.48		17.42		5565.06		7.26	6.265	1.82	14.14
	07-Sep-12 20-Dec-12 20-Mar-13 19-Jun-13 07-Sep-12 20-Dec-12 20-Mar-13 19-Jun-13 07-Sep-12 20-Dec-12 20-Mar-13 19-Jun-13	07-Sep-12 5582.24 20-Dec-12 5582.24 20-Mar-13 5582.24 19-Jun-13 5582.24 07-Sep-12 5577.81 20-Dec-12 5577.81 20-Mar-13 5577.81 19-Jun-13 5577.81 07-Sep-12 5582.48 20-Dec-12 5582.48 20-Mar-13 5582.48	07-Sep-12 5582.24 20-Dec-12 5582.24 20-Mar-13 5582.24 19-Jun-13 5582.24  07-Sep-12 5577.81 20-Dec-12 5577.81 20-Mar-13 5577.81 19-Jun-13 5577.81  07-Sep-12 5582.48 20-Dec-12 5582.48 20-Dec-12 5582.48 19-Jun-13 5582.48	07-Sep-12     5582.24     19.03       20-Dec-12     5582.24     18.97       20-Mar-13     5582.24     18.79       19-Jun-13     5582.24     18.87       07-Sep-12     5577.81     14.96       20-Dec-12     5577.81     14.63       19-Jun-13     5577.81     14.74       07-Sep-12     5582.48     17.55       20-Dec-12     5582.48     17.47       20-Mar-13     5582.48     17.28       19-Jun-13     5582.48     17.42	07-Sep-12     5582.24     19.03       20-Dec-12     5582.24     18.97       20-Mar-13     5582.24     18.79       19-Jun-13     5582.24     18.87       07-Sep-12     5577.81     14.96       20-Dec-12     5577.81     14.63       19-Jun-13     5577.81     14.74       07-Sep-12     5582.48     17.55       20-Dec-12     5582.48     17.47       20-Mar-13     5582.48     17.28       19-Jun-13     5582.48     17.42	07-Sep-12       5582.24       19.03       5563.21         20-Dec-12       5582.24       18.97       5563.27         20-Mar-13       5582.24       18.79       5563.45         19-Jun-13       5582.24       18.87       5563.37         07-Sep-12       5577.81       14.96       5562.85         20-Dec-12       5577.81       14.87       5562.94         20-Mar-13       5577.81       14.63       5563.18         19-Jun-13       5577.81       14.74       5563.07         07-Sep-12       5582.48       17.55       5564.93         20-Dec-12       5582.48       17.47       5565.01         20-Mar-13       5582.48       17.28       5565.20         19-Jun-13       5582.48       17.42       5565.06	07-Sep-12       5582.24       19.03       5563.21         20-Dec-12       5582.24       18.97       5563.27         20-Mar-13       5582.24       18.79       5563.45         19-Jun-13       5582.24       18.87       5563.37         07-Sep-12       5577.81       14.96       5562.85         20-Dec-12       5577.81       14.87       5562.94         20-Mar-13       5577.81       14.63       5563.18         19-Jun-13       5577.81       14.74       5563.07         07-Sep-12       5582.48       17.55       5564.93         20-Dec-12       5582.48       17.47       5565.01         20-Mar-13       5582.48       17.28       5565.20         19-Jun-13       5582.48       17.42       5565.06	07-Sep-12     5582.24     19.03     5563.21     7.59       20-Dec-12     5582.24     18.97     5563.27     7.53       20-Mar-13     5582.24     18.79     5563.45     7.45       19-Jun-13     5582.24     18.87     5563.37     5.67       07-Sep-12     5577.81     14.96     5562.85     7.57       20-Dec-12     5577.81     14.87     5562.94     7.56       20-Mar-13     5577.81     14.63     5563.18     7.41       19-Jun-13     5577.81     14.74     5563.07     5.68       07-Sep-12     5582.48     17.55     5564.93     7.45       20-Dec-12     5582.48     17.47     5565.01     7.14       20-Mar-13     5582.48     17.28     5565.20     7.30       19-Jun-13     5582.48     17.42     5565.06     7.26	07-Sep-12         5582.24         19.03         5563.21         7.59         4.542           20-Dec-12         5582.24         18.97         5563.27         7.53         3.660           20-Mar-13         5582.24         18.79         5563.45         7.45         7.512           19-Jun-13         5582.24         18.87         5563.37         5.67         6.747           07-Sep-12         5577.81         14.96         5562.85         7.57         4.068           20-Dec-12         5577.81         14.87         5562.94         7.56         3.339           20-Mar-13         5577.81         14.63         5563.18         7.41         7.084           19-Jun-13         5577.81         14.74         5563.07         5.68         6.235           07-Sep-12         5582.48         17.55         5564.93         7.45         4.583           20-Dec-12         5582.48         17.47         5565.01         7.14         3.369           20-Mar-13         5582.48         17.28         5565.20         7.30         6.700           19-Jun-13         5582.48         17.42         5565.06         7.26         6.265	07-Sep-12         5582.24         19.03         5563.21         7.59         4.542         1.38           20-Dec-12         5582.24         18.97         5563.27         7.53         3.660         1.16           20-Mar-13         5582.24         18.79         5563.45         7.45         7.512         1.45           19-Jun-13         5582.24         18.87         5563.37         5.67         6.747         3.72           07-Sep-12         5577.81         14.96         5562.85         7.57         4.068         1.30           20-Dec-12         5577.81         14.87         5562.94         7.56         3.339         0.97           20-Mar-13         5577.81         14.63         5563.18         7.41         7.084         2.06           19-Jun-13         5577.81         14.74         5563.07         5.68         6.235         4.21           07-Sep-12         5582.48         17.55         5564.93         7.45         4.583         1.48           20-Dec-12         5582.48         17.47         5565.01         7.14         3.369         2.29           20-Mar-13         5582.48         17.28         5565.20         7.30         6.700         2.56

Notes:

NA - not analyzed

TABLE 2. SUMMARY OF GROUNDWATER LABORATORY ANALYTICALS RESULTS Enterprise Field Services, LLC Lateral 6C September 2011 Pipeline Release San Juan County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl- benzene Xylend				
	•	μg/L	μg/L	μg/L	μg/L			
Sa	mple Method		EPA M	lethod 8021				
waa	C STANDARD	10	750	750	620			
MW-1	07-Sep-12	2,200	350	68	650			
MW-1	20-Dec-12	1,100	250	37	180			
MW-1	20-Mar-13	F	ree Product	Present (0.4	2 feet)			
MW-1	19-Jun-13	F	ree Product	Present (0.2	6 feet)			
MW-2	07-Sep-12	270	1,100	66	1,800			
MW-2	20-Dec-12	26	49	5.1	250			
MW-2	20-Mar-13	<5.0	<5.0	<5.0	67			
MW-2	19-Jun-13	F	ree Product	Present (0.4	4 feet)			
MW-3	07-Sep-12	<2.0	<2.0	<2.0	<4.0			
MW-3	20-Dec-12	<2.0	<2.0	<2.0	<4.0			
MW-3	20-Mar-13	<2.0	<2.0	<2.0	<4.0			
MW-3	19-Jun-13	780	130	2.5	15			
		1.00						
MW-4	07-Sep-12	18	5.1	<2.0	<4.0			
MW-4	20-Dec-12	<2.0	<2.0	<2.0	<4.0			
MW-4	20-Mar-13	290	110	<2.0	15			
MW-4	19-Jun-13	600	45	<10	<20			
MW-5	07-Sep-12	<2.0	<2.0	<2.0	<4.0			
MW-5	20-Dec-12	<2.0	<2.0	<2.0	<4.0			
MW-5	20-Mar-13	<2.0	<2.0	<2.0	<4.0			
MW-5	19-Jun-13	<1.0	<1.0	<1.0	<2.0			
MW-6	07-Sep-12	<5.0	<5.0	260	2,200			
MW-6	20-Dec-12	<5.0	<5.0	180	1,200			
MW-6	20-Mar-13	<5.0	<5.0	120	800			
MW-6	19-Jun-13	9.6	6.2	150	1,100			
MW-7	07-Sep-12	<2.0	<2.0	<2.0	<4.0			
MW-7	20-Dec-12	<2.0	<2.0	<2.0	2.4			
MW-7	20-Mar-13	<2.0	<2.0	<2.0	<4.0			
MW-7	19-Jun-13	<1.0	<1.0	<1.0	<2.0			

TABLE 2. SUMMARY OF GROUNDWATER LABORATORY ANALYTICALS RESULTS Enterprise Field Services, LLC Lateral 6C September 2011 Pipeline Release San Juan County, New Mexico

Well ID	Date Sampled	Benzene Toluene		Ethyl- benzene	Xylenes				
		μg/L	μg/L	μg/L	μg/L				
Sa	mple Method		EPA Method 8021						
waa	CC STANDARD	10	750	750	620				
MW-8	07-Sep-12	41	40	3.8	320				
MW-8	20-Dec-12	<2.0	<2.0	<2.0	20				
MW-8	20-Mar-13	41	36	<2.0	89				
MW-8	19-Jun-13	21	12	<1.0	6.8				
MW-9	07-Sep-12	<2.0	2.4	<2.0	<4.0				
MW-9	20-Dec-12	<2.0	<2.0	<2.0	<4.0				
MW-9	20-Mar-13	<2.0	<2.0	<2.0	<4.0				
MW-9	19-Jun-13	<1.0	<1.0	<1.0	<2.0				

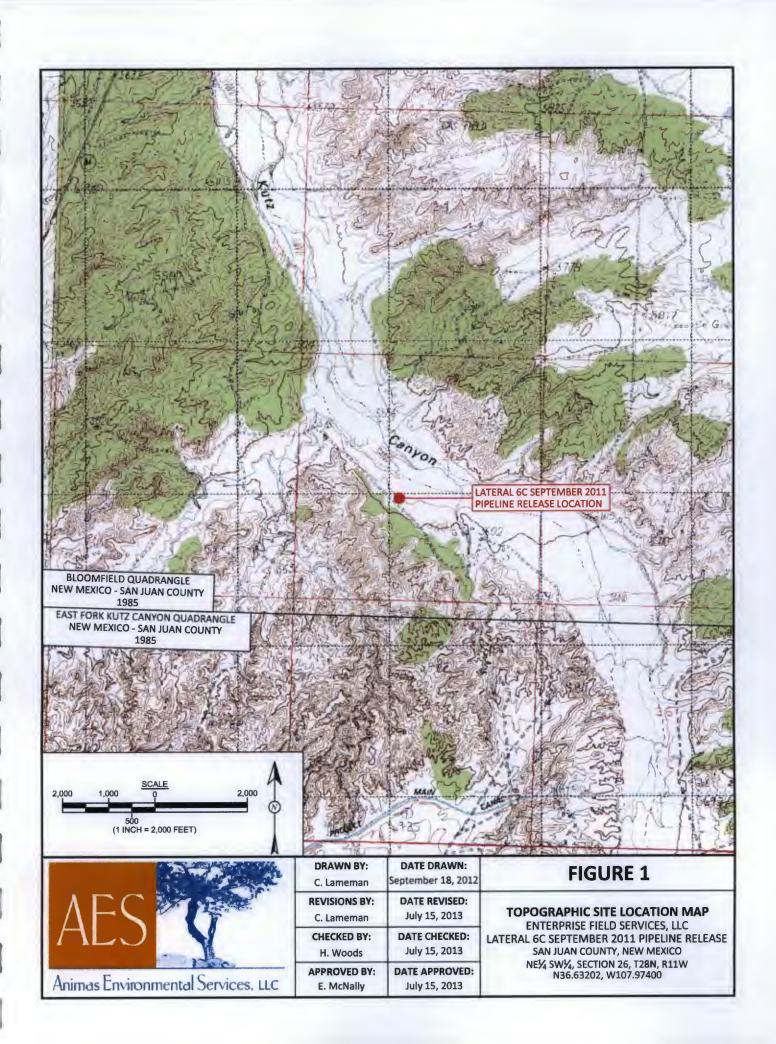
Notes:

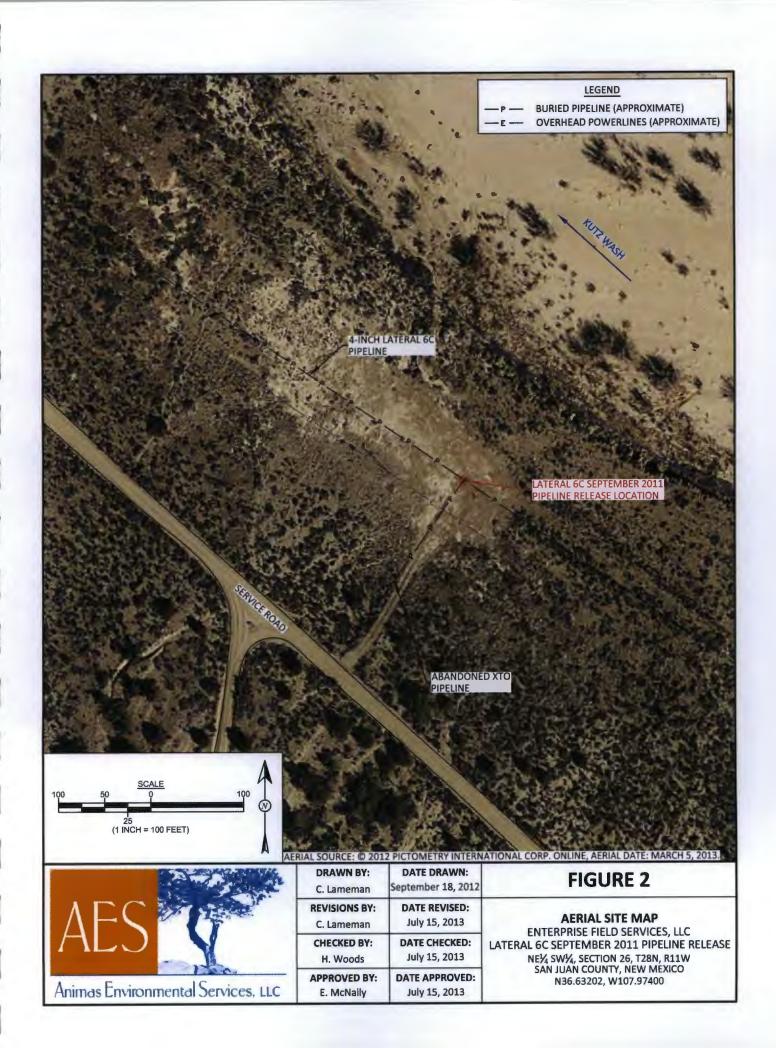
<

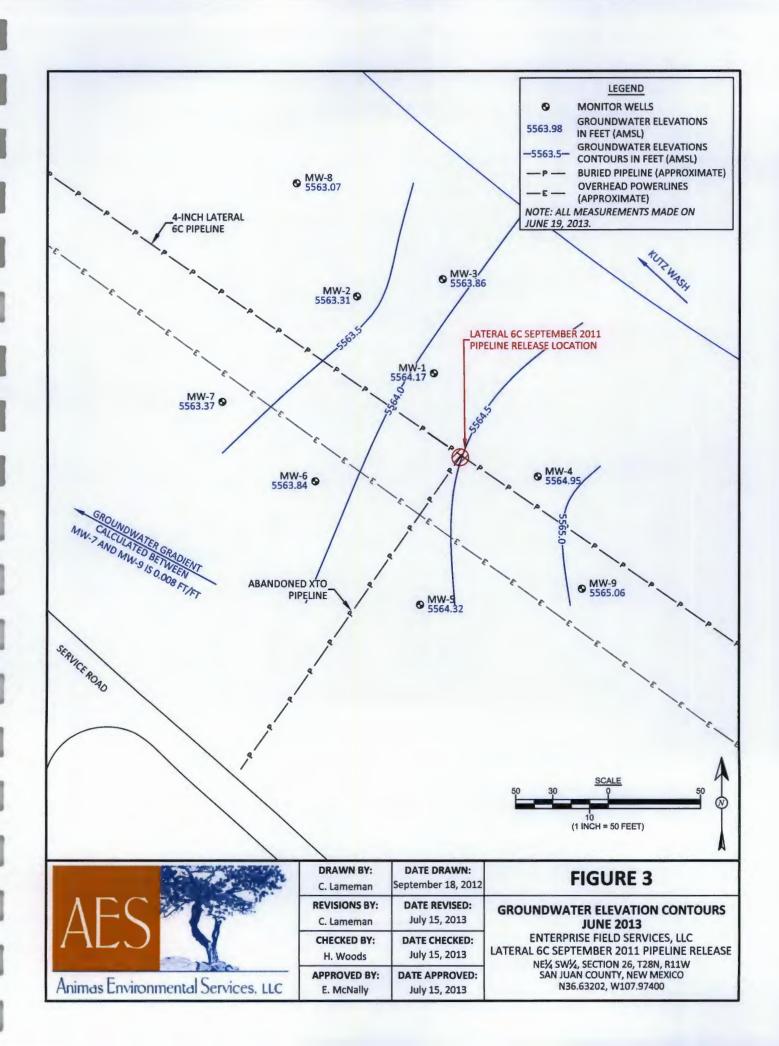
Analyte not detected above listed method limit

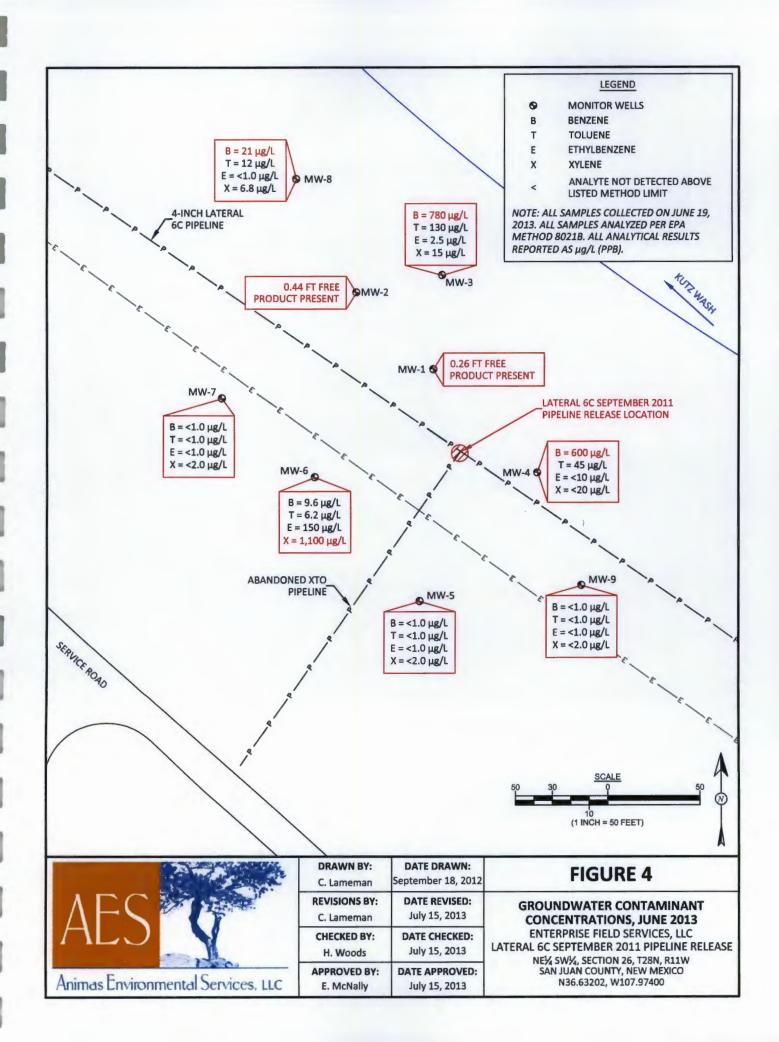
μg/L

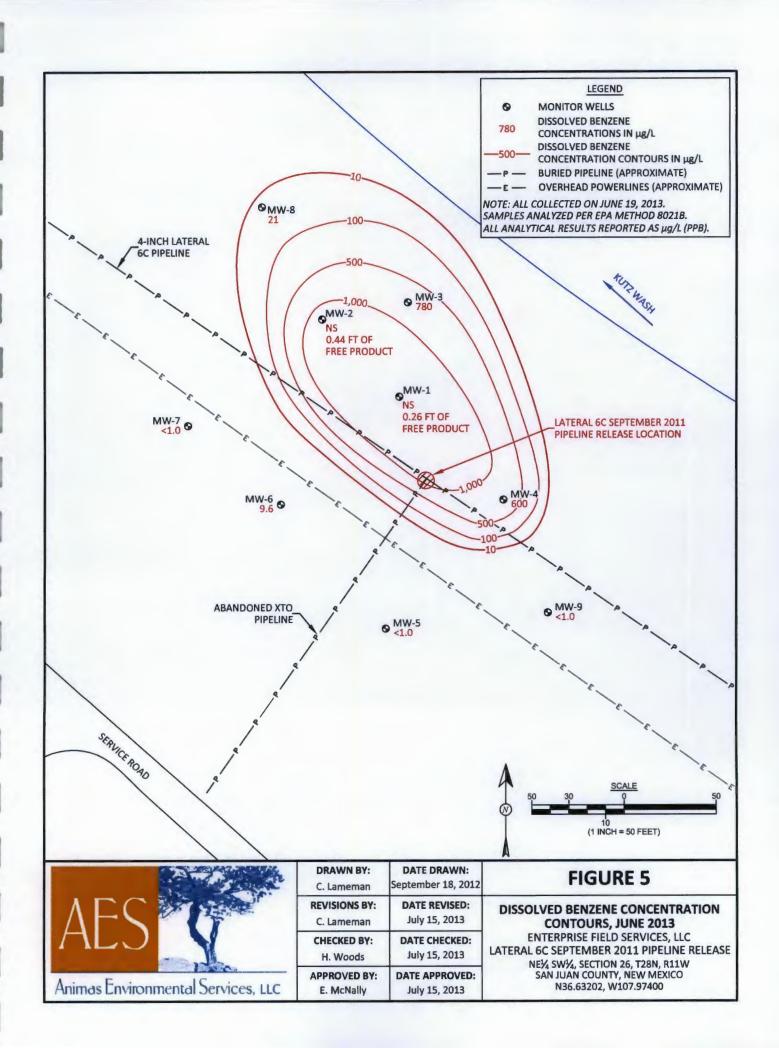
Micrograms per liter (ppb)

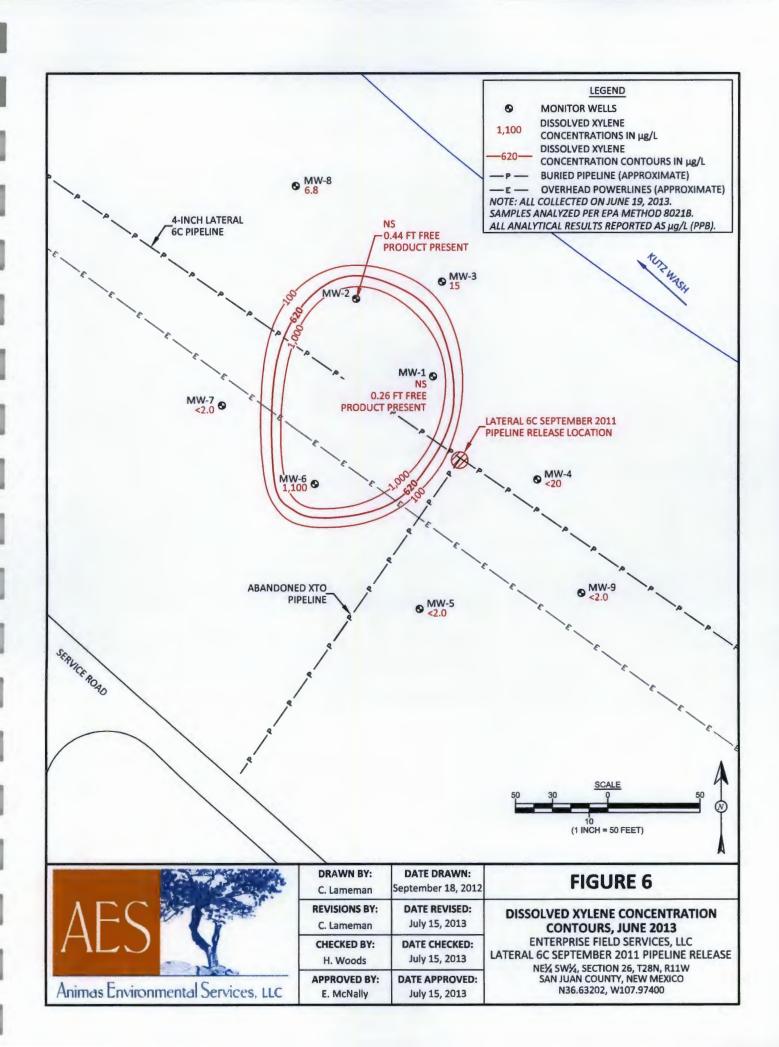












# DEPTH TO GROUNDWATER MEASUREMENT FORM

## **Animas Environmental Services**

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

		Tel. (505) 504 2201 Tax (505) 524 2022
Project:	Groundwater Sampling	Project No.: AES 110904
Site:	Enterprise Field Services, LLC	Date: 4/19/ 2013 (WED)
Location:	Lateral 6C	Time: 0800
Tech:	L. LAMONE	Form:
Moll	Deptili to NADI	

Well I.D.	NAPL (#.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-9		17.42		26.26
MW-5		19.21		
MW.7		18.87		
MW-3		15.6le		
MW-4		15.41		
MW.Z	15.96	16.40	0.45	At initial open of DVC cap, product odos
MW-8		14.74		
MW.6		18.38		
MW-	15.49	15.75	0.2le	
	,			
			7	
	`			
			WANTE MAN	

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

MONITOR	ING W	/ELL SAMPLI	NG RECO	ORD	Animas Environmental Services					
Monitor We	ell No:	MW-	-1		624 E. Comanche, Farmington NM 87401					
	•			-	Į.	Tel. (505) 564-2281 Fax	_			
Site: Groun	dwater	Sampling				Project No.: AES 1109	04			
Location: Enterprise Field Services, LLC						Date: 6/19/2013				
Project: Latera	1 6C				Arrival Time: 0805					
Sampling Tech	nician:	l. Lamo	n <del>õ</del>	•	Air Temp: 82°					
Purge / No		N/A		-		O.C. Elev. (ft): 5579				
Well Diamete		2		_		ell Depth (ft): 27				
Initial D.T.V		19:15	Time:	0800	<u>e</u>	(taken at initial gaugin	• •			
Confirm D.T.V			Time:	·	Table to the state of the state	(taken prior to purging				
Final D.T.V		D.T.D. J.C.I.G.	Time:	. 1630	> TI-1-	(taken after sample co kness: 0.26 Tim				
IT NAPL PR	esent:	D.T.P.: <u>15,49</u>	_ D.1.W.	.: <u>16.7</u> 9	T INIC	ckness: 0.04 Tim	e: 0 8 4			
		Water Qualit	ty Paramet	ers - Reco	orded Du	uring Well Purging				
Ter	mp	Conductivity	DO		ORP	PURGED VOLUME				
Time (de	g C)	(μS) (mS)	(mg/L)	рH	(mV)	(see reverse for calc.)	Notes/Observations			
			_/	11/	9					
		$\kappa \sim 10^{-1}$	LX	VULC						
		170								
							*******			
						And the second s				
					-					
Analytic	cal Para	meters (include	e analysis r	method a	nd numl	per and type of sample	containers)			
	· · · · · · ·		NO	Stry	210-					
			100	2010		1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	ſ	Disposal of Purg	ed Water:		NIA					
Collected		es Stored on Ice			<del>. [~</del>	1				
	•	ustody Record				MA				
Che	ani oi C	•	•	Hall Card	ronman	tal Analysis Laborators	Albuquerque MM			
e e		-	=	*		tal Analysis Laboratory,				
Equipment Used During Sampling: Keck Water Level or						errace Level, YSI Water	Quality Meter			
N / C		and Nev	w Disposab	ie Bailer						
Notes/Comments:										
			No	Sang	le					
				•						
revised: 08/10/09			<del></del>							

MON	ITORING V	VELL SAMPLI	NG RECO	ORD	Animas Environmental Services					
Mon	nitor Well No:	MW-	-2		$\epsilon$	524 E. Comanche, Farmi	ngton NM 87401			
				-		Tel. (505) 564-2281 Fax	_			
Site:	Groundwater	r Sampling				Project No.: AES 110904				
Location:	Enterprise Fig	eld Services, LLC			Date: 6-19.2013					
•	Lateral 6C					Arrival Time:				
		L.lamore	2		Air Temp: 76° F					
ı -	ge / No Purge:				D.C. Elev. (ft): 5579					
	Diameter (in):					ell Depth (ft): 26				
		16.40		0839	7	_(taken at initial gaugin				
1	m D.T.W. (ft):		Time:			_(taken prior to purging	•			
lt b	al D.T.W. (ft):	DTD. 6.9/4	Time:	· willi	) Thi	_(taken after sample co ckness:O,YS Tim	llection)			
***	IAFL FIESCHE.						e:			
	Τ	1	r	ers - Reco		uring Well Purging	<u> </u>			
	Temp	Conductivity	DO	,	ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
				AMP	12					
				Family	V					
			NO 3	<del>/\'\'\'</del>						
			100							
			<b> </b>	<u> </u>						
				<u> </u>						
			I							
1	Analytical Par	ameters (includ	e analysis ı	method a	nd num	ber and type of sample	containers)			
				,						
	,		7	MA						
				- 1		The state of the s				
		Disposal of Purg	red Water	NIA						
Co			•		1 1					
	•	es Stored on Ice			1/A					
	Chain oi C	Custody Record (	•		///					
	_		•			tal Analysis Laboratory,				
Equip	ment Used Du	-		Keck Int	terface Level, YSI Water	Quality Meter				
		and Nev	w Disposab	le Bailer	<u> </u>	OSAM LA				
Notes/Com	ments:					Ĭ.				
revised: 08	8/10/09									

MON	IITORING V	VELL SAMPLI	NG RECO	ORD	Animas Environmental Services			
Mon	itor Well No:	MW	-3		624 E. Comanche, Farmington NM 87401			
				-	1	Tel. (505) 564-2281 Fax	-	
Site:	Groundwate	r Sampling				Project No.: AES 11090	04	
		eld Services, LLC			Date: 6-19.2013  Arrival Time: 1301 (1355 Sample)			
1	Lateral 6C				-	Arrival Time: 1301	(1355 Sanple)	
Samplin	g Technician:	L-L-			Air Temp: 81° F			
Purg	e / No Purge:	Purge	5.0 9	al.	т.с	).C. Elev. (ft): 5579	9.52	
Well [	Diameter (in):	Purge 2		Total We	ell Depth (ft): 25.	88		
Initia	al D.T.W. (ft):	15.64	Time:	0831		(taken at initial gaugin	g of all wells)	
Confire	m D.T.W. (ft):	15.67	Time:	1304		_(taken prior to purging	· ·	
		15.81		1407		taken after sample col		
If N	IAPL Present:	D.T.P.:	D.T.W.	·:	Thic	ckness: Time	e:	
Water Quality Parameters - Recorded During Well Purging								
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
13202	15.20	9.354	4.54	5.83	-45.6	1.0 gal.	clear	
1328	15.02	9.195	4.11	5.93	-57.9	20 gal.	clean iteb	
1335	15.28	8.925	3.82	596	-63.6	1.0 gal.  2.0 gal.  3.0 gal.  4.0 gal.  5.0 gal.	Closer 1520	
1347	15.39	8.570	3.38	6.04	-46.8	y.o gal.		
1355	15.30	8.451	2.65	6.08	47.0	5.0 gal.	Clu HZO	
i								
					<u> </u>			
					<u> </u>	<u>                                     </u>		
<i>F</i>	Analytical Para	ameters (includ	e analysis i	netnoa a	ına num	ber and type of sample	containers	
			8260 /	37EX				
	!	Disposal of Purg	ed Water:	Into	55 gel.	drum, delivered to	E-tech landfarm.	
Col	lected Sample	es Stored on Ice	in Cooler:	Yes		•		
	Chain of C	Custody Record	Complete:	405				
		Analytical La	aboratory:	Hall Envi	ronmen	tal Analysis Laboratory,	Albuquerque, NM	
						terface Level, YSI Water		
	and Now Disposable Datter ws 700 Sampler Peristaltic Pump otes/Comments: 5.0 gal. H20 to be purged.							
Notes/Com	ments: 5,0	aul. 1/20	to b	e Plu	ald.			
		J			/			
		,						
revised: 08	/10/09							

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MON	IITORING V	VELL SAMPLI	NG RECO	Animas Environmental Services					
Mon	itor Well No:	MW	-4		624 E. Comanche, Farmington NM 87401				
				_	Tel. (505) 564-2281 Fax (505) 324-2022				
Site:	Groundwate	r Sampling			Project No.: AES 110904				
Location:	Enterprise Fig	eld Services, LLC			_	Date: 6-19.			
	Lateral 6C				_	Arrival Time: 1412	(1458 SAMPLE)		
	ng Technician:	L.L			-	Air Temp: 83°			
_	e / No Purge:			-	T.C	O.C. Elev. (ft): 5580	0.32		
1	Diameter (in):	2		-		ell Depth (ft): 24.			
Confin	ai D. I.W. (ft): D. T.M. (ft).	15.41		083		(taken at initial gaugin	• •		
Confin	m D.T.W. (ft): al D.T.W. (ft):	15.41	Time: Time:	1414		_(taken prior to purging _(taken after sample co	-		
	NAPL Present:					ckness: Tim	-		
						uring Well Purging			
	T					PURGED VOLUME			
Time	Temp (deg C)	Conductivity (μS) (mS)	DO (mg/L)	nu	ORP (mV)	(see reverse for calc.)	Notes/Observations		
	15.93	7.477	3.73	pH					
1429	15.85	7.484		6.14	702.8	1.0 gal.	Cleur Hzo		
1438			3.51		-111.3	2.05al	Clear 1420		
1445	15.76	7.488	3.31 3.21		-1153	3.0 gal 4.50 apl.	den N20 Hzv Clear.		
1458	15.90	1,960	3.41	6.32	-114.8	4,50 gal.	Itzo Clear.		
			*****				***		
			<u> </u>						
			-						
	Analytical Par	amotors (include	a analysis r	nothod a	nd num	ber and type of sample	containers)		
	analytical Fall	ameters (metaut	analysis i	nethou a	na nam	ber allu type of sample	Containers		
		A-M	8260	BTO	EX_				
				***************************************		111.			
	I	Disposal of Purg	ed Water:	Into	55 ga	1. drum deliveres	d to land farm		
Col	llected Sample	es Stored on Ice	in Cooler:	Yes		`			
	Chain of C	Custody Record	Complete:	Yes					
		Analytical La	aboratory:	Hall Envi	ronment	tal Analysis Laboratory,	Albuquerque, NM		
Equip	ment Used Du	ring Sampling:	Keck Wate	r Level or	Keck Int	terface Level, YSI Water	Quality Meter		
	and Megneria postable pathen Peristaltic Pump we new tubing								
Notes/Com	otes/Comments: 4.40 aal. to be purged								
		<del>- J</del>	1 33				And the second of the second o		
revised: 08	3/10/09	· · · · · · · · · · · · · · · · · · ·		****					

MON	NITORING V	<b>WELL SAMPL</b>	ING RECO	ORD	Animas Environmental Services				
Mon	nitor Well No:	MW	<b>'-5</b>		624 E. Comanche, Farmington NM 87401				
				-	1	Tel. (505) 564-2281 Fax	_		
Site	Groundwate	r Sampling				Project No.: AES 1109			
ł		eld Services, LLC			-	Date: 6/19			
ł	Lateral 6C				-		(1124 SAMPLE)		
Samplin	ng Technician:	LL.			-	Air Temp: 740			
Purg	ge / No Purge:	Purse			T.C	D.C. Elev. (ft): 558	3.53		
Well	Diameter (in):	puge 2		_	Total We	ell Depth (ft): 25	.98		
Initi	al D.T.W. (ft):	19.21	Time:	4	(taken at initial gaugin	g of all wells)			
Confir	m D.T.W. (ft):	19.21	Time:	1008	,	(taken prior to purging	well)		
	al D.T.W. (ft):		Time:		_(taken after sample co	•			
lf N	NAPL Present:	D.T.P.:	D.T.W	·:	Thic	ckness: Tim	e:		
		Water Quali	ty Paramet	ers - Rec	orded Du	uring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1045	15.54	6.155	1.09	7.34	-29.le				
105)	15,43	6.316	0.84	7.28	-285	1.0 00	L+ Tan HZO		
1106	15.51	6.34le	1.06	7.22	-27.1	1.0 gol. 2.0 gol 3.30 gul.	Lt. Tan H20 Lt Tan H20 Lt. Tan H20 Lt Tan H20		
1124	15.68	6.377	1.15	7.22	.25.8	2.70 000	H Tu 420		
110	13100			1.22	27.0	3.30 Jue.	ci (an 1720		
· · · · · · · · · · · · · · · · · · ·									
	Analytical Day	ametars (instud	a analysis r			ber and type of sample	containers)		
	anaiyticai Para	ameters (includ	e anaiysis r	nethod a	ina numi	ber and type of sample	containers)		
			826 U	BTE	Κ				
		Disposal of Purg	ed Water:	<i>I</i> 1.140	SS 64	e. drum to bund f	n n		
Col	lected Sample	es Stored on Ice	in Cooler:	11	(	, the grade			
	Chain of C	es Stored on Ice Custody Record	Complete	7.0	?5				
	Chain of C	·	•	······			Albuquerque NAA		
<b>.</b>		•	٠,			al Analysis Laboratory,			
Equipr	ment Used Du	-				erface Level, YSI Water	(1)		
			w <del>Disposab</del>		W57	00 Sampler Pe	ristata Kunf		
Notes/Com	ments: 3	30 gol, to	be prog	ed.					
		and the state of t							
revised: 08	7/10/09								

MON	IITORING V	<b>VELL SAMPL</b>	ING REC	ORD	Animas Environmental Services				
Mon	itor Well No:	MW	-6		6	524 E. Comanche, Farmi	ngton NM 87401		
				-	1	Tel. (505) 564-2281 Fax	_		
Site:	Groundwate	r Sampling			.1	Project No.: AES 1109			
1		eld Services, LLO			<del>-</del>	Date: 6-19.			
1	Lateral 6C			Auto	-	Arrival Time: 16/5			
	g Technician:	L.L.			-	Air Temp: 90° Fe	*		
I	e / No Purge:			•	T.O.C. Elev. (ft): 5582.22				
Well	Diameter (in):			-	Total Well Depth (ft): 25.37				
Initi	al D.T.W. (ft):	12.38	Time:	0847		(taken at initial gaugin			
	m D.T.W. (ft):		Time:	1619		(taken prior to purging	• -		
	al D.T.W. (ft):		Time:	17/8		(taken after sample co	· · · · · · · · · · · · · · · · · · ·		
If N	NAPL Present:	D.T.P.:	D.T.W	.:	Thic	kness: Tim	ie:		
		Water Quali	ty Paramet	ers - Rec		uring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	· ·	1		nH	_	(see reverse for calc.)	Notes/Observations		
	(deg C)	(μS) (mS)	(mg/L)	рH					
1632	16.51	650	9.94	4.32	-175.2	1/2 gal.	Clear I gray HZB		
1640	1651	6.642	9.18	4.42	-195.9	1.0 gnl.	gray Hzo		
1454	16.93	6.844	3.10	4.70	-223.0	2.0 gal	yrus stro		
1710	16.95	6.804	536	5.63	-269.3	3.10 aul			
1715	16.86	6.836	5.35	546	26214	3.0 gal 3.5 gul.	gray/Black 1/20 gray/black		
- 1 110	16.00		3.00	3.16	26011	3.0 500	graff water		
	7.0								
,	Analytical Para	ameters (includ	e analysis ı	method a	nd numl	ber and type of sample	containers)		
		27/2	3元	V					
		000	1910	^					
	42		<del></del>						
	l	Disposal of Pur	ged Water:	Into	55 9	al. drum, deliver	ed to landfarm		
Col	llected Sample	es Stored on Ice	in Cooler:	1/05					
	Chain of C	Custody Record	Complete:	Yes					
						tal Analysis Laboratory,	Albuquerque, NM		
Equip	ment Used Du					terface Level, YSI Water			
-46-									
Notes/Carr	monte	and 00	2	1	00/0	5 Sampler Pers	Taltic lump		
Notes/Com	ments: 3.42	got to be	Jurged	pi.	- 3	well volume	cal.		
revised: 08	3/10/09								

MON	IITORING V	VELL SAMPLI	NG RECO	Animas Environmental Services						
Mon	itor Well No:	MW	-7		624 E. Comanche, Farmington NM 87401					
				-	Tel. (505) 564-2281 Fax (505) 324-2022					
Site:	Groundwater	r Sampling				Project No.: AES 1109	04			
Location:	Enterprise Fie	eld Services, LLC		-	Date: 6/19/2013					
Project:	Lateral 6C				_ Arrival Time: 1144 (1243 Sample					
Samplin	ng Technician:	66				Air Temp: 77° F				
Purg	ge / No Purge:	Purge 2		_		O.C. Elev. (ft): 5582				
1				-		ell Depth (ft): 26.				
		18.87		0824		(taken at initial gaugin				
•	m D.T.W. (ft):		Time:	1145	-	(taken prior to purging				
l .	al D.T.W. (ft):	( 8 7 7	Time: D.T.W.	1249		_(taken after sample co ckness: Tim	e:			
11 1	VAFL PIESEIIL	D.11.F.1.		· <u> </u>		.Kiless,iiii	C			
	Water Quality Parameters - Recorded During Well Purging									
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
1155	15,77	6.155	13.60	5.33	-186.3	1/2 gal.	clear 1tro			
1203	15.89	6.748	11.85	5.86	-201.5		Lt-gray H20			
1216	16.04	6.751	9.20	5,84		2.0 gal	ld grun Nzo			
1231	16.19	6.741	4.77		-217.7	3.0 ml	It gray N20 It gray N20			
1243	1668	6.747	372	5.67	-1218	2.0 gal 3.0 gal 3.65 gal	L+ gray 1120			
	1,00				001.0	)	- 4100			
,	Analytical Para	ameters (includ	e analysis i	nethod a	nd numl	ber and type of sample	containers)			
			826	0 137	EX					
		Disposal of Purg	ed Water:	Into 50	s ad.	drum to land be	2rm			
Co	llected Sample	es Stored on Ice	in Cooler:	405	J	\D				
		Custody Record								
	5		-		ronment	tal Analysis Laboratory,	Albuquerque, NM			
Faule	ment Head Du	-	-			terface Level, YSI Water				
Equip	ment oseu Du		v Disposeb							
Notes /C-	monte			<del>4e-ban</del> ci	ω3	700 sampler Per	15 Jairic Jump			
Notes/Com	iments: على ا	5 to be pur	Jea .	11 1	1 1 1.	- 11 1	Classical			
1170 0	young So	me odok-	Kluck	Soot	ikl	collected in #	low flow Cyliniar			
651 M	on ys.	L. curing	Samp	ling.						
revised: 08	8/10/09									

MON	IITORING V	VELL SAMPL	NG REC	Animas Environmental Services						
Mon	itor Well No:	MW	-8		624 E. Comanche, Farmington NM 87401					
					Tel. (505) 564-2281 Fax (505) 324-2022					
Site:	Groundwater	r Sampling			Project No.: AES 110904					
		eld Services, LLC			Date: 6-19-2013					
1	Lateral 6C				Arrival Time: (51) (603 Sample)					
		L	_	······	•	Air Temp: 86°F				
Purg	e / No Purge:	124-52			т.с	o.C. Elev. (ft): 5577	7.81			
Well (	Diameter (in):	12a-ge 2		_		ell Depth (ft): 25.				
	al D.T.W. (ft):		Time:	0843		(taken at initial gaugin	g of all wells)			
Confir	m D.T.W. (ft):	14.75	Time:	1513		_(taken prior to purging				
Fin	al D.T.W. (ft):	14.78	Time:	1607		(taken after sample co	llection)			
If N	NAPL Present:	D.T.P.:	_ D.T.W	.:	_ Thic	kness: Tim	e:			
		Water Quali	ty Paramet	ers - Reco	orded Du	uring Well Purging				
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
1526	14.50	5.985	2.42	7.07	59.9	1.0 gul.	Claim H20			
1534	16.53	5.992	1.34	6.88	-86.3	2.0 mil.	Clear Itro			
1543	14.40	4.059	1.91	658	-97.8	3.0 sul.	Clear Hzo			
1553	16.37	4.158	3.21	6.10	-969	40 aul.	Clear Hzo			
1603	16.43	6.235	4.21	5.68	-93.8	2.0 gd. 3.0 gd. 4.0 gd. 5.15 gel.	Clear Hzo			
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	14-15-									
				-						
,	Analytical Para	ameters (includ	e analysis ı	method a	nd numl	ber and type of sample	containers)			
			8260 P	STEX						
		Disposal of Purg	ed Water:	Info	55 gal	drum, delivered	to landbarn			
Col	llected Sample	es Stored on Ice	in Cooler:	Yes	0					
		Custody Record		1/						
		Analytical L	aboratory:	Hall Envi	ronment	tal Analysis Laboratory,	Albuquerque, NM			
Equip	ment Used Du	ring Sampling:	Keck Wate	r Level or	Keck Int	terface Level, YSI Water	Quality Meter			
- 1		ev and Ma				altic Pump W N				
Notes/Com	ments:						<i>J</i>			
5,15	gal. Hzo	to be purge	d. per	3 Well	volum	e cal.				
	J	- T J								
	******	· · · · · · · · · · · · · · · · · · ·								
revised: 08	8/10/09									

MON	IITORING V	VELL SAMPL	NG RECO	Animas Environmental Services					
Mon	itor Well No:	MW	-9		6	24 E. Comanche, Farmi	ngton NM 87401		
				-	l .	Tel. (505) 564-2281 Fax			
Site:	Groundwate	r Sampling				Project No.: AES 1109			
Location:	Enterprise Fi	eld Services, LLC			•	Date: 6/19/	2013		
Project:	Lateral 6C				_	Arrival Time: 6355	1000 SAMPLE		
	ng Technician:					Air Temp:	71° F		
Purg	ge / No Purge:	Durge	4.31 ga	<i>l</i> .		O.C. Elev. (ft): 5582			
Well (	Diameter (in):	2		_	Total We	ell Depth (ft): 26.			
		17.42				_(taken at initial gaugin			
Confir	m D.T.W. (ft):	17.42		0856		_(taken prior to purging	•		
	al D.T.W. (ft):			1002		_(taken after sample co			
If N	IAPL Present:	D.T.P.:	_ D.T.W.	· <b>-</b>	Thic	kness: Tim	e:		
	·	Water Quali	ty Paramet	ers - Reco	orded Du	uring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
0926	14.56	6.341	1.31	7.59	16.2	1/2 gal.			
0931	14.04	6,302	2.18	7.42	-13.5	1.0 gol 2.0 gol 3.0 gol 4.35 gol	Clear Hzo		
0940	14.01	6.304	3.65	7.29	-8-5	20001			
0948			1.40	, , , ,		70900			
1000	14.08	6.280,	1.82	7.26		11 2 pm 0	1/20 cleave		
1000	14.14	4.265	1.00	7.26	12.1	7.39 gal,	170 CLEAVE		
	1 1 2 1 5								
, , , , , , , , , , , , , , , , , , ,	Analytical Para	ameters (includ	e analysis r	nethod a	nd numi	ber and type of sample	containers)		
			3.2	Leo 1	37E)	ζ			
						`			
		Disposal of Purg	ed Water:	Into	55 ac	al. down to Etec	ch lond farm		
Col	lected Sample	es Stored on Ice	in Cooler:	Vac	- )		/		
		Custody Record							
	Sham of C		•		ronmont	tal Analysis Laboratory	Albuquerque NM		
an		-	٠.			tal Analysis Laboratory,			
						terface Level, YSI Water			
Dlow	flow	and Ne	w Disposab	ie bailer	en	WS 100 Sample	rerista Ific		
Notes/Com	ments: 4.3	1 gal to be	pryged	@ 3 W	MIC NO	WS700 Sample Slume cakulation	· · · · · · · · · · · · · · · · · · ·		
		<i>J</i>							
revised: 08	/10/09								

**9**97

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

OrderNo.: 1306922

June 28, 2013

Heather Woods
Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 716-2787

FAX (505) 324-2022

RE: Enterprise Lateral 6-C

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/21/2013 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. 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,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Project: Enterprise Lateral 6-C

1306922-001 Lab ID:

Client Sample ID: MW-8

Collection Date: 6/19/2013 4:03:00 PM

Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst	: DJF
Benzene	21	1.0	μg/L	1	6/24/2013 2:38:49 PM	R11529
Toluene	12	1.0	μg/L	1	6/24/2013 2:38:49 PM	R11529
Ethylbenzene	ND	1.0	μg/L	1	6/24/2013 2:38:49 PM	R11529
Xylenes, Total	6.8	2.0	μg/L	1	6/24/2013 2:38:49 PM	R11529
Surr: 1,2-Dichloroethane-d4	94.4	70-130	%REC	1	6/24/2013 2:38:49 PM	R11529
Surr: 4-Bromofluorobenzene	91.9	69.5-130	%REC	1	6/24/2013 2:38:49 PM	R11529
Surr: Dibromofluoromethane	93.9	70-130	%REC	1	6/24/2013 2:38:49 PM	R11529
Surr: Toluene-d8	82.7	70-130	%REC	1	6/24/2013 2:38:49 PM	R11529

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

- Not Detected at the Reporting Limit Page 1 of 10 Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

## Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services Client Sample ID: MW-4

Project: Enterprise Lateral 6-C Collection Date: 6/19/2013 2:58:00 PM

Lab ID: 1306922-002 Matrix: AQUEOUS Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	SHORT LIST				Analys	: DJF
Benzene	600	20	μg/L	20	6/24/2013 3:10:40 PM	R11529
Toluene	45	10	μg/L	10	6/21/2013 6:20:40 PM	R11506
Ethylbenzene	ND	10	μg/L	10	6/21/2013 6:20:40 PM	R11506
Xylenes, Total	ND	20	μg/L	10	6/21/2013 6:20:40 PM	R11506
Surr: 1,2-Dichloroethane-d4	89.9	70-130	%REC	10	6/21/2013 6:20:40 PM	R11506
Surr: 4-Bromofluorobenzene	95.3	69.5-130	%REC	10	6/21/2013 6:20:40 PM	R11506
Surr: Dibromofluoromethane	92.3	70-130	%REC	10	6/21/2013 6:20:40 PM	R11506
Surr: Toluene-d8	89.2	70-130	%REC	10	6/21/2013 6:20:40 PM	R11506

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

**Project:** Enterprise Lateral 6-C

Lab ID: 1306922-003

Client Sample ID: MW-9

Collection Date: 6/19/2013 10:00:00 AM

Matrix: AQUEOUS Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Qu	RL Qual Units		Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst	DJF
Benzene	ND	1.0	μg/L	1	6/21/2013 6:52:27 PM	R11506
Toluene	ND	1.0	μg/L	1	6/21/2013 6:52:27 PM	R11506
Ethylbenzene	ND	1.0	μg/L	1	6/21/2013 6:52:27 PM	R11506
Xylenes, Total	ND	2.0	μg/L	1	6/21/2013 6:52:27 PM	R11506
Surr: 1,2-Dichloroethane-d4	89.9	70-130	%REC	1	6/21/2013 6:52:27 PM	R11506
Surr: 4-Bromofluorobenzene	91.7	69.5-130	%REC	1	6/21/2013 6:52:27 PM	R11506
Surr: Dibromofluoromethane	89.0	70-130	%REC	1	6/21/2013 6:52:27 PM	R11506
Surr: Toluene-d8	87.4	70-130	%REC	1	6/21/2013 6:52:27 PM	R11506

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - Page 3 of 10
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

## Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

**Project:** Enterprise Lateral 6-C

Lab ID: 1306922-004

Client Sample ID: MW-7

Collection Date: 6/19/2013 12:43:00 PM

Received Date: 6/21/2013 9:50:00 AM

Analyses	alyses Result RL Qual Units				Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst	: DJF
Benzene	ND	1.0	μg/L	1	6/21/2013 7:24:12 PM	R11506
Toluene	ND	1.0	μg/L	1	6/21/2013 7:24:12 PM	R11506
Ethylbenzene	ND	1.0	μg/L	1	6/21/2013 7:24:12 PM	R11506
Xylenes, Total	ND	2.0	μg/L	1	6/21/2013 7:24:12 PM	R11506
Surr: 1,2-Dichloroethane-d4	88.9	70-130	%REC	1	6/21/2013 7:24:12 PM	R11506
Surr: 4-Bromofluorobenzene	96.9	69.5-130	%REC	1	6/21/2013 7:24:12 PM	R11506
Surr: Dibromofluoromethane	88.8	70-130	%REC	1	6/21/2013 7:24:12 PM	R11506
Surr: Toluene-d8	82.5	70-130	%REC	1	6/21/2013 7:24:12 PM	R11506

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page
  - P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

## Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Project: Enterprise Lateral 6-C

Lab ID:

1306922-005

Client Sample ID: MW-3

Collection Date: 6/19/2013 1:55:00 PM

Matrix: AQUEOUS Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	Result RL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analysi	: DJF
Benzene	780	50	μg/L	50	6/24/2013 3:42:33 PM	R11529
Toluene	130	50	μg/L	50	6/24/2013 3:42:33 PM	R11529
Ethylbenzene	2.5	1.0	μg/L	1	6/21/2013 7:55:54 PM	R11506
Xylenes, Total	15	2.0	μg/L	1	6/21/2013 7:55:54 PM	R11506
Surr: 1,2-Dichloroethane-d4	94.0	70-130	%REC	1	6/21/2013 7:55:54 PM	R1150€
Surr: 4-Bromofluorobenzene	95.7	69.5-130	%REC	1	6/21/2013 7:55:54 PM	R11506
Surr: Dibromofluoromethane	96.8	70-130	%REC	1	6/21/2013 7:55:54 PM	R11506
Surr: Toluene-d8	78.8	70-130	%REC	1	6/21/2013 7:55:54 PM	R11506

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Page 5 of 10
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Project: Enterprise Lateral 6-C

Lab ID: 1306922-006

**Client Sample ID:** MW-6

Collection Date: 6/19/2013 5:15:00 PM

Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	:: DJF
Benzene	9.6	5.0	μg/L	5	6/24/2013 4:46:21 PM	R11529
Toluene	6.2	5.0	μg/L	5	6/24/2013 4:46:21 PM	R11529
Ethylbenzene	150	5.0	μg/L	5	6/24/2013 4:46:21 PM	R11529
Xylenes, Total	1100	100	μg/L	50	6/24/2013 4:14:28 PM	R11529
Surr: 1,2-Dichloroethane-d4	88.0	70-130	%REC	5	6/24/2013 4:46:21 PM	R11529
Surr: 4-Bromofluorobenzene	102	69.5-130	%REC	5	6/24/2013 4:46:21 PM	R11529
Surr: Dibromofluoromethane	95.3	70-130	%REC	5	6/24/2013 4:46:21 PM	R11529
Surr: Toluene-d8	85.6	70-130	%REC	5	6/24/2013 4:46:21 PM	R11529

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 4
  - P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Project: Enterprise Lateral 6-C

Lab ID: 1306922-007

Client Sample ID: MW-5

Collection Date: 6/19/2013 11:24:00 AM

Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	: DJF
Benzene	ND	1.0	μg/L	1	6/21/2013 8:59:15 PM	R11506
Toluene	ND	1.0	μg/L	1	6/21/2013 8:59:15 PM	R11506
Ethylbenzene	ND	1.0	μg/L	1	6/21/2013 8:59:15 PM	R11506
Xylenes, Total	ND	2.0	μg/L	1	6/21/2013 8:59:15 PM	R11506
Surr: 1,2-Dichloroethane-d4	94.4	70-130	%REC	1	6/21/2013 8:59:15 PM	R11506
Surr: 4-Bromofluorobenzene	90.8	69.5-130	%REC	1	6/21/2013 8:59:15 PM	R11506
Surr: Dibromofluoromethane	94.1	70-130	%REC	1	6/21/2013 8:59:15 PM	R11506
Surr: Toluene-d8	93.0	70-130	%REC	1	6/21/2013 8:59:15 PM	R11506

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 7 of 10
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Lab Order 1306922

Date Reported: 6/28/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Client Sample ID: Trip Blank

Project: Enterprise Lateral 6-C

**Collection Date:** 

Lab ID: 1306922-008

Matrix: TRIP BLANK Received Date: 6/21/2013 9:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst	: DJF
Benzene	ND	1.0	μg/L	1	6/21/2013 9:31:03 PM	R11506
Toluene	ND	1.0	μg/L	1	6/21/2013 9:31:03 PM	R11506
Ethylbenzene	ND	1.0	μg/L	1	6/21/2013 9:31:03 PM	R11506
Xylenes, Total	ND	2.0	μg/L	1	6/21/2013 9:31:03 PM	R11506
Surr: 1,2-Dichloroethane-d4	85.0	70-130	%REC	1	6/21/2013 9:31:03 PM	R11506
Surr: 4-Bromofluorobenzene	92.9	69.5-130	%REC	1	6/21/2013 9:31:03 PM	R11506
Surr: Dibromofluoromethane	88.8	70-130	%REC	1	6/21/2013 9:31:03 PM	R11506
Surr: Toluene-d8	87.9	70-130	%REC	1	6/21/2013 9:31:03 PM	R11506

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

P

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1306922 28-Jun-13

Client:

Animas Environmental Services

Project:

Enterprise Lateral 6-C

Sample ID 5ml rb Client ID: PBW	•	SampType: MBLK Batch ID: R11506			TestCode: EPA Method 8260: Volatiles Short List RunNo: 11506						
Prep Date:	Analysis Date: 6/21/2013		·	SeqNo: 325457							
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									
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.1	70	130				
Surr: 4-Bromofluorobenzene	9.4		10.00		93.5	69.5	130				
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130				
Surr: Toluene-d8	8.4		10.00		83.8	70	130				

Sample ID 100ng Ics	SampType: LCS TestCode: EPA Method 8260: Volatiles Short List						.ist			
Client ID: LCSW	Batch	Batch ID: R11506 RunNo: 11506								
Prep Date:	Analysis D	ate: 6/	21/2013 SeqNo: 325458				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.0	70	130			
Toluene	20	1.0	20.00	0	99.9	80	120			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	69.5	130			
Surr: Dibromofluoromethane	8.7		10.00		87.0	70	130			
Surr: Toluene-d8	8.9		10.00		89.0	70	130			

Sample ID 5ml rb	SampType: MBLK TestCode: EPA Method 8260: Volatiles Short List						_ist			
Client ID: PBW	Batch	ID: <b>R1</b>	1529	F	RunNo: 1	1529				
Prep Date:	Analysis D	ate: 6/	24/2013	8	SeqNo: 3	26775	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								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.6	69.5	130			
Surr: Dibromofluoromethane	9.3		10.00		93.1	70	130			
Surr: Toluene-d8	8.1		10.00		81.4	70	130			

Sample ID 100ng Ics	SampTy	SampType: LCS TestCode: EPA Method 8260: Volatiles Short List								
Client ID: LCSW		ID: <b>R1</b>			RunNo: 1					
Prep Date:	Analysis Da	ate: <b>6</b> /	24/2013	8	SeqNo: 3	26776	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.3	70	130			

#### Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

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## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1306922

28-Jun-13

Client:

Animas Environmental Services

**Project:** 

Enterprise Lateral 6-C

Sample ID 100ng Ics	SampT	ype: LC	s	TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch	1D: <b>R1</b>	1529	RunNo: 11529							
Prep Date:	Analysis D	ate: 6/	24/2013	5	SeqNo: 3	26776	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Toluene	19	1.0	20.00	0	97.1	80	120				
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		100	69.5	130				
Surr: Dibromofluoromethane	8.7		10.00		87.3	70	130				
Surr: Toluene-d8	8.6		10.00		85.6	70	130				

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Animas Env	vironmental Work Orde	er Number: 1306	922		RoptN	lo: 1		
Received by/date: M4	- 06/21/13							
Logged By: Michelle G	Garcia 6/21/2013 9:	:50:00 AM		Michelle (	Goneir			
Completed By: Michelle G	Sarcia 6/21/2013 10	0:30:26 AM	M Mitalle Consider					
Reviewed By:	2 nulai	2017		•	7			
Chain of Custody	- J 0012	2013	•					
1. Custody seals intact on sa	ample bottles?	Yes		No :	Not Present	•		
2. Is Chain of Custody comp	plete?	Yes	<b>-</b>	No !	Not Present			
3. How was the sample deliv	vered?	Cot	<u>irier</u>					
<u>Log In</u>								
4. Was an attempt made to	cool the samples?	Yes	s <b>v</b>	<b>N</b> o	NA			
5. Were all samples receive	ed at a temperature of >0° C to 6	3.0°C Yes	. <b>√</b> i	No :	NA			
6. Sample(s) in proper conta	ainer(s)?	Ye	s ' <b>∨</b> i	No	t ,			
7. Sufficient sample volume	for indicated test(s)?	Yes		No .				
8. Are samples (except VOA	A and ONG) properly preserved?	Yes	<b>√</b> i	No :				
9. Was preservative added t	to bottles?	Yes	:	No 🗸	NA			
10.VOA vials have zero head	dspace?	Yes		No i	No VOA Vials			
11. Were any sample contain	ners received broken?	Yes	3	No 🗸				
					# of preserved bottles checked			
12. Does paperwork match be		Yes	<b>~</b>	No i	1	2 or >12 unless noted)		
(Note discrepancies on ch 13. Are matrices correctly ide		Yes	<b>V</b>	No i	4.00.1.10	2 of 212 unless noted)		
14. Is it clear what analyses v	•		~	No	1			
15. Were all holding times ab (If no, notify customer for	ple to be met?	Yes	<b>√</b> i	No	Checked by	y:		
Consist Handling /6								
Special Handling (if app								
16. Was client notified of all d	discrepancies with this order?	Yes	1	No i	NA V	•		
Person Notified:	The second secon	Date:	Total State	The Secretary of the Se	-			
By Whom:	THE RESIDENCE OF THE PROPERTY	Via: eM	ail ,	Phone Fa	x In Person			
Regarding:								
Client Instructions:  17. Additional remarks;	1							
18. Cooler Information Cooler No Temp °C 1 1.0	Condition   Seal Intact   Sea   Good   Yes	eal No   Seat D	ate	Signed By	_			

Pate   Time   Matrix   Sample   Request   D   Container   Type   Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> )   BZE   Pate   Anions (F,CI,NO <sub>3</sub> ,NO <sub>4</sub> )   BZE   Pate   Pate	L RY
	Air Rithhlan W 111
	<u>                                      </u>
<del>-/</del>	-
	-
1243 HZO MW-7 VOA 3 HCL -704 X X X X X X X X X X X X X X X X X X X	-
115 HZO MW-6 VOA3 HCL -006 X	-
1124 HZO MW-5 VOA3 HZL COO7	_
Trip Blank VOAZ HCL -008	
	1
	+
Date: Time: Relinquished by:  Received by: Date Time Remarks:    20   3   1737	