

**3R – 438**

**Q4 2013 GWMR**

**08 / 13 / 2014**



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

ENTERPRISE PRODUCTS OPERATING LLC

August 13, 2014

Submitted via email w/delivery confirmation: Jim Griswold@state.nm.us

Mr. Jim Griswold, Environmental Bureau Chief  
New Mexico Energy, Minerals & Natural Resources  
Department - Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Attn: Glenn Von Gonten

**Re: 4<sup>th</sup> Quarter 2013 Groundwater Monitoring and  
Continued Investigation Report  
Enterprise Field Services, LLC  
Trunk 6C (10/29/13 Release) (Formerly Lateral 6C)  
NMOCD Order Number: 3RP-438-0  
NE $\frac{1}{4}$  SW $\frac{1}{4}$ , Section 26, T28N, R11W  
San Juan County, New Mexico**

Dear Mr. Griswold:

Enterprise Field Services, LLC (Enterprise) is submitting the attached report entitled: *4<sup>th</sup> Quarter 2013 Groundwater Monitoring and Continued Investigation Report* for the Trunk 6C (10/29/13 Release), dated July 23, 2014. This report documents the results of the sixth consecutive quarterly groundwater monitoring and sampling event conducted at the above-referenced release site during September 2013, and the fourth quarter sampling event for 2013.

Additionally, this report details aquifer testing conducted in December 2013, as well as the release assessment conducted in response to a second release discovered at the site on October 29, 2013. Four (4) additional monitor wells (MW-10 through MW-13), were installed during this assessment. Note that the initial release occurred at this location on September 21, 2011. The initial release site was referred to as Lateral 6C. Enterprise now references the site as: Trunk 6C (10/29/13 Release). GPS coordinates for the site are: 36.631970, -107.974080.

During this quarterly event, a total of eleven (11) monitor wells (MW-3 through MW-13) were sampled for dissolved-phase constituents. Two (2) monitor wells (MW-1 and MW-2) contained measurable accumulations of non-aqueous phase liquid (NAPL), and were not sampled. Due to the presence of benzene concentrations in downgradient monitor well MW-10, additional downgradient monitor wells will be installed to complete delineation of the dissolved-phase groundwater plume.

Enterprise is evaluating remedial alternatives for the site, including air sparging and soil vapor extraction (SVE). A pilot test may be conducted to aid in the design and implementation of a remediation system at the location.

If you have any questions concerning the attached report, please do not hesitate to contact me at (713) 381-2286, or via email at: [drsmith@eprod.com](mailto:drsmith@eprod.com).

Sincerely,



David R. Smith, P.G.  
Sr. Environmental Scientist



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

/dep

Attachment

ec: Glenn Von Gonten, New Mexico Oil Conservation Division, Santa Fe, NM  
Mark Kelly, Bureau of Land Management, Farmington, NM  
Shari Ketcham, Bureau of Land Management, Farmington, NM  
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July 23, 2014

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**RE: 4<sup>th</sup> Quarter 2013 Groundwater Monitoring and Continued Investigation Report  
Enterprise Field Services, LLC  
Trunk 6C September 2011 Pipeline Release (Former Lateral 6C)  
NMOCD Order Number: 3RP-438-0  
NE¼ SW¼, 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 *4<sup>th</sup> Quarter 2013 Groundwater Monitoring and Continued Investigation Report* for the Trunk 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 sixth consecutive quarterly monitoring and sampling event for the subject release location and the fourth quarter sampling event for 2013. Additionally, this report details aquifer testing conducted by AES in December 2013 as well as the release assessment conducted in response to a second release discovered at the site on October 29, 2013. Note that both releases will be investigated and reported on together.

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## 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 locations (September 21, 2011 and October 29, 2013) 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)

The ranking score 40 dictates that concentrations for impacted soils left in place must be below the NMOCD action levels of 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

## *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. A second release of an unknown volume of natural gas and liquids was discovered at the same location on October 29, 2013, and is discussed in further detail in Section 4.0.

### **1.2.1 Initial Release Assessment**

AES personnel met with Enterprise representatives at the release location on September 22, 2011. Following the pipeline repair on September 23, 2011, AES collected one soil sample from the base of the small repair excavation at 6 feet 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 holes excavated 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 BTEX and TPH (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 (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 µg/L benzene, 15,000 µg/L toluene, and 6,700 µg/L xylene. Detailed laboratory results were summarized in the AES letter report entitled *Soil and Groundwater Sampling Results* and dated October 28, 2011. Sample locations and results are included on Figure 3.

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 µg/L benzene, 5,700 µg/L toluene, and 4,000 µg/L xylenes. Sample locations and results are included on Figure 3.

### **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 each advanced to depths 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 µg/L for benzene in MW-1 (2,200 µg/L), MW-2 (270 µg/L), MW-4 (18 µg/L), and MW-8 (41 µg/L). Additionally, dissolved phase toluene above the WQCC standard of 750 µg/L was reported in MW-2 with 1,100 µg/L, and xylene above the WQCC standard of 620 µg/L was reported in MW-1 (650 µg/L), MW-2 (1,800 µg/L), and MW-6 (2,200 µg/L). Sample locations and results are included on Figure 4.

#### **1.2.5 Groundwater Monitoring and Sampling – December 2012**

Site monitor wells were monitored and sampled by AES on December 20, 2012. Laboratory results showed dissolved phase benzene concentrations above the WQCC standard of 10 µg/L in two wells, including MW-1 (1,100 µg/L) and MW-2 (26 µg/L). Also, dissolved phase xylene concentrations were above the WQCC standard of 620 µg/L in MW-6 with 1,200 µg/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 reported dissolved phase benzene concentrations above the WQCC standard of 10 µg/L in two wells, including MW-4 (290 µg/L) and MW-8 (41 µg/L). Dissolved phase xylene concentrations were above the WQCC standard of 620 µg/L in MW-6 with 800 µg/L. Details of the groundwater sampling event were presented in the *Quarterly Groundwater Sampling Report* dated May 13, 2013.

#### **1.2.7 Groundwater Monitoring and Sampling – June 2013**

AES completed site monitoring and sampling on June 19, 2013. 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). Laboratory results confirmed dissolved phase benzene concentrations above the WQCC standard of 10 µg/L in three wells, including MW-3 (780 µg/L), MW-4 (600 µg/L), and MW-8 (21 µg/L). Dissolved phase xylene concentrations were above the WQCC standard of 620 µg/L in MW-6 with 1,100 µg/L. Details of the groundwater sampling

event were presented in the *Quarterly Groundwater Sampling Report* dated August 26, 2013.

#### **1.2.8 Groundwater Monitoring and Sampling – September 2013**

AES completed site monitoring and sampling on September 17 and 18, 2013. NAPL was observed for the third consecutive quarter in MW-1 (0.48 feet) and for the second quarter in MW-2 (0.14 feet). Laboratory results confirmed dissolved phase benzene concentrations above the WQCC standard of 10 µg/L in two wells, including MW-3 (150 µg/L) and MW-4 (830 µg/L). Dissolved phase xylene concentrations were above the WQCC standard of 620 µg/L in MW-6 with 1,200 µg/L.

#### **1.2.9 Monitor Well Installation - October 2013**

Four additional monitor wells (MW-10 through MW-13) were installed on October 16, 2013, in order to further delineate the lateral extent of groundwater contaminant impact. Soil laboratory analytical results reported benzene, total BTEX, and TPH concentrations below the laboratory detection limits in MW-11 through MW-13. The soil benzene concentration in MW-10 at 13.5 to 14 feet was below the NMOCD action levels of 10 mg/kg; however, total BTEX and TPH concentrations exceeded the NMOCD action levels of 50 mg/kg total BTEX and 100 mg/kg TPH (as GRO/DRO) with 52 mg/kg total BTEX and 541 mg/kg TPH. Details of the groundwater sampling and monitor well installation event were presented in the *Quarterly Groundwater Monitoring and Well Installation Report* dated December 10, 2013. Sample locations and results are included on Figure 4.

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## **2.0 Groundwater Monitoring and Sampling – December 2013**

On December 16, 2013, groundwater monitoring and sampling were conducted by AES in MW-1 through MW-14, and samples were collected from MW-3 through MW-13 for laboratory analyses. 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. During this sampling event, NAPL was observed for the fourth consecutive quarter in MW-1 (0.16 feet) and for the third consecutive quarter in MW-2 (0.06 feet). Groundwater elevations increased by an average of 0.30 feet across the site,

and depths to groundwater were observed to range from 14.81 feet below top of casing (TOC) in MW-8 to 19.88 feet below TOC in MW-13. The groundwater gradient was calculated to be approximately 0.006 foot/foot to the northwest. Groundwater gradient contours are included on Figure 5.

Following depth to water measurement, each well was purged with a peristaltic pump or new 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 13.21°C in MW-11 to 17.75°C in MW-4, and conductivity ranged from 6.731 mS in MW-13 to 10.140 mS in MW-10. DO concentrations were between 0.31 mg/L in MW-10 and 2.46 in MW-8, and pH ranged from 7.16 in MW-4 to 7.65 in MW-11. Depth to groundwater measurements and water quality data are summarized in Table 1. Water Sample Collection forms are presented in Appendix A.

## **2.2 Groundwater Laboratory Analyses**

Groundwater samples were collected using low flow purging techniques with a peristaltic pump or new disposable bailer from a total of 11 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.

### **2.2.1 Groundwater Analytical Results**

Groundwater laboratory analytical results showed that dissolved phase benzene concentrations were above the WQCC standard of 10 µg /L in MW-3 (660 µg/L), MW-4 (300 µg/L), MW-8 (18 µg/L) and MW-10 (950 µg/L). Dissolved phase xylene concentrations were above the WQCC standard of 620 µg /L in MW-6 with 990 µg/L. Dissolved phase toluene and ethylbenzene concentrations were below the WQCC standard of 750 µg/L in all wells sampled. Tabulated groundwater analytical results are presented in Table 2 and on Figure 6, and dissolved phase benzene and xylene contours are presented on Figures 7 and 8, respectively. Groundwater laboratory analytical reports are presented in Appendix B.

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## **3.0 Aquifer Testing – December 2013**

In order to assist in develop a remedial system design, short term steady-state pumping tests were conducted by AES in December 2013 in four wells (MW-6 through MW-9) to estimate localized hydraulic conductivity (K) using drawdown and recovery analysis.

### 3.1 Pumping Test Setup

Pumping tests were performed with a Proactive Tornado® pump. Note that the pump was not outfitted with a check valve, thus to provide reliable recovery data the discharge tube was plugged at the time the pump was turned off. The drawdown and recovery data were monitored and recorded with an In-Situ Level Troll 700 transducer. The transducer is equipped with an internal data logger capable of collecting four samples per second. The transducer was initially set to measure 0.25 second intervals and increasing to 60 seconds until the well recovered to the pre-test water level elevation. Drawdown in the wells was observed to reach a quasi-steady state indicating equal recharge to discharge, and at that time the pumping was terminated and the well was allowed to recover. The flow rate was determined by the time it took to fill a five gallon container. For each well, the flow rate was measured a minimum of five times with the average rate used in the analysis.

### 3.2 Pumping Test Analysis

The results of the pumping test were analyzed using aquifer testing software AQTESOLV<sup>1</sup>. Parameters for model input included:

- Test type (pumping from single well);
- Well radius (0.083 feet);
- Estimated saturated thickness (well dependent, Table 3);
- Partially penetrating well;
- Pumping rate (test dependent); and
- Displacement observation (test dependent).

The software output includes transmissivity (T) and storativity (S). However, the storage values were not utilized, since there were no observation wells used in the tests. Using the transmissivity (T) and estimated saturated thickness (b), approximate localized hydraulic conductivity (K) can be determined with the following equation:

$$K = \frac{T}{b} \quad (1)$$

For each well tested, the results were pre-plotted to determine which data collected was appropriate for analysis. These short term pumping tests resulted in drawdown to quasi-steady state, a period of equal pumping and recharge, and the recovery period. The

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<sup>1</sup> AQTESOLV® for Windows®, Version 4.5 – PROFESSIONAL (Product Version 4.500.002). AQTESOLV is a registered trademark of Arcadis Geraghty & Miller, Inc. Windows® is a registered trademark of Microsoft Corporation.

drawdown and recovery data were used to estimate localized K. In general, recovery data is used to verify the accuracy of the pumping data (Driscoll, 1986). However, in many cases the recovery data is more reliable due to the absence of the effects of pumping and well interferences.

In AQTESOLV, the Theis (1935) method was used for pumping analysis. Theis (1935) solution is applicable to an unconfined aquifer by drawdown correction with the following equation (Kruseman and de Ridder, 1990):

$$s' = s - s^2 / 2b \quad (2)$$

Where,

$s'$  = corrected displacement (ft),

$s$  = observed displacement (ft), and

$b$  = saturated thickness

In AQTESOLV, the three methods used for recovery analysis include: Neuman (1974), Moench (1997), and Tartakovsky-Neuman (2007). Neuman (1974) derived a solution for unsteady flow to a fully penetrating well in a homogeneous, anisotropic unconfined aquifer. Moench (1997) also derived a solution for unsteady flow to a fully penetrating, finite-diameter well with wellbore storage and wellbore skin in a homogeneous, anisotropic unconfined aquifer (Moench, 1997). Tartakovsky-Neuman (2007) derived a solution for unsteady-state flow to a fully penetrating well in a homogeneous, anisotropic unconfined aquifer, which assumes a line source for the pumped well and therefore neglects wellbore storage.

### 3.3 Pumping Test Results

The pumping tests were analyzed for localized K during drawdown and recovery. Drawdown in the wells reached a quasi-steady state of discharge and recharge, and drawdown data was analyzed with the Theis (1935) method in AQTESOLV. The average hydraulic conductivity estimate for the four wells tested using drawdown analysis was  $5.27 \times 10^{-3}$  cm/sec. The drawdown results are summarized in Appendix C.

The recovery data was analyzed using the three methods previously mentioned by both residual drawdown and Agarwal Equivalent Time. In general, the curve matching for the residual drawdown was well matched at late time, while the Agarwal Equivalent Time was overall a better match (i.e. early, mid, and late). The average hydraulic conductivity estimate for the four wells tested using recovery analysis was  $8.81 \times 10^{-3}$  cm/sec. The detailed recovery results and the graphs for the AQTESOLV data analyses are included in Appendix C.

In general, the results of the drawdown and recovery are reasonably matched within the same order of magnitude. The average K value of the recovery analysis is about 1.5 times

greater than the average K value from drawdown (Theis Method). One possible reason for the difference between drawdown and recovery is that the recovery curves were monitored with 60 second intervals. Generally, the first 10 minutes of well recovery would be monitored in short interval such as 0.25 to 0.50 seconds to capture early recovery and then increase with time until the well is fully recovered (Driscoll, 1986).

When comparing the range of K estimates from this study with the site soil boring logs and documented ranges of unconsolidated material, each fall within the expected range for the relevant material. The range of drawdown (2.23E-03 to 8.01E-03 cm/sec) and recovery (6.88E-03 to 1.19E-02 cm/sec) is consistent with the range for unconsolidated coarse sand (9.0E-05 to 6.0E-01 cm/sec) to fine sand (2.0E-05 to 2.0E-02 cm/sec) (Domenico and Schwartz, 1990).

Based on the hydraulic gradient (0.006 feet/feet) at Lateral 6C, the average linear velocity at the site can be determined with the following equation (Fetter, 2001):

$$v_x = -\frac{Kdh}{n_e dl} \quad (4)$$

Where,

$v_x$ =average linear velocity

K=hydraulic conductivity

$n_e$ =effective porosity

dh/dl=hydraulic gradient

The average linear velocity estimates for a range of porosity from sand and gravel mixed (20 to 35 percent) to well sorted sand and gravel (25 to 50 percent) (based on Meinzer (1923); Davis (1969); Cohen (1965); and MacCary and Lambert (1962) cited in Fetter (2001, p. 75)) are summarized in Table C-4 (Appendix C). The low end of the estimated range of average linear velocity is consistent with the distance the plume has migrated since the 2011 release. This estimate is based on the premise that the center of mass of solute is moving at the same rate as the average linear velocity (i.e. the highest concentration of 1,000 µg/L) and the dispersion of solutes is expected. Appendix C includes all data, graphs, and results for the aquifer testing.

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## 4.0 October 2013 Pipeline Release Assessment

A release of an unknown volume of natural gas and pipeline liquids was discovered on October 28, 2013, in approximately the same location as the September 2011 release location. The pipeline was removed from service, and an initial excavation for pipeline repair access was completed.



On November 1, 2013, Heather Woods of AES completed the initial assessment field work. The assessment included the collection of six soil samples (C-1 through C-6) from the walls and base of the initial excavation and seven soil samples from one soil boring (SB-1) advanced into the base of the initial excavation immediately adjacent to the release location. The area of the initial excavation measured approximately 54 feet by 15 feet by 6 feet in depth. Sample locations from the initial assessment are included on Figure 9.

Following pipeline repair activities, AES returned to the location on December 17, 2013, to provide excavation guidance and collect confirmation soil samples from the final excavation. Field screening activities included the collection of 20 discrete soil samples (S-1 through S-20) from the walls and base of the excavation. The excavation was limited to the northwest and northeast by additional pipeline crossings. The area of the final excavation measured approximately 1,600 square feet by 15 feet in depth. The pipeline segment had been filled with inert nitrogen gas and removed from service. Contaminated soils were transported to Envirotech Landfarm, and the excavation was backfilled with clean, imported material. Sample locations and final excavation extents are shown on Figure 10. The Bills of Lading are included in Appendix D, and a photograph log is included in Appendix E.

#### *4.1 Field Screening*

Field screening for VOC vapors was conducted with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 parts per million (ppm) isobutylene gas.

#### *4.2 Laboratory Analyses*

Samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto a sample chain of custody record. Samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Laboratory (Hall), in Albuquerque, New Mexico. Soil samples were laboratory analyzed for:

- BTEX per USEPA Method 8021B; and
- TPH (GRO/DRO) per USEPA Method 8015D.

#### *4.3 Field Screening and Laboratory Analytical Results*

On November 1, 2013, initial assessment field screening results for VOCs via OVM showed concentrations ranging from 243 ppm in C-4 up to 1,420 ppm in C-1. On December 17, 2013, final excavation field screening results for VOCs via OVM ranged from 10.5 ppm in

S-14 up to 4,230 ppm in S-3. Field screening results are summarized in Table 3 and presented on Figures 9 and 10.

Laboratory analytical results from the final excavation showed that benzene concentrations ranged from below laboratory detection limits for all the samples, except S-2 (66 mg/kg), S-3 (21 mg/kg), and S-10 (0.63mg/kg). Total BTEX concentrations ranged from below laboratory detection limits in S-11 and S-17 up to 1,330 mg/kg in S-2. TPH concentrations ranged from below laboratory detection limits in S-11, S-17, and S-18, up to 15,320 mg/kg in S-2. Soil laboratory analytical results are included in Table 4 and on Figure 10. The laboratory analytical reports are included in Appendix F.

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## 5.0 Conclusions and Recommendations

A total of 13 monitor wells (MW-1 through MW-13) were monitored and sampled at the Trunk 6C (Formerly Lateral 6C) September 2011 pipeline release location by AES on December 16, 2013. Note that during this sampling event, NAPL was observed for the fourth consecutive quarter in MW-1 (0.16 feet) and for the third consecutive quarter in MW-2 (0.06 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 µg/L in four wells, including MW-3 (660 µg/L), MW-4 (300 µg/L), MW-8 (18 µg/L), and MW-10 (950 µg/L). Also, dissolved phase xylene concentrations were above the WQCC standard of 620 µg /L in MW-6 with 990 µg/L. 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.

Short term steady-state pumping tests were conducted in December 2013 in four wells (MW-6 through MW-9) to estimate localized hydraulic conductivity using drawdown and recovery analysis. The results of the pumping tests were analyzed using aquifer testing software AQTESOLV. The Theis method was used for drawdown analysis and the Neuman, Moench, and Tartakovsky-Neuman methods were used for recovery analysis for both residual drawdown and Agarwal Equivalent Time. The average hydraulic conductivity estimate using drawdown analysis was 5.27E-03 cm/sec and using recovery analysis was 8.81E-03 cm/sec. The low end of the estimated range of average linear velocity is consistent with the distance the plume has migrated since the September 2011 release.

Additionally, on November 1, 2013, AES conducted an initial assessment of petroleum contaminated soils associated with a secondary release natural gas and pipeline liquids at

the location (October 2013 Release). Initial assessment field screening results were above the NMOCD action level of 100 ppm VOCs for all the samples collected, with the highest concentration recorded in C-1 with 1,420 ppm.

On December 17, 2013, final clearance of the excavation area (October 2013 Release) was completed. Field screening results of the excavation extents showed that VOC concentrations were above the NMOCD action level of 100 ppm in 14 of the 20 samples collected from the final walls and base of the excavation, with the highest concentration reported in S-3 with 4,230 ppm VOCs. Laboratory analytical results reported benzene concentrations above the NMOCD action level of 10 mg/kg in S-2 (66 mg/kg) and S-3 (21 mg/kg). Total BTEX concentrations above the NMOCD action level of 50 mg/kg were reported in four locations, with the highest concentrations reported in S-2 (1,330 mg/kg). TPH (GRO/DRO) concentrations were also reported above the NMOCD action level of 100 mg/kg in six samples, with concentrations ranging from 143 mg/kg in S-9 up to 15,320 mg/kg in S-2.

Based on the final field screening and laboratory analytical results of samples collected from the location, groundwater and soils continue to be impacted above applicable NMOCD action levels and WQCC standards. AES recommends continued monitoring and sampling of site monitor wells on a semi-annual basis along with implementation a soil vapor extraction (SVE) pilot test to aid in the design and implementation of a mechanical remediation system at the location. A workplan detailing the SVE pilot study will be submitted under separate cover. Further, if benzene concentrations in MW10 remain elevated, another downgradient well should be installed in order to complete definition of the downgradient extent of dissolved phase impacts to groundwater.

A quarterly groundwater sampling event was conducted in March 2014, and the next sampling event is tentatively scheduled for September 2014. Results for both sampling events will be submitted within one report.

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

Sincerely,

A handwritten signature in blue ink that reads "Brent Everett". The signature is written in a cursive, flowing style.

Brent Everett  
Senior Hydrogeologist



Elizabeth McNally, P.E.

Attachments:

**Tables**

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TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Date</i>	<i>Surveyed TOC* (ft)</i>	<i>Depth to NAPL (ft below TOC)</i>	<i>Depth to Water (ft below TOC)</i>	<i>NAPL Thickness (ft)</i>	<i>GW Elev. (ft amsl)</i>	<i>Corrected GW Elev. (ft)</i>	<i>pH</i>	<i>Conductivity (mS)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Temp. (°C)</i>
MW-1	07-Sep-12	5579.56		15.78		5563.78		7.02	5.616	1.72	17.31
MW-1	20-Dec-12	5579.56		15.69		5563.87		7.38	4.567	1.41	16.71
MW-1	20-Mar-13	5579.56	15.31	15.73	0.42	5563.83	5564.14	NA	NA	NA	NA
MW-1	19-Jun-13	5579.56	15.49	15.75	0.26	5563.81	5564.00	NA	NA	NA	NA
MW-1	17-Sep-13	5579.56	15.79	16.27	0.48	5563.29	5563.64	NA	NA	NA	NA
MW-1	16-Dec-13	5579.56	15.59	15.75	0.16	5563.81	5563.93	NA	NA	NA	NA
MW-2	07-Sep-12	5573.23		16.29		5556.94		7.31	4.234	1.03	16.67
MW-2	20-Dec-12	5573.23		16.22		5557.01		7.61	3.511	1.45	15.42
MW-2	20-Mar-13	5573.23		15.97		5557.26		7.50	6.788	1.06	14.88
MW-2	19-Jun-13	5573.23	15.96	16.40	0.44	5556.83	5557.15	NA	NA	NA	NA
MW-2	17-Sep-13	5573.23	16.40	16.54	0.14	5556.69	5556.79	NA	NA	NA	NA
MW-2	16-Dec-13	5579.23	16.14	16.22	0.08	5563.01	5563.07	NA	NA	NA	NA
MW-3	07-Sep-12	5579.35		15.98		5563.37		7.33	5.706	2.24	15.29
MW-3	20-Dec-12	5579.35		15.79		5563.56		7.13	4.496	2.30	13.84
MW-3	20-Mar-13	5579.35		15.50		5563.85		7.33	8.893	2.62	13.63
MW-3	19-Jun-13	5579.35		15.66		5563.69		6.08	8.451	2.65	15.30
MW-3	18-Sep-13	5579.35		15.96		5563.39		6.99	9.841	0.41	17.06
MW-3	16-Dec-13	5579.35		15.70		5563.65		7.20	9.241	NA	17.54

TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Date</i>	<i>Surveyed TOC* (ft)</i>	<i>Depth to NAPL (ft below TOC)</i>	<i>Depth to Water (ft below TOC)</i>	<i>NAPL Thickness (ft)</i>	<i>GW Elev. (ft amsl)</i>	<i>Corrected GW Elev. (ft)</i>	<i>pH</i>	<i>Conductivity (mS)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Temp. (°C)</i>
MW-4	07-Sep-12	5580.20		15.59		5564.61		7.30	5.564	1.46	15.77
MW-4	20-Dec-12	5580.20		15.51		5564.69		7.06	4.106	1.51	14.94
MW-4	20-Mar-13	5580.20		15.25		5564.95		7.23	7.897	1.17	14.00
MW-4	19-Jun-13	5580.20		15.41		5564.79		6.32	7.468	3.21	15.90
MW-4	18-Sep-13	5580.20		15.74		5564.46		7.11	8.425	0.49	18.42
MW-4	16-Dec-13	5580.20		15.45		5564.75		7.16	7.659	NA	17.75
MW-5	07-Sep-12	5583.36		19.35		5564.01		7.34	4.137	1.53	14.89
MW-5	20-Dec-12	5583.36		19.28		5564.08		7.00	3.438	2.65	13.74
MW-5	20-Mar-13	5583.36		19.10		5564.26		7.28	6.957	2.29	13.86
MW-5	19-Jun-13	5583.36		19.21		5564.15		7.22	6.377	1.15	15.68
MW-5	17-Sep-13	5583.36		19.55		5563.81		7.23	7.545	3.72	19.23
MW-5	16-Dec-13	5583.36		19.28		5564.08		7.44	6.793	NA	16.73
MW-6	07-Sep-12	5582.06		18.55		5563.51		7.38	4.833	1.24	15.43
MW-6	20-Dec-12	5582.06		18.49		5563.57		7.46	3.932	1.09	14.08
MW-6	20-Mar-13	5582.06		18.27		5563.79		7.38	7.571	0.79	14.36
MW-6	19-Jun-13	5582.06		18.38		5563.68		5.46	6.836	5.35	16.86
MW-6	18-Sep-13	5582.06		18.74		5563.32		7.19	8.042	0.59	17.31
MW-6	16-Dec-13	5582.06		18.46		5563.60		7.39	7.232	3.77	16.61

TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Date</i>	<i>Surveyed TOC* (ft)</i>	<i>Depth to NAPL (ft below TOC)</i>	<i>Depth to Water (ft below TOC)</i>	<i>NAPL Thickness (ft)</i>	<i>GW Elev. (ft amsl)</i>	<i>Corrected GW Elev. (ft)</i>	<i>pH</i>	<i>Conductivity (mS)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Temp. (°C)</i>
MW-7	07-Sep-12	5582.01		19.03		5562.98		7.59	4.542	1.38	15.24
MW-7	20-Dec-12	5582.01		18.97		5563.04		7.53	3.660	1.16	13.86
MW-7	20-Mar-13	5582.01		18.79		5563.22		7.45	7.512	1.45	14.40
MW-7	19-Jun-13	5582.01		18.87		5563.14		5.67	6.747	3.72	16.68
MW-7	17-Sep-13	5582.01		19.22		5562.79		7.44	4.530	2.90	20.30
MW-7	16-Dec-13	5582.01		18.96		5563.05		7.62	7.584	NA	16.85
MW-8	07-Sep-12	5577.65		14.96		5562.69		7.57	4.068	1.30	16.16
MW-8	20-Dec-12	5577.65		14.87		5562.78		7.56	3.339	0.97	15.25
MW-8	20-Mar-13	5577.65		14.63		5563.02		7.41	7.084	2.06	14.86
MW-8	19-Jun-13	5577.65		14.74		5562.91		5.68	6.235	4.21	16.43
MW-8	18-Sep-13	5577.65		15.08		5562.57		7.39	7.419	0.83	17.93
MW-8	16-Dec-13	5577.65		14.81		5562.84		7.21	6.931	2.46	17.44
MW-9	07-Sep-12	5582.31		17.55		5564.76		7.45	4.583	1.48	15.61
MW-9	20-Dec-12	5582.31		17.47		5564.84		7.14	3.369	2.29	13.06
MW-9	20-Mar-13	5582.31		17.28		5565.03		7.30	6.700	2.56	13.70
MW-9	19-Jun-13	5582.31		17.42		5564.89		7.26	6.265	1.82	14.14
MW-9	17-Sep-13	5582.31		17.74		5564.57		7.12	7.500	0.30	16.20
MW-9	16-Dec-13	5582.31		17.48		5564.83		7.49	6.786	NA	15.47



TABLE 1. SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Date</i>	<i>Surveyed TOC* (ft)</i>	<i>Depth to NAPL (ft below TOC)</i>	<i>Depth to Water (ft below TOC)</i>	<i>NAPL Thickness (ft)</i>	<i>GW Elev. (ft amsl)</i>	<i>Corrected GW Elev. (ft)</i>	<i>pH</i>	<i>Conductivity (mS)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>Temp. (°C)</i>
MW-10	16-Dec-13	5577.80		16.93		5560.87		7.62	10.140	0.31	13.85
MW-11	16-Dec-13	5578.65		15.15		5563.50		7.65	8.945	0.65	13.21
MW-12	16-Dec-13	5579.99		15.54		5564.45		7.64	6.782	0.67	13.90
MW-13	16-Dec-13	5583.03		19.88		5563.15		7.45	6.731	0.78	14.52

**Notes:** NA - not analyzed

\* - Resurveyed December 23, 2013 by Enterprise surveyors.

TABLE 2. SUMMARY OF GROUNDWATER LABORATORY ANALYTICALS RESULTS Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Date Sampled</i>	<i>Sample Method</i>	<i>Benzene µg/L</i>	<i>Toluene µg/L</i>	<i>Ethyl- benzene µg/L</i>	<i>Xylenes µg/L</i>
<b>WQCC STANDARD</b>			<b>10</b>	<b>750</b>	<b>750</b>	<b>620</b>
<b>MW-1</b>	07-Sep-12	8021	<b>2,200</b>	350	68	<b>650</b>
<b>MW-1</b>	20-Dec-12	8021	<b>1,100</b>	250	37	180
<b>MW-1</b>	20-Mar-13	NA	Free Product Present (0.42 feet)			
<b>MW-1</b>	19-Jun-13	NA	Free Product Present (0.26 feet)			
<b>MW-1</b>	17-Sep-13	NA	Free Product Present (0.48 feet)			
<b>MW-1</b>	16-Dec-13	NA	Free Product Present (0.16 feet)			
<b>MW-2</b>	07-Sep-12	8021	<b>270</b>	<b>1,100</b>	66	<b>1,800</b>
<b>MW-2</b>	20-Dec-12	8021	<b>26</b>	49	5.1	250
<b>MW-2</b>	20-Mar-13	8260	<5.0	<5.0	<5.0	67
<b>MW-2</b>	19-Jun-13	NA	Free Product Present (0.44 feet)			
<b>MW-2</b>	17-Sep-13	NA	Free Product Present (0.14 feet)			
<b>MW-2</b>	16-Dec-13	NA	Free Product Present (0.08 feet)			
<b>MW-3</b>	07-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-3</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-3</b>	20-Mar-13	8260	<2.0	<2.0	<2.0	<4.0
<b>MW-3</b>	19-Jun-13	8260	<b>780</b>	130	2.5	15
<b>MW-3</b>	18-Sep-13	8260	<b>150</b>	28	<5.0	15
<b>MW-3</b>	16-Dec-13	8021	<b>660</b>	340	16	130
<b>MW-4</b>	07-Sep-12	8021	<b>18</b>	5.1	<2.0	<4.0
<b>MW-4</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-4</b>	20-Mar-13	8260	<b>290</b>	110	<2.0	15
<b>MW-4</b>	19-Jun-13	8260	<b>600</b>	45	<10	<20
<b>MW-4</b>	18-Sep-13	8260	<b>830</b>	39	<20	<30
<b>MW-4</b>	16-Dec-13	8021	<b>300</b>	110	10	63

TABLE 2. SUMMARY OF GROUNDWATER LABORATORY ANALYTICALS RESULTS Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October 2013 Pipeline Release San Juan County, New Mexico

<b>Well ID</b>	<b>Date Sampled</b>	<b>Sample Method</b>	<b>Benzene µg/L</b>	<b>Toluene µg/L</b>	<b>Ethyl- benzene µg/L</b>	<b>Xylenes µg/L</b>
<b>WQCC STANDARD</b>			<b>10</b>	<b>750</b>	<b>750</b>	<b>620</b>
<b>MW-5</b>	07-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-5</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-5</b>	20-Mar-13	8260	<2.0	<2.0	<2.0	<4.0
<b>MW-5</b>	19-Jun-13	8260	<1.0	<1.0	<1.0	<2.0
<b>MW-5</b>	17-Sep-13	8260	<1.0	<1.0	<1.0	<1.5
<b>MW-5</b>	16-Dec-13	8021	2.1	4.7	4.0	17
<b>MW-6</b>	07-Sep-12	8021	<5.0	<5.0	260	<b>2,200</b>
<b>MW-6</b>	20-Dec-12	8021	<5.0	<5.0	180	<b>1,200</b>
<b>MW-6</b>	20-Mar-13	8260	<5.0	<5.0	120	<b>800</b>
<b>MW-6</b>	19-Jun-13	8260	9.6	6.2	150	<b>1,100</b>
<b>MW-6</b>	18-Sep-13	8260	<5.0	<5.0	180	<b>1,200</b>
<b>MW-6</b>	16-Dec-13	8021	<5.0	<5.0	140	<b>990</b>
<b>MW-7</b>	07-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-7</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	2.4
<b>MW-7</b>	20-Mar-13	8260	<2.0	<2.0	<2.0	<4.0
<b>MW-7</b>	19-Jun-13	8260	<1.0	<1.0	<1.0	<2.0
<b>MW-7</b>	17-Sep-13	8260	<1.0	<1.0	<1.0	<1.5
<b>MW-7</b>	16-Dec-13	8021	1.6	3.9	3.6	16
<b>MW-8</b>	07-Sep-12	8021	<b>41</b>	40	3.8	320
<b>MW-8</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	20
<b>MW-8</b>	20-Mar-13	8260	<b>41</b>	36	<2.0	89
<b>MW-8</b>	19-Jun-13	8260	<b>21</b>	12	<1.0	6.8
<b>MW-8</b>	18-Sep-13	8260	<1.0	<1.0	3.4	27
<b>MW-8</b>	16-Dec-13	8021	<b>18</b>	21	5.1	74

TABLE 2. SUMMARY OF GROUNDWATER LABORATORY ANALYTICALS RESULTS Enterprise  
Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October 2013  
Pipeline Release San Juan County, New Mexico

<b>Well ID</b>	<b>Date Sampled</b>	<b>Sample Method</b>	<b>Benzene µg/L</b>	<b>Toluene µg/L</b>	<b>Ethyl- benzene µg/L</b>	<b>Xylenes µg/L</b>
<b>WQCC STANDARD</b>			<b>10</b>	<b>750</b>	<b>750</b>	<b>620</b>
<b>MW-9</b>	07-Sep-12	8021	<2.0	2.4	<2.0	<4.0
<b>MW-9</b>	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
<b>MW-9</b>	20-Mar-13	8260	<2.0	<2.0	<2.0	<4.0
<b>MW-9</b>	19-Jun-13	8260	<1.0	<1.0	<1.0	<2.0
<b>MW-9</b>	17-Sep-13	8260	<1.0	<1.0	<1.0	<1.5
<b>MW-9</b>	16-Dec-13	8021	1.5	3.5	2.9	12
<b>MW-10</b>	16-Dec-13	8021	<b>950</b>	34	12	39
<b>MW-11</b>	16-Dec-13	8021	2.6	3.5	<1.0	5.9
<b>MW-12</b>	16-Dec-13	8021	3.3	3.8	<1.0	5.8
<b>MW-13</b>	16-Dec-13	8021	4.4	5.1	1.2	7.6

**Notes:** < Analyte not detected above listed method limit  
µg/L Micrograms per liter (ppb)  
NA Not analyzed

**TABLE 3. SUMMARY OF SOIL FIELD SCREENING RESULTS**  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Depth (ft)</b>	<b>OVM (ppm)</b>
<b>NMOCD Action Level</b>			<b>100</b>
C-1	01-Nov-13	0 to 6	<b>1,420</b>
C-2	01-Nov-13	0 to 6	<b>484</b>
C-3	01-Nov-13	0 to 6	<b>1,165</b>
C-4	01-Nov-13	0 to 6	<b>243</b>
C-5	01-Nov-13	6	<b>1,267</b>
C-6	01-Nov-13	0 to 6	<b>291</b>
SB-1	01-Nov-13	6	<b>898</b>
	01-Nov-13	7	<b>1,315</b>
	01-Nov-13	8	<b>769</b>
	01-Nov-13	9	<b>519</b>
	01-Nov-13	10	<b>814</b>
	01-Nov-13	11	<b>880</b>
	01-Nov-13	11.5	<b>710</b>
S-1	17-Dec-13	4	<b>1,852</b>
S-2	17-Dec-13	8	<b>1,460</b>
S-3	17-Dec-13	15	<b>4,230</b>
S-4	17-Dec-13	1 to 15	<b>3,230</b>
S-5	17-Dec-13	4	<b>1,869</b>
S-6	17-Dec-13	8	<b>1,939</b>
S-7	17-Dec-13	15	<b>3,120</b>
S-8	17-Dec-13	4	<b>472</b>
S-9	17-Dec-13	8	<b>2,167</b>
S-10	17-Dec-13	15	<b>3,329</b>
S-11	17-Dec-13	4	32.2
S-12	17-Dec-13	8	20.0
S-13	17-Dec-13	15	<b>156</b>
S-14	17-Dec-13	4	10.5
S-15	17-Dec-13	8	10.6
S-16	17-Dec-13	15	18.9
S-17	17-Dec-13	1 to 15	16.9
S-18	17-Dec-13	1 to 15	<b>1,136</b>
S-19	17-Dec-13	4	<b>2,429</b>
S-20	17-Dec-13	8	<b>2,983</b>

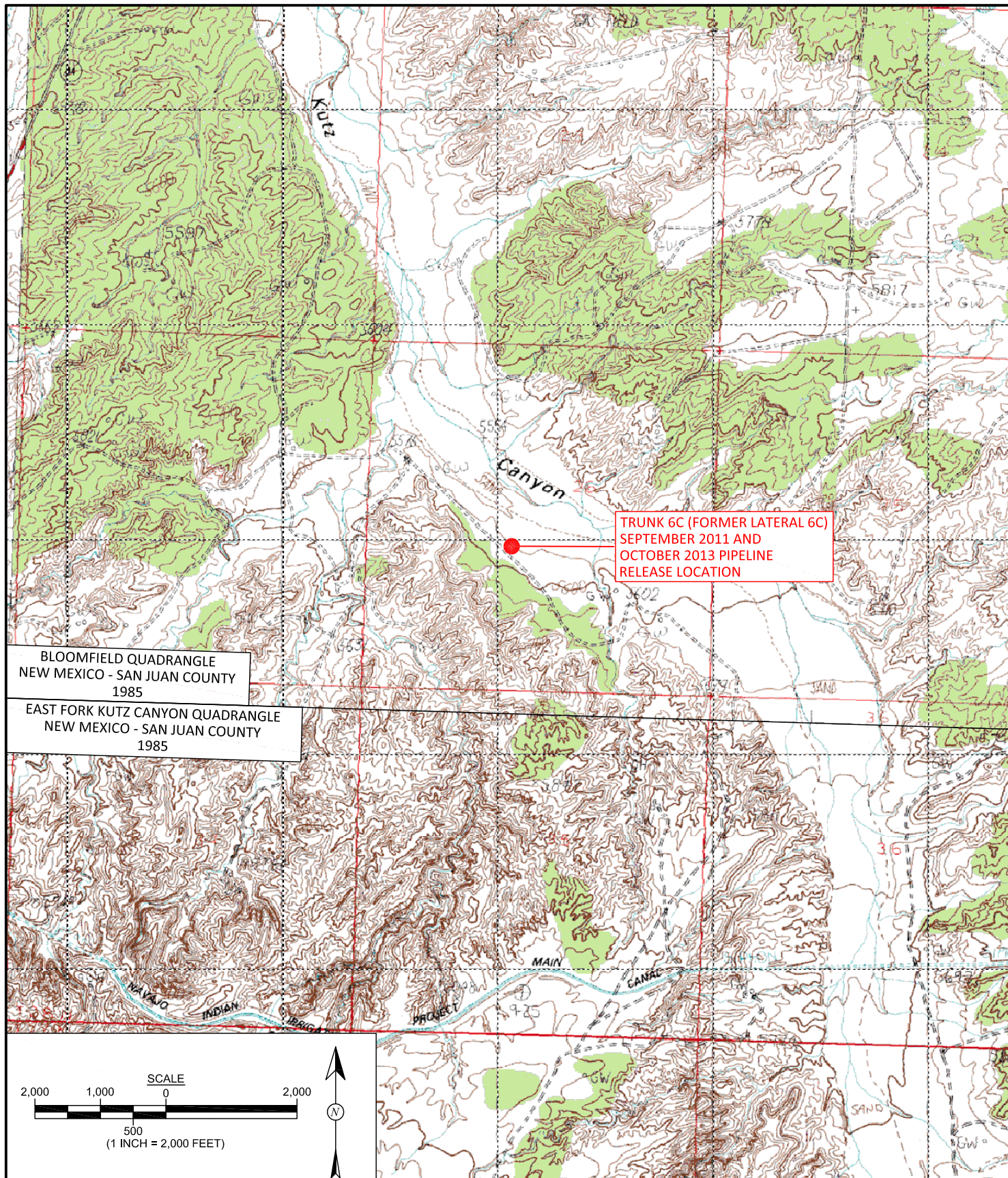
TABLE 4. SUMMARY OF LABORATORY ANALYTICAL RESULTS  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and  
October 2013 Pipeline Release San Juan County, New Mexico


<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth (ft)</i>	<i>Benzene mg/kg</i>	<i>Total BTEX mg/kg</i>	<i>TPH - GRO mg/kg</i>	<i>TPH - DRO mg/kg</i>
<i>Sample Method</i>			<i>EPA Method 8021B</i>		<i>EPA Method 8015D</i>	
<i>NMOCD Action Level</i>			<i>10</i>	<i>50</i>	<i>100</i>	
S-2	17-Dec-13	8	66	1,330	15,000	320
S-3	17-Dec-13	15	21	586	6,200	100
S-4	17-Dec-13	1 to 15	<0.49	86	1,000	69
S-9	17-Dec-13	8	<0.12	6.7	94	49
S-10	17-Dec-13	15	0.63	58	680	45
S-11	17-Dec-13	4	<0.049	<0.244	<4.9	<10
S-13	17-Dec-13	15	<0.048	0.11	5.6	<10
S-17	17-Dec-13	1 to 15	<0.048	<0.239	<4.8	<10
S-18	17-Dec-13	1 to 15	<0.048	0.16	<4.8	<10
S-20	17-Dec-13	8	<0.12	3.8	40	330

Notes:      NA      Not analyzed  
              <      Analyte not detected above listed method limit

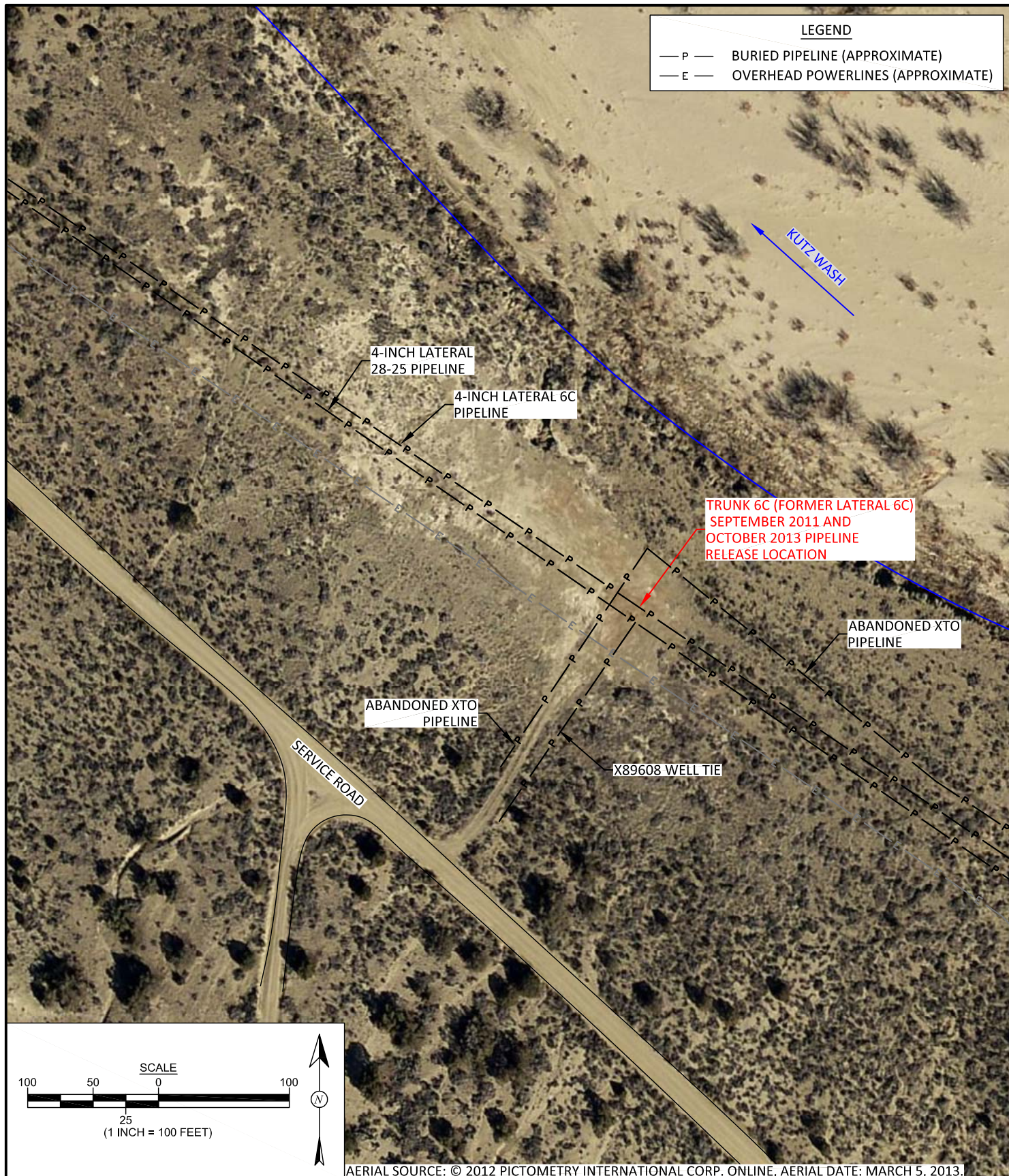
## Figures





 <p><b>AES</b> Animas Environmental Services, LLC</p>	<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 18, 2012	<p><b>FIGURE 1</b></p> <p><b>TOPOGRAPHIC SITE LOCATION MAP</b> ENTERPRISE FIELD SERVICES, LLC TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011 AND OCTOBER 2013 PIPELINE RELEASE SAN JUAN COUNTY, NEW MEXICO NE¼ SW¼, SECTION 26, T28N, R11W N36.63202, W107.97400</p>
	<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014	
	<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014	
	<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014	





AERIAL SOURCE: © 2012 PICTOMETRY INTERNATIONAL CORP. ONLINE, AERIAL DATE: MARCH 5, 2013.



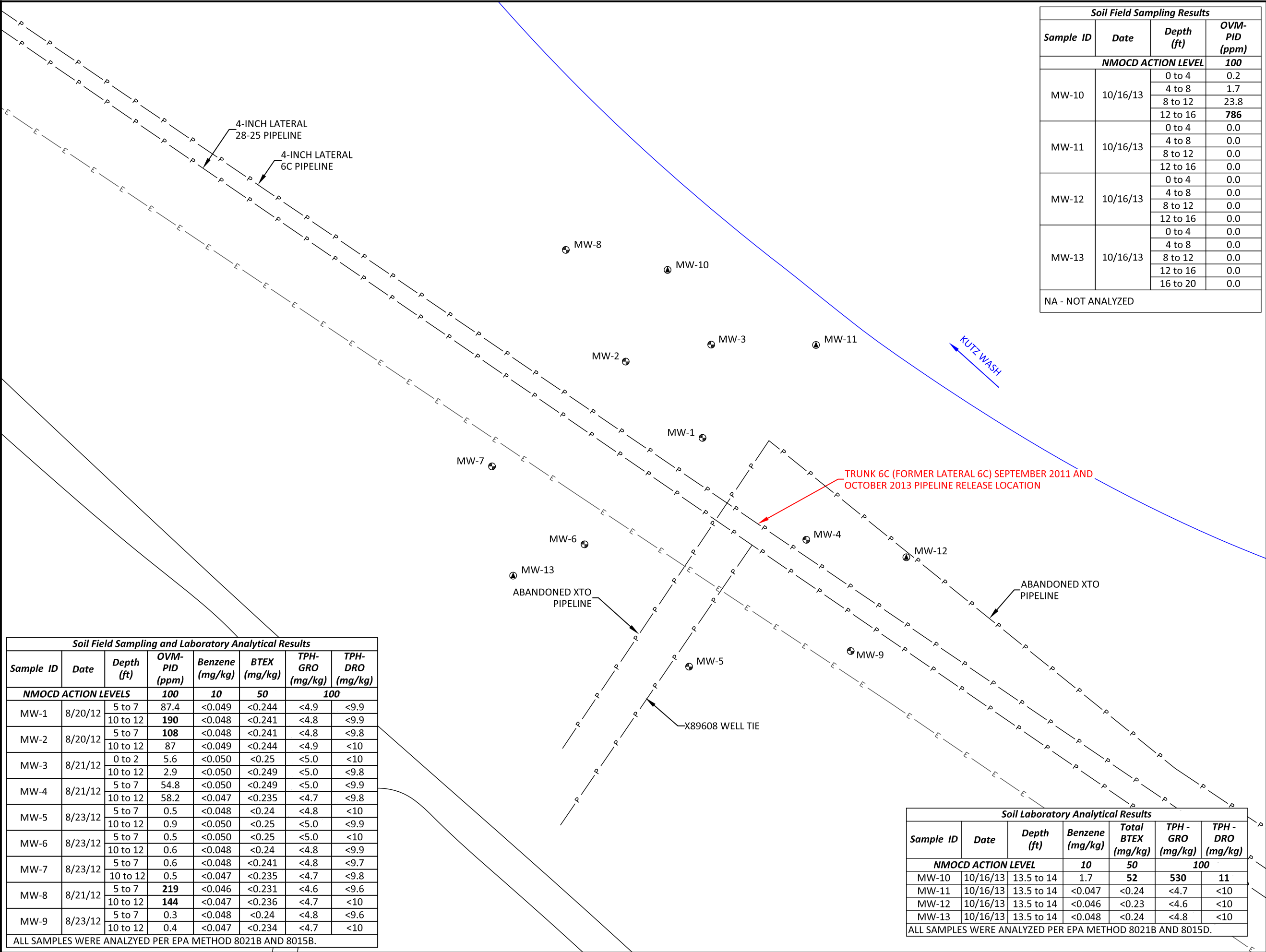
<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 18, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

## FIGURE 2

**AERIAL SITE MAP**  
 ENTERPRISE FIELD SERVICES, LLC  
 TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011  
 AND OCTOBER 2013 PIPELINE RELEASE  
 NE¼ SW¼, SECTION 26, T28N, R11W  
 SAN JUAN COUNTY, NEW MEXICO  
 N36.63202, W107.97400







# FIGURE 4

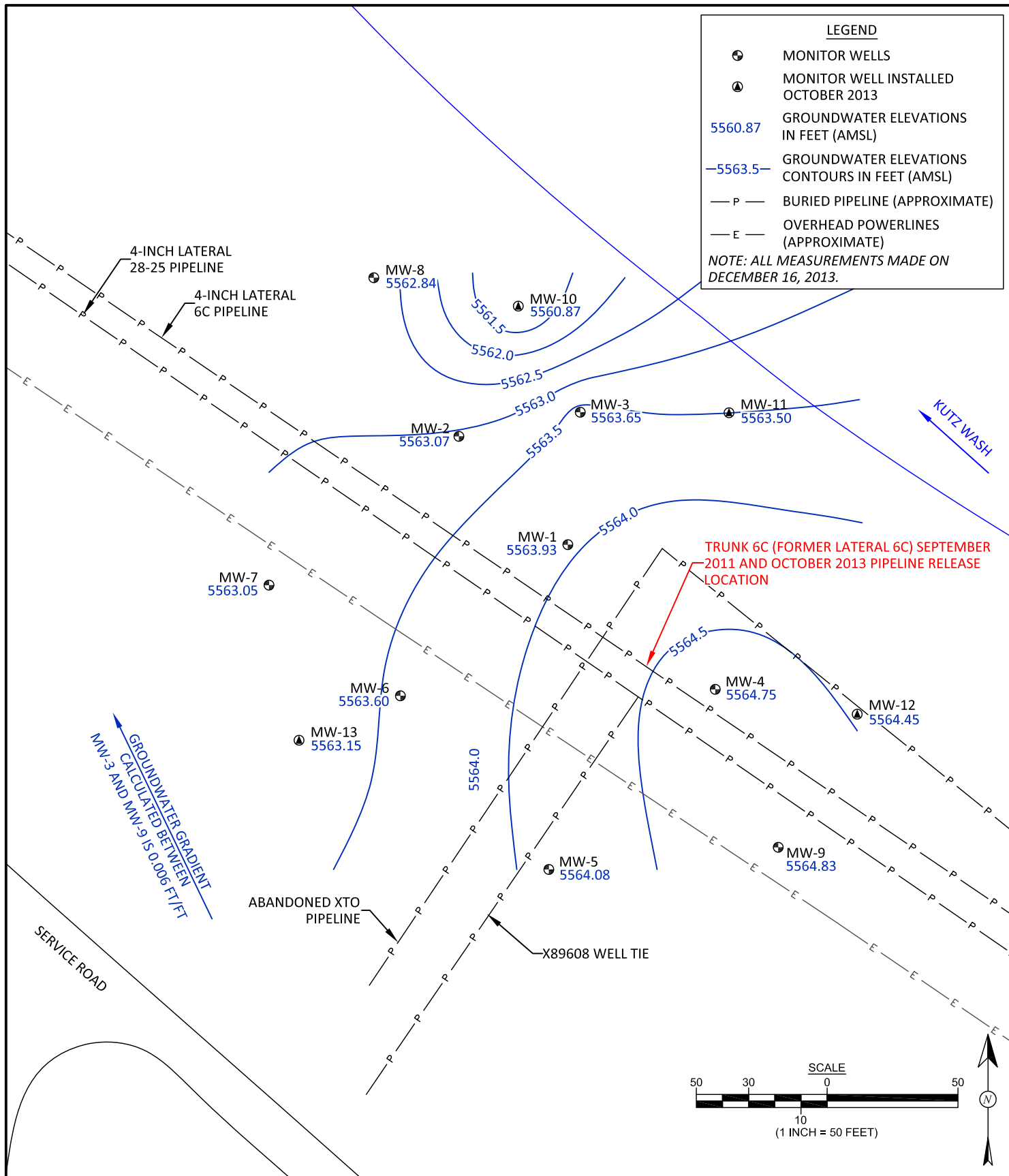
## MONITOR WELL LOCATIONS AND RESULTS, AUGUST 2012 AND OCTOBER 2013

ENTERPRISE FIELD SERVICES, LLC  
TRUNK 6C (FORMER LATERAL 6C)  
SEPTEMBER 2011 AND  
OCTOBER 2013 PIPELINE RELEASE  
NE¼ SW¼, SECTION 26, T28N, R11W  
SAN JUAN COUNTY, NEW MEXICO  
N36.63202, W107.97400

<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> April 4, 2014
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

**LEGEND**

- MONITOR WELLS
- MONITOR WELL INSTALLED OCTOBER 2013
- P — BURIED PIPELINE (APPROXIMATE)
- E — OVERHEAD POWERLINES (APPROXIMATE)



**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
September 18, 2012

**REVISIONS BY:**  
C. Lameman

**DATE REVISED:**  
April 10, 2014

**CHECKED BY:**  
H. Woods

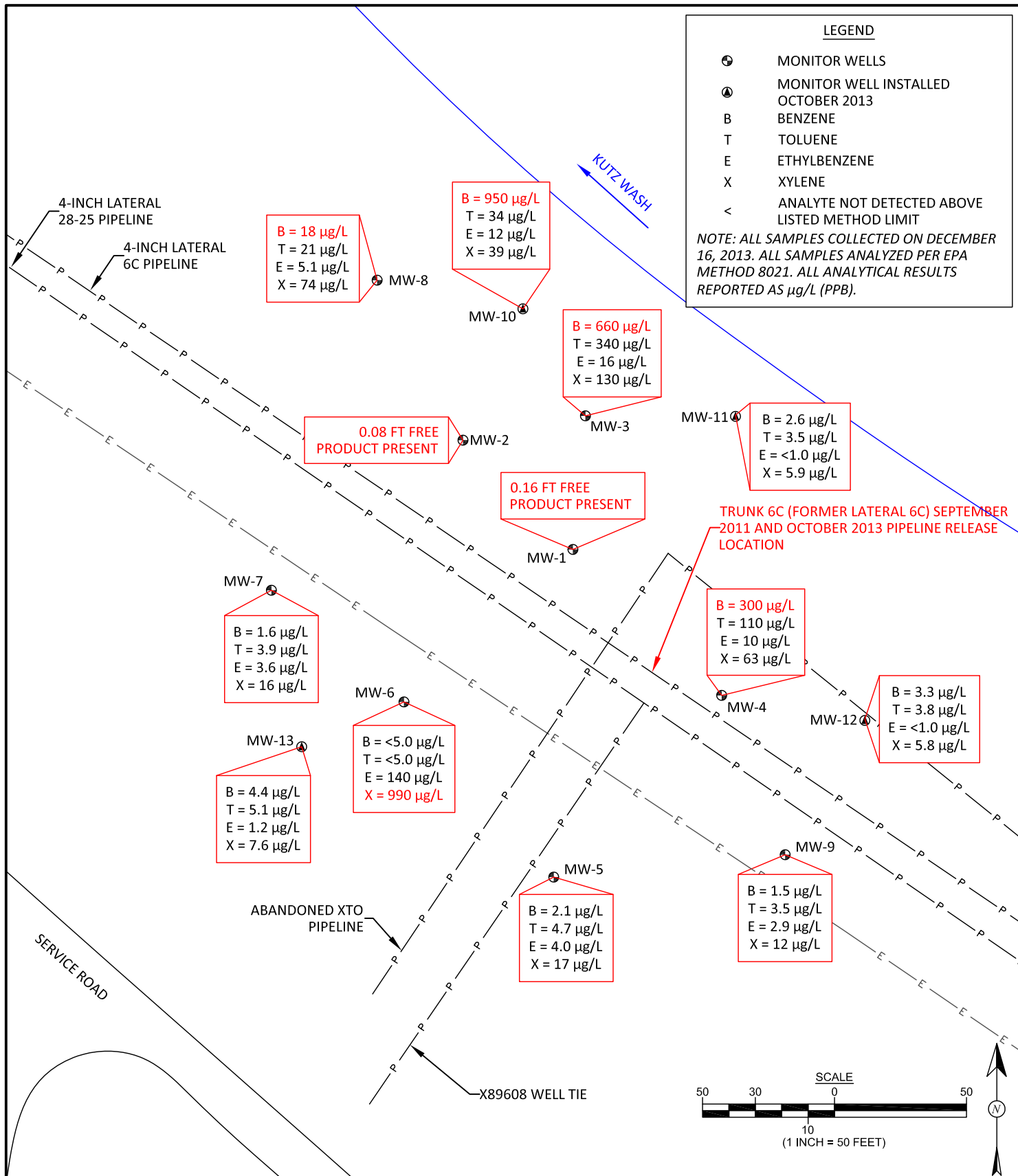
**DATE CHECKED:**  
April 10, 2014

**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
April 10, 2014

## FIGURE 5

**GROUNDWATER ELEVATION CONTOURS  
DECEMBER 2013**  
ENTERPRISE FIELD SERVICES, LLC  
TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011  
AND OCTOBER 2013 PIPELINE RELEASE  
NE¼ SW¼, SECTION 26, T28N, R11W  
SAN JUAN COUNTY, NEW MEXICO  
N36.63202, W107.97400



<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 18, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

**FIGURE 6**

**GROUNDWATER CONTAMINANT CONCENTRATIONS, DECEMBER 2013**

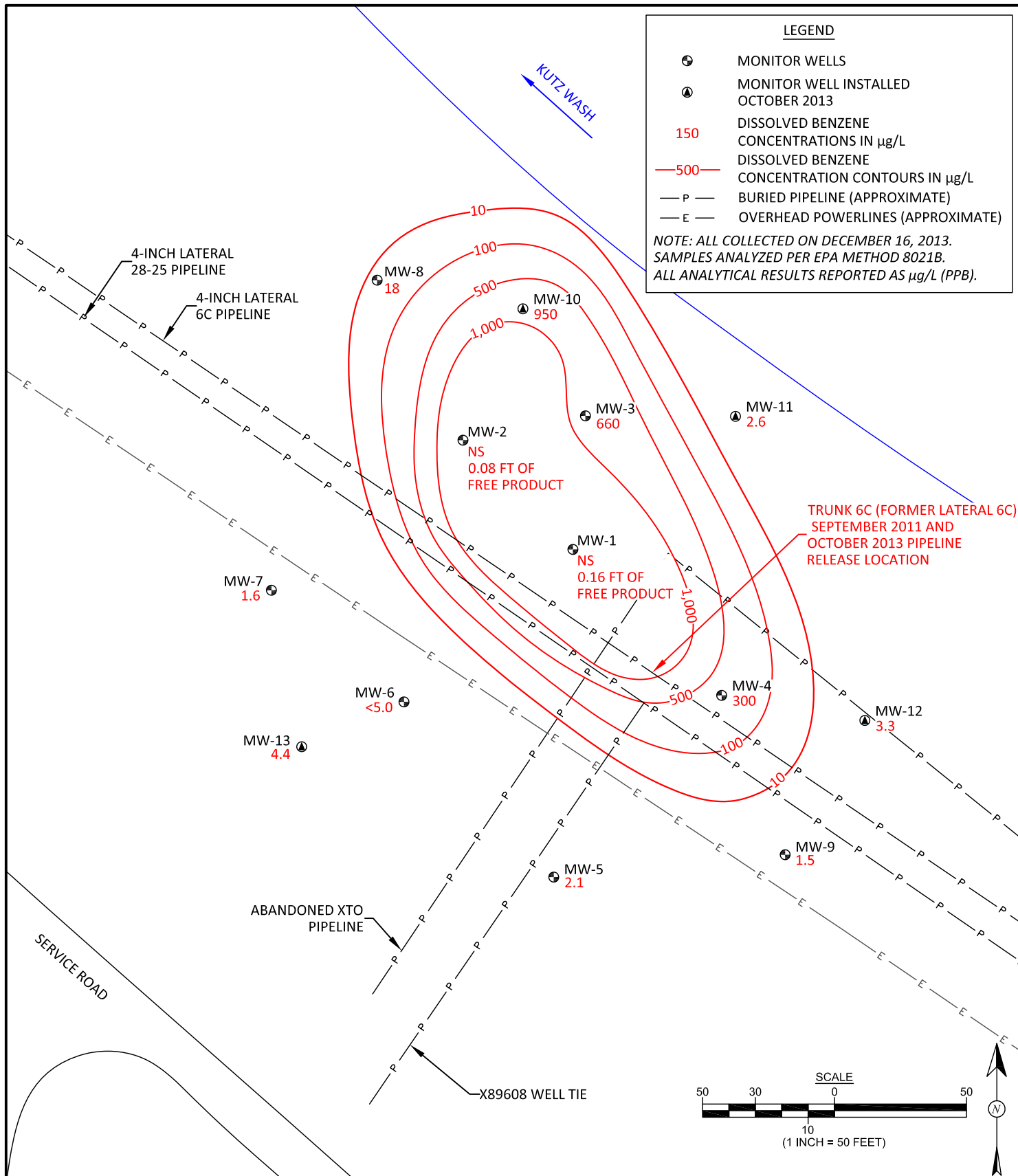
ENTERPRISE FIELD SERVICES, LLC

TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011 AND OCTOBER 2013 PIPELINE RELEASE

NE¼ SW¼, SECTION 26, T28N, R11W

SAN JUAN COUNTY, NEW MEXICO

N36.63202, W107.97400

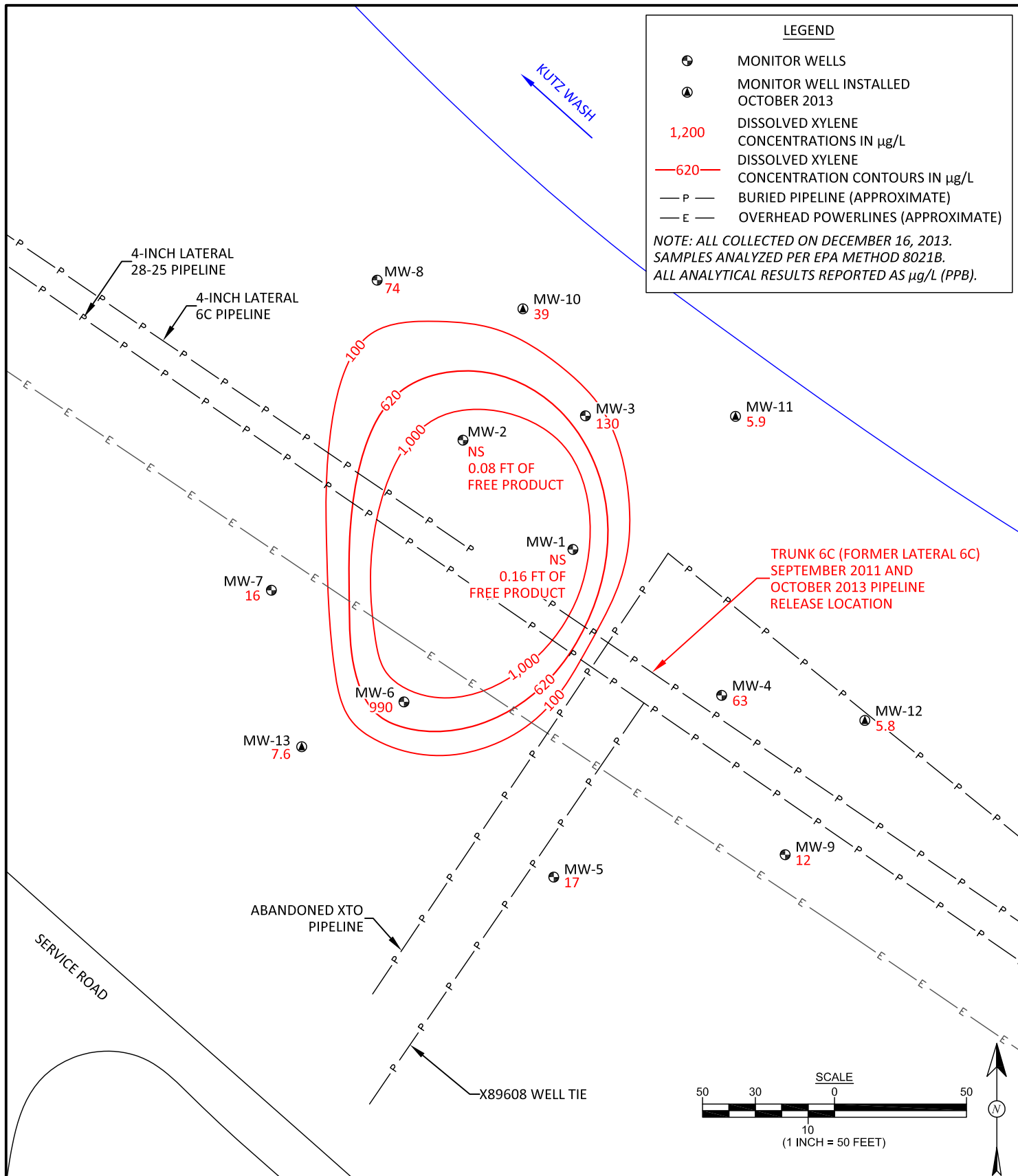


<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 18, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

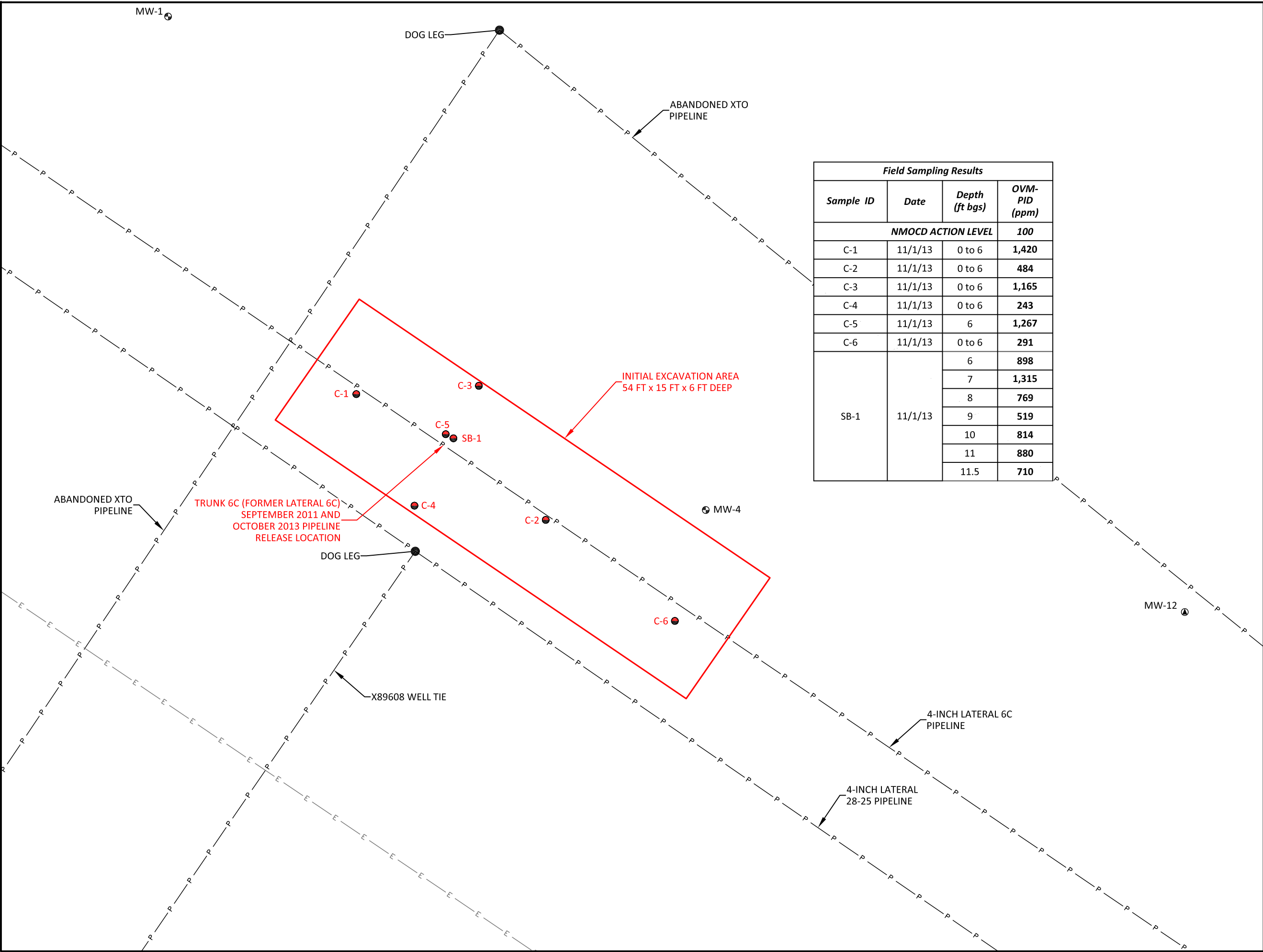
**FIGURE 7**

**DISSOLVED BENZENE CONCENTRATION CONTOURS, DECEMBER 2013**  
 ENTERPRISE FIELD SERVICES, LLC  
 TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011 AND OCTOBER 2013 PIPELINE RELEASE  
 NE $\frac{1}{4}$  SW $\frac{1}{4}$ , SECTION 26, T28N, R11W  
 SAN JUAN COUNTY, NEW MEXICO  
 N36.63202, W107.97400





	<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 18, 2012	<b>FIGURE 8</b>  <b>DISSOLVED XYLENE CONCENTRATION CONTOURS, DECEMBER 2013</b> ENTERPRISE FIELD SERVICES, LLC TRUNK 6C (FORMER LATERAL 6C) SEPTEMBER 2011 AND OCTOBER 2013 PIPELINE RELEASE NE¼ SW¼, SECTION 26, T28N, R11W SAN JUAN COUNTY, NEW MEXICO N36.63202, W107.97400
	<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014	
	<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014	
	<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014	



Field Sampling Results			
Sample ID	Date	Depth (ft bgs)	OVM-PID (ppm)
NMOCD ACTION LEVEL			100
C-1	11/1/13	0 to 6	1,420
C-2	11/1/13	0 to 6	484
C-3	11/1/13	0 to 6	1,165
C-4	11/1/13	0 to 6	243
C-5	11/1/13	6	1,267
C-6	11/1/13	0 to 6	291
SB-1	11/1/13	6	898
		7	1,315
		8	769
		9	519
		10	814
		11	880
		11.5	710

FIGURE 9

INITIAL ASSESSMENT SAMPLE LOCATIONS AND RESULTS  
NOVEMBER 2013

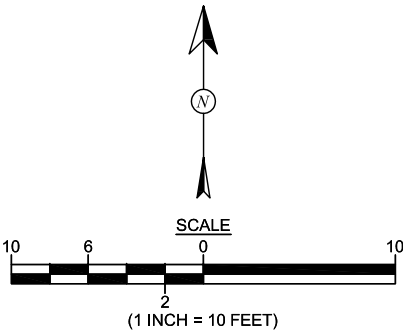
ENTERPRISE FIELD SERVICES LLC  
TRUNK 6C (FORMER LATERAL 6C)  
SEPTEMBER 2011 AND  
OCTOBER 2013 PIPELINE RELEASE  
NE¼ SW¼, SECTION 26, T28N, R11W  
SAN JUAN COUNTY, NEW MEXICO  
N36.63202, W107.97400



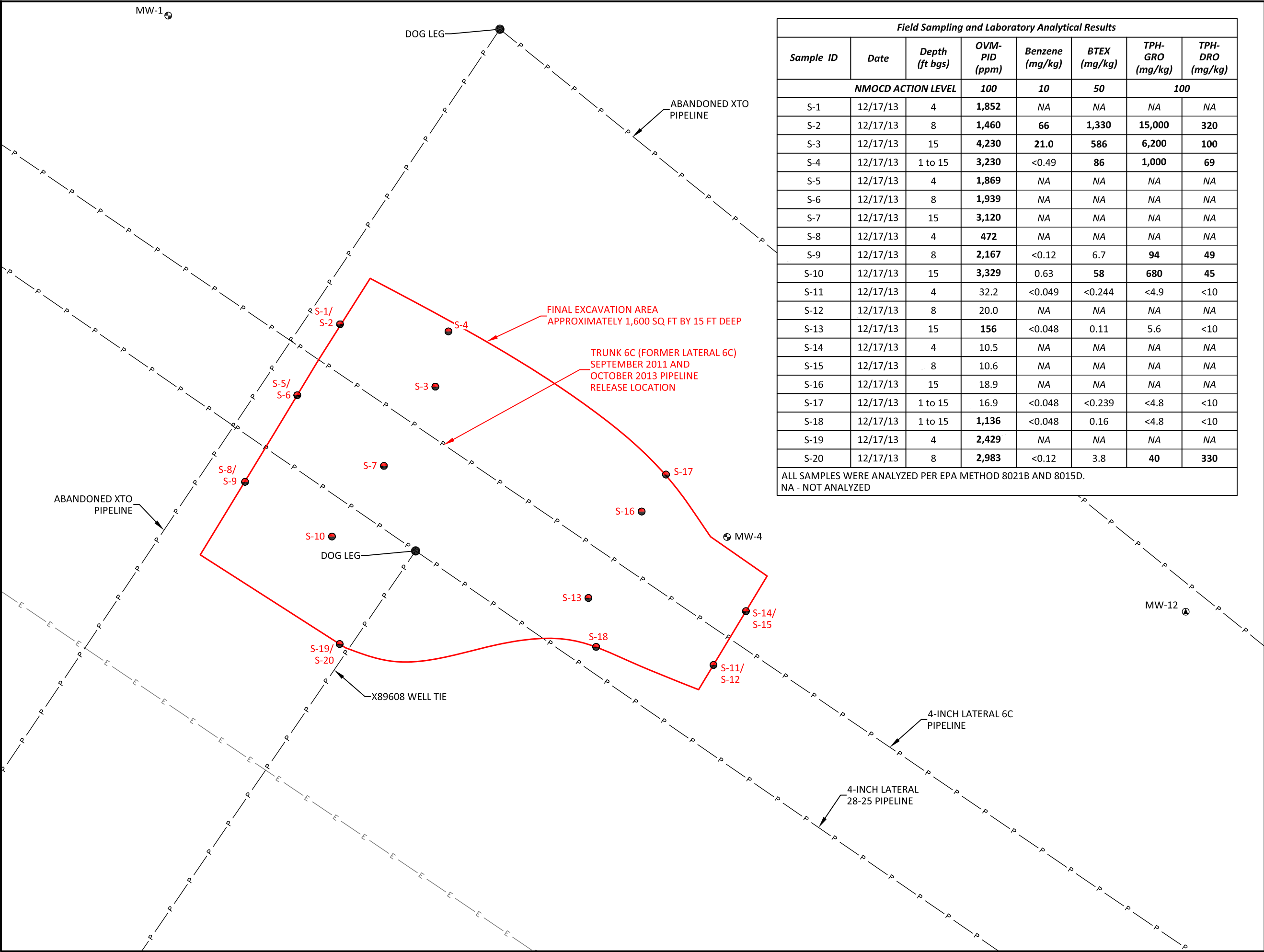
<b>DRAWN BY:</b> S. Glasses	<b>DATE DRAWN:</b> March 24, 2014
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

LEGEND

- SAMPLE LOCATIONS
- MONITOR WELL LOCATION
- MONITOR WELL LOCATION (INSTALLED OCTOBER 2013)
- BURIED PIPELINE (APPROXIMATE)
- OVERHEAD POWERLINES (APPROXIMATE)







Field Sampling and Laboratory Analytical Results							
Sample ID	Date	Depth (ft bgs)	OVMPID (ppm)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
NMOCD ACTION LEVEL			100	10	50	100	
S-1	12/17/13	4	1,852	NA	NA	NA	NA
S-2	12/17/13	8	1,460	66	1,330	15,000	320
S-3	12/17/13	15	4,230	21.0	586	6,200	100
S-4	12/17/13	1 to 15	3,230	<0.49	86	1,000	69
S-5	12/17/13	4	1,869	NA	NA	NA	NA
S-6	12/17/13	8	1,939	NA	NA	NA	NA
S-7	12/17/13	15	3,120	NA	NA	NA	NA
S-8	12/17/13	4	472	NA	NA	NA	NA
S-9	12/17/13	8	2,167	<0.12	6.7	94	49
S-10	12/17/13	15	3,329	0.63	58	680	45
S-11	12/17/13	4	32.2	<0.049	<0.244	<4.9	<10
S-12	12/17/13	8	20.0	NA	NA	NA	NA
S-13	12/17/13	15	156	<0.048	0.11	5.6	<10
S-14	12/17/13	4	10.5	NA	NA	NA	NA
S-15	12/17/13	8	10.6	NA	NA	NA	NA
S-16	12/17/13	15	18.9	NA	NA	NA	NA
S-17	12/17/13	1 to 15	16.9	<0.048	<0.239	<4.8	<10
S-18	12/17/13	1 to 15	1,136	<0.048	0.16	<4.8	<10
S-19	12/17/13	4	2,429	NA	NA	NA	NA
S-20	12/17/13	8	2,983	<0.12	3.8	40	330
ALL SAMPLES WERE ANALYZED PER EPA METHOD 8021B AND 8015D. NA - NOT ANALYZED							

FIGURE 10

FINAL RELEASE ASSESSMENT SAMPLE LOCATIONS AND RESULTS  
DECEMBER 2013  
ENTERPRISE FIELD SERVICES LLC  
TRUNK 6C (FORMER LATERAL 6C)  
SEPTEMBER 2011 AND  
OCTOBER 2013 PIPELINE RELEASE  
NE¼ SW¼, SECTION 26, T28N, R11W  
SAN JUAN COUNTY, NEW MEXICO  
N36.63202, W107.97400

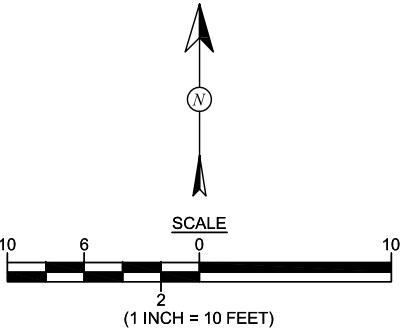


Animas Environmental Services, LLC

<b>DRAWN BY:</b> S. Glasses	<b>DATE DRAWN:</b> March 24, 2014
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> April 10, 2014
<b>CHECKED BY:</b> H. Woods	<b>DATE CHECKED:</b> April 10, 2014
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 10, 2014

LEGEND

- SAMPLE LOCATIONS
- ⊙ MONITOR WELL LOCATION
- ⊙ MONITOR WELL LOCATION (INSTALLED OCTOBER 2013)
- P— BURIED PIPELINE (APPROXIMATE)
- E— OVERHEAD POWERLINES (APPROXIMATE)



## Appendices

## Appendix A.

## MONITORING WELL SAMPLING RECORD

Monitor Well No: 1

## Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

**Site:** Groundwater Sampling

Project No.:

**Location:** Enterprise Field Services, LLC

Date: 12-14-2013

Project: Lateral C-C

Arrival Time: 0911

**Sampling Technician:** Lavina Lamone

Air Temp: 18°

Purge / No Purge: ~~Purge~~ N/A

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

Well Diameter (in): 2

**Total Well Depth (ft):** \_\_\_\_\_

Initial D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken at initial gauging of all wells)

Confirm D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken prior to purging well)

Final D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken after sample collection)

If NAPL Present: D.T.P.: 15.59 D.T.W.: 15.75 Thickness: 0.16 Time: 0913

### Water Quality Parameters - Recorded During Well Purging

[illegible]

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

BTEX 8021B (3x40mL VOA w/ HCL)

**Disposal of Purged Water:** ~~Into 55 gal. drum delivered to E-Tech land farm~~

Collected Samples Stored on Ice in Cooler: Yes N/A

Chain of Custody Record Complete: YES 2/A

**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 *ez*

**Notes/Comments:**

No sample, product in well.

## MONITORING WELL SAMPLING RECORD

Monitor Well No: 2

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

**Site:** Groundwater Sampling

Project No.:

**Location:** Enterprise Field Services, LLC

Date: 12-14-2013

Project: Lateral C-C

Arrival Time: 0913

**Sampling Technician:** Lavina Lamone

Air Temp: 18°F

Purge / No Purge: ~~Purge~~ N/A

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): \_\_\_\_\_

Initial D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken at initial gauging of all wells)

Confirm D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken prior to purging well)

Final D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken after sample collection)

If NAPL Present: D.T.P.: 16.14 D.T.W.: 16.22 Thickness: 0.08 Time: 0915

### Water Quality Parameters - Recorded During Well Purging

[illegible]

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E Tech and Farm

Collected Samples Stored on Ice in Cooler: ~~2~~ 2/1

Chain of Custody Record Complete: Yes 2/2

**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:

No sample product in well. A

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 3

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral G-C

Arrival Time: 1201 (1234 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 22° F

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 25.58

Initial D.T.W. (ft): 15.70

Time: 0840 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 15.70

Time: 1203 (taken prior to purging well)

Final D.T.W. (ft): 15.82

Time: 1238 (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
1212	15.89	10.07		7.50	-189.4	1 <sup>st</sup> draw H <sub>2</sub> O	clear H <sub>2</sub> O
1216	16.85	9.934		7.28	-187.4	1.0 gal.	clear H <sub>2</sub> O slight green
1221	17.36	9.671		7.24	-179.6	2.0 gal.	clear H <sub>2</sub> O
1228	17.63	9.429		7.21	-161.1	3.0 gal.	clear H <sub>2</sub> O slight green
1232	17.51	9.387		7.21	-151.5	4.0 gal.	clear H <sub>2</sub> O
1236	17.54	9.241		7.20	-136.7	5.0 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Peristaltic Pump

Notes/Comments:

9.88 H<sub>2</sub>O column

1.61 H<sub>2</sub>O volume

4.85 gal. purged

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 4

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral G-C

Arrival Time: 1244 (1312 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 24° F

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 23.86

Initial D.T.W. (ft): 15.45 Time: 0908 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 15.45 Time: 1248 (taken prior to purging well)

Final D.T.W. (ft): 15.53 Time: 1315 (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
1257	16.90	7.813		7.35	-131.5	1 <sup>st</sup> draw H <sub>2</sub> O	clear H <sub>2</sub> O
1300	17.05	7.855		7.28	-130.4	1.0 gal	clear H <sub>2</sub> O
1303	17.31	7.839		7.21	-112.4	2.0 gal	clear H <sub>2</sub> O
1306	17.56	7.791	3.47	7.17	-95.6	3.0 gal	clear H <sub>2</sub> O slight green.
1312	17.75	7.659		7.16	-77.7	4.25 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Peristaltic Pump

## Notes/Comments:

8.41 H<sub>2</sub>O column

1.37 H<sub>2</sub>O volume

4.25 gal. purged

revised: 08/10/09



# MONITORING WELL SAMPLING RECORD

Monitor Well No: 5

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral 6-C

Arrival Time: 1031 1053 Sample

Sampling Technician: Lavina Lamone

Air Temp: 17°F

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 25.40

Initial D.T.W. (ft): 19.27

Time: 0825

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 19.28

Time: 10:34

(taken prior to purging well)

Final D.T.W. (ft): 19.34

Time: 10:57

(taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_

D.T.W.: \_\_\_\_\_

Thickness: \_\_\_\_\_ 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
1039	14.96	6.789		7.67	2.4	1 <sup>st</sup> draw of H <sub>2</sub> O	Tan H <sub>2</sub> O slight sheen
1044	16.21	6.825		7.47	28.4	1.0 gal	lt gray H <sub>2</sub> O slight sheen
1047	16.42	6.816		7.45	33.2	2.0 gal.	lt gray H <sub>2</sub> O sheen
1053	16.73	6.793		7.46	34.7	3.0 gal.	lt gray H <sub>2</sub> O slight sheen

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Baller~~ Peristaltic Pump

Notes/Comments:

6.12 H<sub>2</sub>O volume column  
 ~ 1.0 H<sub>2</sub>O volume  
 3.0 gal. purged  
 revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 6

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral 6-C

Arrival Time: 1129 (1151 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 21°

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 24.97

Initial D.T.W. (ft): 18.46

Time: 0832 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 18.46

Time: 1132 (taken prior to purging well)

Final D.T.W. (ft): 18.51

Time: 1155 (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
1142	15.97	7.145		7.53	-253.8	1 <sup>st</sup> draw	slight green gray
1144	16.41	7.146		7.49	-259.3	1.0 gal.	grayish H <sub>2</sub> O <sup>slightly</sup> <del>slightly</del>
1147	16.37	7.193		7.42	-264.6	2.0 gal.	" "
1151	16.61	7.232	3.77	7.39	-276.8	3.25 gal.	gray/clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Peristaltic Pump

Notes/Comments:

H<sub>2</sub>O has "rotten eggs" odor.

6.51 H<sub>2</sub>O Column

1.06 H<sub>2</sub>O volume

3.25 gal. purged

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 7

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral C-C

Arrival Time: 1100 1122 Sample

Sampling Technician: Lavina Lamone

Air Temp: 20°

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 26.13

Initial D.T.W. (ft): 18.95

Time: 0828

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 18.96

Time: 1105

(taken prior to purging well)

Final D.T.W. (ft): 19.00

Time: 1124

(taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_

D.T.W.: \_\_\_\_\_

Thickness: \_\_\_\_\_ 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
1106	16.34	7.654		7.61	-193.0	1 <sup>st</sup> drawn H <sub>2</sub> O	clear slight green
1111	16.40	7.632		7.61	-192.6	1.0 gal.	clear H <sub>2</sub> O slight green
1115	16.61	7.621		7.62	-188.7	2.0 gal	clear H <sub>2</sub> O
1122	16.85	7.584		7.62	-182.8	3.5 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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~~ Peristaltic Pump an

## Notes/Comments:

7.17 H<sub>2</sub>O column

1.17 H<sub>2</sub>O volume

3.50 gal. purged

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 8

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral C-C

Arrival Time: 1329 (1358 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 26°

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 24.37

Initial D.T.W. (ft): 14.81

Time: 0851

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 14.81

Time: 1333

(taken prior to purging well)

Final D.T.W. (ft): 14.85

Time: 1400

(taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_

D.T.W.: \_\_\_\_\_

Thickness: \_\_\_\_\_ 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
1343	15.34	6.754		7.62	-72.3	1st draw of H <sub>2</sub> O	(+ gray H <sub>2</sub> O slight sheen)
1346	17.04	6.820	2.48	7.32	-73.9	1.0 gal	clear H <sub>2</sub> O
1349	17.25	6.829	2.41	7.26	-79.2	2.0 gal	clear H <sub>2</sub> O
1352	17.32	6.867	2.41	7.22	-83.5	3.0 gal	clear H <sub>2</sub> O slight sheen
1356	17.43	6.904	2.43	7.21	-87.9	4.0 gal	clear H <sub>2</sub> O
1358	17.44	6.931	2.46	7.21	-91.4	4.75 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech landfill

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 Boiler~~ peristaltic Pump

## Notes/Comments:

9.56 H<sub>2</sub>O column

Well has sheen & product odor

1.56 H<sub>2</sub>O volume

4.75 gal.

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 9

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral C

Arrival Time: 0922 1025 Sample Time

Sampling Technician: Lavina Lamone

Air Temp: 16° F

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 2

Total Well Depth (ft): 25.88

Initial D.T.W. (ft): 17.48

Time: 0818 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 17.48

Time: 0925 (taken prior to purging well)

Final D.T.W. (ft): \_\_\_\_\_

Time: \_\_\_\_\_ (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
<u>1016</u>	<u>15.42</u>	<u>6.688</u>		<u>7.76</u>	<u>59.4</u>	<u>1.0 gal</u>	<u>grayish H<sub>2</sub>O</u>
<u>1019</u>	<u>15.35</u>	<u>6.752</u>		<u>7.59</u>	<u>63.9</u>	<u>2.0 gal</u>	<u>clear H<sub>2</sub>O</u>
<u>1022</u>	<u>15.41</u>	<u>6.771</u>		<u>7.52</u>	<u>70.5</u>	<u>3.0 gal</u>	<u>clear H<sub>2</sub>O</u>
<u>1025</u>	<u>15.47</u>	<u>6.786</u>		<u>7.49</u>	<u>76.5</u>	<u>4.15 gal.</u>	<u>clear H<sub>2</sub>O</u>

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Pump

Notes/Comments:

8.40 H<sub>2</sub>O column

1.37 H<sub>2</sub>O volume

4.11 gal. purged

revised: 08/18/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 10

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral C-C

Arrival Time: 1600 1621 Sample

Sampling Technician: Lavina Lamone

Air Temp: 33° F

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 1" w

Total Well Depth (ft): 20.83

Initial D.T.W. (ft): 16.97 Time: 0857 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 16.93 Time: 1403 (taken prior to purging well)

Final D.T.W. (ft): 15.00 Time: 1623 (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
<u>1607</u>	<u>12.04</u>	<u>10.09</u>	<u>1.74</u>	<u>7.57</u>	<u>-69.7</u>	<u>1<sup>st</sup> H<sub>2</sub>O draw of H<sub>2</sub>O</u>	<u>clear H<sub>2</sub>O slight green</u>
<u>1613</u>	<u>13.59</u>	<u>10.15</u>	<u>0.54</u>	<u>7.61</u>	<u>-100.3</u>	<u>0.25 gal.</u>	<u>clear H<sub>2</sub>O</u>
<u>1618</u>	<u>13.51</u>	<u>10.14</u>	<u>0.38</u>	<u>7.63</u>	<u>-105.5</u>	<u>0.5 gal.</u>	<u>clear H<sub>2</sub>O</u>
<u>1621</u>	<u>13.85</u>	<u>10.14</u>	<u>0.31</u>	<u>7.62</u>	<u>-109.6</u>	<u>0.75 gal.</u>	<u>clear H<sub>2</sub>O</u>

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Peristaltic Pump

## Notes/Comments:

5.90 H<sub>2</sub>O column 1" well

124 H<sub>2</sub>O volume

0.75 gal. purged

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 11

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.:                     

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral Co. C

Arrival Time: 1529 (1551 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 31°

Purge / No Purge: Purge

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

Well Diameter (in): 1" ~

Total Well Depth (ft): 20.85

Initial D.T.W. (ft): 15.15 Time: 0845 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 15.15 Time: 1535 (taken prior to purging well)

Final D.T.W. (ft): 15.29 Time: 1552 (taken after sample collection)

If NAPL Present: D.T.P.:                      D.T.W.:                      Thickness:                      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
1539	12.37	8.875	1.34	7.83	-52.5	1 <sup>st</sup> draw of H <sub>2</sub> O	clear H <sub>2</sub> O sheen/border
1543	13.21	8.920	0.98	7.70	-49.8	0.25 gal.	clear H <sub>2</sub> O slight sheen
1547	13.27	8.934	0.77	7.76	-52.3	0.5 gal.	clear H <sub>2</sub> O
1551	13.21	8.945	0.65	7.65	-55.0	0.75 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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~~ Peristaltic Pumps

## Notes/Comments:

5.70 H<sub>2</sub>O column

0.23 H<sub>2</sub>O volume

0.75 gal. purged

revised: 08/10/09

1" well, sheen on H<sub>2</sub>O, slight product odor



# MONITORING WELL SAMPLING RECORD

Monitor Well No: 12

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral C-C

Arrival Time: 1409 (1441 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 28°

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 1" N

Total Well Depth (ft): 21.18

Initial D.T.W. (ft): 15.53 Time: 0902 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 15.54 Time: 1414 (taken prior to purging well)

Final D.T.W. (ft): 15.56 Time: 1442 (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
1433	12.83	6.547	1.24	7.79	-104.7	1 <sup>st</sup> draw of H <sub>2</sub> O	clear H <sub>2</sub> O
1437	13.91	6.698	0.67	7.68	-86.9	0.5 gal	clear H <sub>2</sub> O
1441	13.90	6.782	0.67	7.64	-81.3	1.0 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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~~ Peristaltic Pump

Notes/Comments:

1" well above ground.

5.64 the column

6.23 the volume

75 gal. purged

revised: 08/10/09

# MONITORING WELL SAMPLING RECORD

Monitor Well No: 13

Animas Environmental Services

624 E. Comanche, Farmington NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling

Project No.: \_\_\_\_\_

Location: Enterprise Field Services, LLC

Date: 12-16-2013

Project: Lateral G-C

Arrival Time: 1450 (1519 Sample)

Sampling Technician: Lavina Lamone

Air Temp: 30°

Purge / No Purge: Purge

T.O.C. Elev. (ft): \_\_\_\_\_

Well Diameter (in): 3 1/2"

Total Well Depth (ft): 24.95

Initial D.T.W. (ft): 19.88 Time: 0837 (taken at initial gauging of all wells)

Confirm D.T.W. (ft): 19.88 Time: 1453 (taken prior to purging well)

Final D.T.W. (ft): \_\_\_\_\_ Time: \_\_\_\_\_ (taken after sample collection)

If NAPL Present: D.T.P.: \_\_\_\_\_ D.T.W.: \_\_\_\_\_ Thickness: \_\_\_\_\_ 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
1502	12.82	6.731	1.86	7.70	66.9	1 <sup>st</sup> draw of H <sub>2</sub> O	clear H <sub>2</sub> O
1507	13.96	6.757	1.46	7.52	55.8	25 gal.	clear H <sub>2</sub> O
1512	14.42	6.691	0.89	7.47	52.7	5 gal	clear H <sub>2</sub> O
1519	14.52	6.731	0.78	7.45	55.7	65 gal.	clear H <sub>2</sub> O

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

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to E-Tech land farm

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 Peristaltic Pump

## Notes/Comments:

5.07 column

1" well

0.21 volume

0.62 gal.

revised: 08/10/09

## Appendix B.



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)

December 23, 2013

Heather Woods

Animas Environmental Services  
624 East Comanche  
Farmington, NM 87401  
TEL: (505) 716-2787  
FAX: (505) 324-2022

RE: Enterprise Lateral 6C

OrderNo.: 1312973

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 11 sample(s) on 12/18/2013 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 [www.hallenvironmental.com](http://www.hallenvironmental.com) 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.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', with a stylized flourish at the end.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-3

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 12:36:00 PM

**Lab ID:** 1312973-001

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	660	10		µg/L	10	12/22/2013 11:58:35 AM	R15678
Toluene	340	5.0		µg/L	5	12/21/2013 3:57:41 PM	R15667
Ethylbenzene	16	5.0		µg/L	5	12/21/2013 3:57:41 PM	R15667
Xylenes, Total	130	10		µg/L	5	12/21/2013 3:57:41 PM	R15667
Surr: 4-Bromofluorobenzene	89.5	85-136		%REC	5	12/21/2013 3:57:41 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-4

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 1:12:00 PM

**Lab ID:** 1312973-002

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	300	10		µg/L	10	12/21/2013 5:28:14 PM	R15667
Toluene	110	10		µg/L	10	12/21/2013 5:28:14 PM	R15667
Ethylbenzene	10	10		µg/L	10	12/21/2013 5:28:14 PM	R15667
Xylenes, Total	63	20		µg/L	10	12/21/2013 5:28:14 PM	R15667
Surr: 4-Bromofluorobenzene	102	85-136		%REC	10	12/21/2013 5:28:14 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-5

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 10:53:00 AM

**Lab ID:** 1312973-003

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	2.1	1.0		µg/L	1	12/21/2013 5:58:20 PM	R15667
Toluene	4.7	1.0		µg/L	1	12/21/2013 5:58:20 PM	R15667
Ethylbenzene	4.0	1.0		µg/L	1	12/21/2013 5:58:20 PM	R15667
Xylenes, Total	17	2.0		µg/L	1	12/21/2013 5:58:20 PM	R15667
Surr: 4-Bromofluorobenzene	105	85-136		%REC	1	12/21/2013 5:58:20 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-6

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 11:51:00 AM

**Lab ID:** 1312973-004

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	5.0		µg/L	5	12/21/2013 6:58:37 PM	R15667
Toluene	ND	5.0		µg/L	5	12/21/2013 6:58:37 PM	R15667
Ethylbenzene	140	5.0		µg/L	5	12/21/2013 6:58:37 PM	R15667
Xylenes, Total	990	100		µg/L	50	12/21/2013 6:28:31 PM	R15667
Surr: 4-Bromofluorobenzene	118	85-136		%REC	5	12/21/2013 6:58:37 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-7

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 11:22:00 AM

**Lab ID:** 1312973-005

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	1.6	1.0		µg/L	1	12/21/2013 9:29:50 PM	R15667
Toluene	3.9	1.0		µg/L	1	12/21/2013 9:29:50 PM	R15667
Ethylbenzene	3.6	1.0		µg/L	1	12/21/2013 9:29:50 PM	R15667
Xylenes, Total	16	2.0		µg/L	1	12/21/2013 9:29:50 PM	R15667
Surr: 4-Bromofluorobenzene	106	85-136		%REC	1	12/21/2013 9:29:50 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-8

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 1:58:00 PM

**Lab ID:** 1312973-006

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	18	1.0		µg/L	1	12/21/2013 9:59:54 PM	R15667
Toluene	21	1.0		µg/L	1	12/21/2013 9:59:54 PM	R15667
Ethylbenzene	5.1	1.0		µg/L	1	12/21/2013 9:59:54 PM	R15667
Xylenes, Total	74	2.0		µg/L	1	12/21/2013 9:59:54 PM	R15667
Surr: 4-Bromofluorobenzene	110	85-136		%REC	1	12/21/2013 9:59:54 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-9

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 10:25:00 AM

**Lab ID:** 1312973-007

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	1.5	1.0		µg/L	1	12/21/2013 10:30:04 PM	R15667
Toluene	3.5	1.0		µg/L	1	12/21/2013 10:30:04 PM	R15667
Ethylbenzene	2.9	1.0		µg/L	1	12/21/2013 10:30:04 PM	R15667
Xylenes, Total	12	2.0		µg/L	1	12/21/2013 10:30:04 PM	R15667
Surr: 4-Bromofluorobenzene	106	85-136		%REC	1	12/21/2013 10:30:04 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-10

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 4:21:00 PM

**Lab ID:** 1312973-008

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	950	20		µg/L	20	12/22/2013 12:59:06 PM	R15678
Toluene	34	1.0		µg/L	1	12/21/2013 11:00:12 PM	R15667
Ethylbenzene	12	1.0		µg/L	1	12/21/2013 11:00:12 PM	R15667
Xylenes, Total	39	2.0		µg/L	1	12/21/2013 11:00:12 PM	R15667
Surr: 4-Bromofluorobenzene	107	85-136		%REC	1	12/21/2013 11:00:12 PM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-11

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 3:51:00 PM

**Lab ID:** 1312973-009

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	2.6	1.0		µg/L	1	12/22/2013 1:29:29 PM	R15678
Toluene	3.5	1.0		µg/L	1	12/22/2013 1:29:29 PM	R15678
Ethylbenzene	ND	1.0		µg/L	1	12/22/2013 1:29:29 PM	R15678
Xylenes, Total	5.9	2.0		µg/L	1	12/22/2013 1:29:29 PM	R15678
Surr: 4-Bromofluorobenzene	99.2	85-136		%REC	1	12/22/2013 1:29:29 PM	R15678

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-12

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 2:41:00 PM

**Lab ID:** 1312973-010

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	3.3	1.0		µg/L	1	12/22/2013 12:00:25 AM	R15667
Toluene	3.8	1.0		µg/L	1	12/22/2013 12:00:25 AM	R15667
Ethylbenzene	ND	1.0		µg/L	1	12/22/2013 12:00:25 AM	R15667
Xylenes, Total	5.8	2.0		µg/L	1	12/22/2013 12:00:25 AM	R15667
Surr: 4-Bromofluorobenzene	97.7	85-136		%REC	1	12/22/2013 12:00:25 AM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312973

Date Reported: 12/23/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** MW-13

**Project:** Enterprise Lateral 6C

**Collection Date:** 12/16/2013 3:19:00 PM

**Lab ID:** 1312973-011

**Matrix:** AQUEOUS

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	4.4	1.0		µg/L	1	12/22/2013 12:30:37 AM	R15667
Toluene	5.1	1.0		µg/L	1	12/22/2013 12:30:37 AM	R15667
Ethylbenzene	1.2	1.0		µg/L	1	12/22/2013 12:30:37 AM	R15667
Xylenes, Total	7.6	2.0		µg/L	1	12/22/2013 12:30:37 AM	R15667
Surr: 4-Bromofluorobenzene	101	85-136		%REC	1	12/22/2013 12:30:37 AM	R15667

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1312973

23-Dec-13

Client: Animas Environmental Services

Project: Enterprise Lateral 6C

Sample ID: <b>5ML RB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R15667</b>	RunNo: <b>15667</b>								
Prep Date:	Analysis Date: <b>12/21/2013</b>	SeqNo: <b>451694</b>		Units: <b>µg/L</b>						
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: 4-Bromofluorobenzene	20		20.00		100	85	136			

Sample ID: <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>R15667</b>	RunNo: <b>15667</b>								
Prep Date:	Analysis Date: <b>12/21/2013</b>	SeqNo: <b>451695</b>		Units: <b>µg/L</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	80	120			
Toluene	22	1.0	20.00	0	109	80	120			
Ethylbenzene	21	1.0	20.00	0	106	80	120			
Xylenes, Total	65	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		103	85	136			

Sample ID: <b>1312973-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>MW-3</b>	Batch ID: <b>R15667</b>	RunNo: <b>15667</b>								
Prep Date:	Analysis Date: <b>12/21/2013</b>	SeqNo: <b>451702</b>		Units: <b>µg/L</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	760	5.0	100.0	570.4	190	73.4	119			SE
Toluene	500	5.0	100.0	338.7	163	80	120			SE
Ethylbenzene	130	5.0	100.0	15.71	117	80	120			
Xylenes, Total	490	10	300.0	133.7	120	80	120			S
Surr: 4-Bromofluorobenzene	100		100.0		105	85	136			

Sample ID: <b>1312973-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>MW-3</b>	Batch ID: <b>R15667</b>	RunNo: <b>15667</b>								
Prep Date:	Analysis Date: <b>12/21/2013</b>	SeqNo: <b>451703</b>		Units: <b>µg/L</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	690	5.0	100.0	570.4	123	73.4	119	9.27	20	SE
Toluene	460	5.0	100.0	338.7	118	80	120	9.53	20	
Ethylbenzene	120	5.0	100.0	15.71	106	80	120	8.88	20	
Xylenes, Total	460	10	300.0	133.7	107	80	120	8.20	20	
Surr: 4-Bromofluorobenzene	100		100.0		105	85	136	0	0	

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2 for VOA and TOC only.     |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1312973

23-Dec-13

Client: Animas Environmental Services

Project: Enterprise Lateral 6C

Sample ID: <b>5ML RB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R15678</b>	RunNo: <b>15678</b>								
Prep Date:	Analysis Date: <b>12/22/2013</b>	SeqNo: <b>452046</b>	Units: <b>µg/L</b>							
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: 4-Bromofluorobenzene	19		20.00		96.0	85	136			

Sample ID: <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>R15678</b>	RunNo: <b>15678</b>								
Prep Date:	Analysis Date: <b>12/22/2013</b>	SeqNo: <b>452230</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		99.7	85	136			

### 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  
S Spike Recovery 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



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 Environmental

Work Order Number: 1312973

RcptNo: 1

Received by/date:

MG 12/18/13

Logged By: Anne Thorne

12/18/2013 10:00:00 AM

*Anne Thorne*

Completed By: Anne Thorne

12/20/2013

*Anne Thorne*

Reviewed By:

TO

12/20/2013

### Chain of Custody

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

### Log In

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

16. 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:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

# Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche

Farmington, NM 87401

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager: H. Woods

Sampler: L. Lamone

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0°

HEAL No. 1312973

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Enterprise Lateral 6C

Project #:

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/16/13	1236	Water	MW-3	3-40 mL VOA	HCl	-001	X										
2/16/13	1312	Water	MW-4	3-40 mL VOA	HCl	-002	X										
2/16/13	1053	Water	MW-5	3-40 mL VOA	HCl	-003	X										
2/16/13	1151	Water	MW-6	3-40 mL VOA	HCl	-004	X										
2/16/13	1122	Water	MW-7	3-40 mL VOA	HCl	-005	X										
2/16/13	1358	Water	MW-8	3-40 mL VOA	HCl	-006	X										
12/16/13	1025	Water	MW-9	3-40 mL VOA	HCl	-007	X										
12/16/13	1641	Water	MW-10	3-40 mL VOA	HCl	-008	X										
12/16/13	1557	Water	MW-11	3-40 mL VOA	HCl	-009	X										
12/16/13	1441	Water	MW-12	3-40 mL VOA	HCl	-010	X										
12/16/13	1579	Water	MW-13	3-40 mL VOA	HCl	-011	X										

Date:	Time:	Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Remarks:
2/17/13	1730	<u>Tim P</u>	2/17/13	1730	<u>Shirley Walker</u>	2/17/13	1730	Relinquished by:
2/19/13	1756	<u>Shirley Walker</u>	2/19/13	1756	<u>Shirley Walker</u>	2/19/13	1756	Relinquished by:

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.

## Appendix C.

TABLE C-1. SUMMARY OF PUMPING TEST PARAMETERS  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October  
2013 Pipeline Release San Juan County, New Mexico

<i><b>Well ID</b></i>	<i><b>Date Tested</b></i>	<i><b>Saturated Thickness* (ft)</b></i>	<i><b>Average Pumping Rate (gpm)</b></i>	<i><b>Total Duration of Test (H:M)</b></i>
<b>MW-6</b>	12/3/2013	6.54	1.14	1:28
<b>MW-7</b>	12/3/2013	6.54	1.32	1:18
<b>MW-8</b>	12/3/2013	10.19	1.48	1:14
<b>MW-9</b>	12/3/2013	7.52	1.24	1:33

**Notes:**      \* - Estimated to +/- one foot from measurements on 12/16/13

TABLE C-2. SUMMARY OF HYDRAULIC CONDUCTIVITY ESTIMATES  
 Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October  
 2013 Pipeline Release San Juan County, New Mexico

<b><i>Well ID</i></b>	<b><i>Theis (cm/sec)</i></b>	<b><i>Average Recovery (cm/sec)</i></b>
MW-6	2.23E-03	6.88E-03
MW-7	6.96E-03	7.34E-03
MW-8	8.01E-03	1.19E-02
MW-9	3.86E-03	9.09E-03
Average	5.27E-03	8.81E-03



TABLE C-3. SUMMARY OF RECOVERY TEST HYDRAULIC CONDUCTIVITY ESTIMATES Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October 2013 Pipeline Release San Juan County, New Mexico

<i>Well ID</i>	<i>Neuman Method (cm/sec)</i>	<i>Moench Method (cm/sec)</i>	<i>Tartakovsky- Neuman Method (cm/sec)</i>	<i>Average (cm/sec)</i>
<b>MW-6 (RD)</b>	1.14E-02	9.93E-03	1.14E-02	6.88E-03
<b>MW-6 (AG)</b>	2.21E-03	2.38E-03	3.93E-03	
<b>MW-7 (RD)</b>	1.84E-02	2.23E-04	7.63E-04	7.34E-03
<b>MW-7 (AG)</b>	5.89E-03	6.15E-03	1.26E-02	
<b>MW-8 (RD)</b>	2.10E-02	1.88E-02	3.59E-04	1.19E-02
<b>MW-8 (AG)</b>	1.55E-02	5.48E-03	1.05E-02	
<b>MW-9 (RD)</b>	1.20E-02	1.42E-02	2.13E-02	9.09E-03
<b>MW-9 (AG)</b>	2.17E-03	2.11E-03	2.75E-03	
<b>Average</b>	1.11E-02	7.41E-03	7.95E-03	8.81E-03

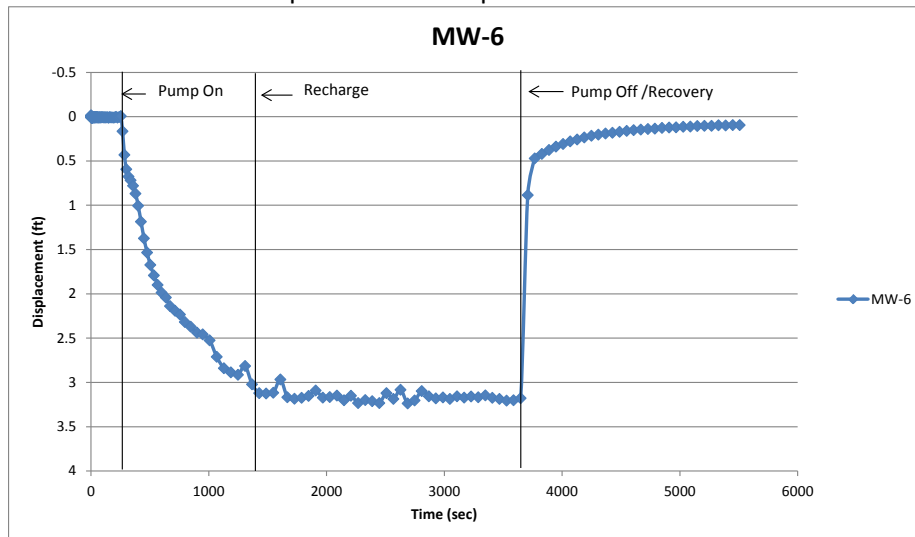
**Notes:**      **RD - Residual Drawdown**  
                 **AG - Agarwal Equivalent Time**

TABLE C-4. SUMMARY OF GROUNDWATER VELOCITY AND PLUME MIGRATION ESTIMATES  
Enterprise Field Services, LLC, Trunk 6C (Former Lateral 6C) September 2011 and October  
2013 Pipeline Release San Juan County, New Mexico

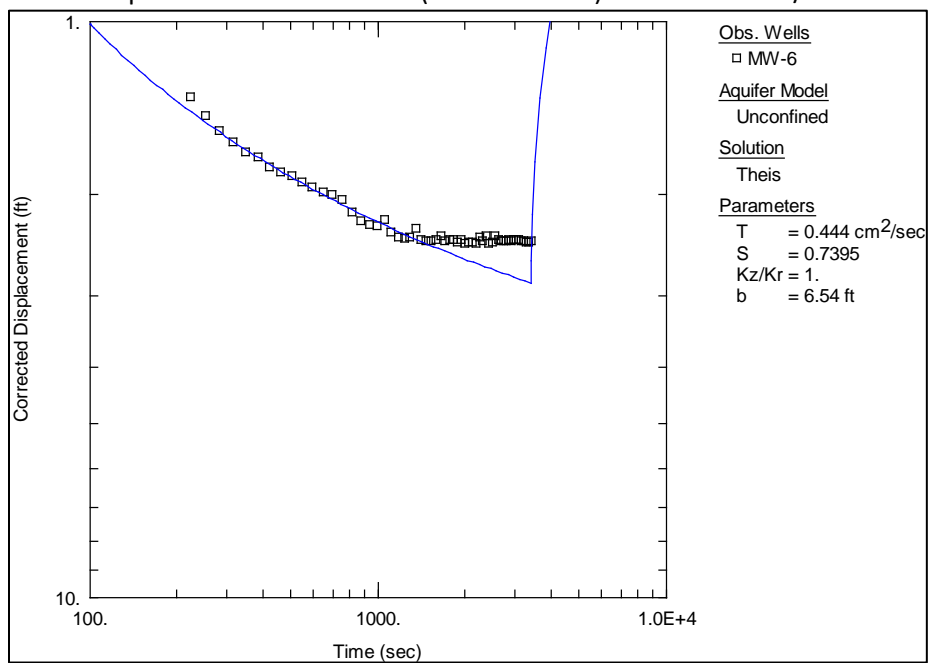
	Theis	Avg. Recovery
Average K (cm/sec)	5.27E-03	8.81E-03
Average K (ft/day)	14.94	24.97
Velocity (ft/day), n=45%	0.19	0.33
Velocity (ft/day), n=35%	0.25	0.42
Velocity (ft/day), n=25%	0.35	0.60
Plume Migration (ft), n=45%	162	282
Plume Migration (ft), n=35%	213	359
Plume Migration (ft), n=25%	299	512

## MW-6

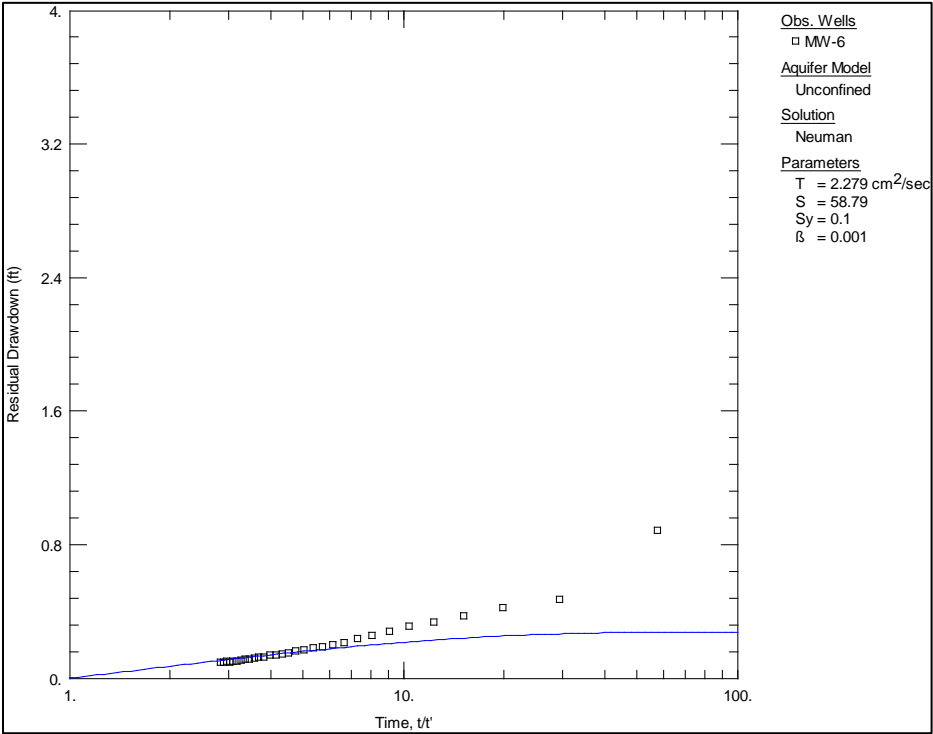
Graph 1. MW-6 Displacement Curve.



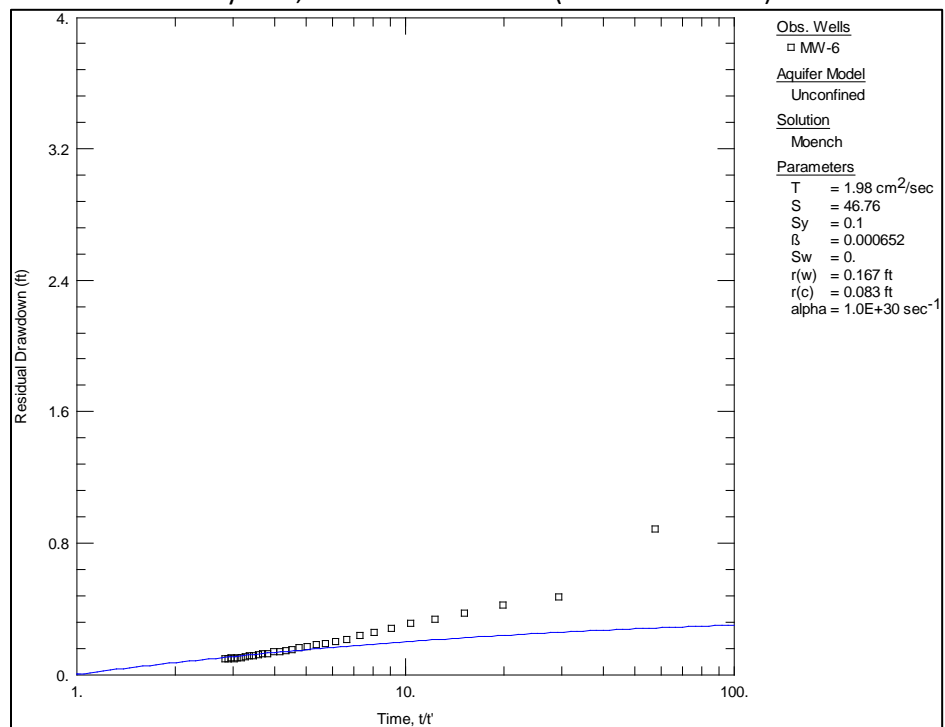
Graph 2. MW-6 Drawdown (Theis Method) –K 2.23E-03 cm/sec.



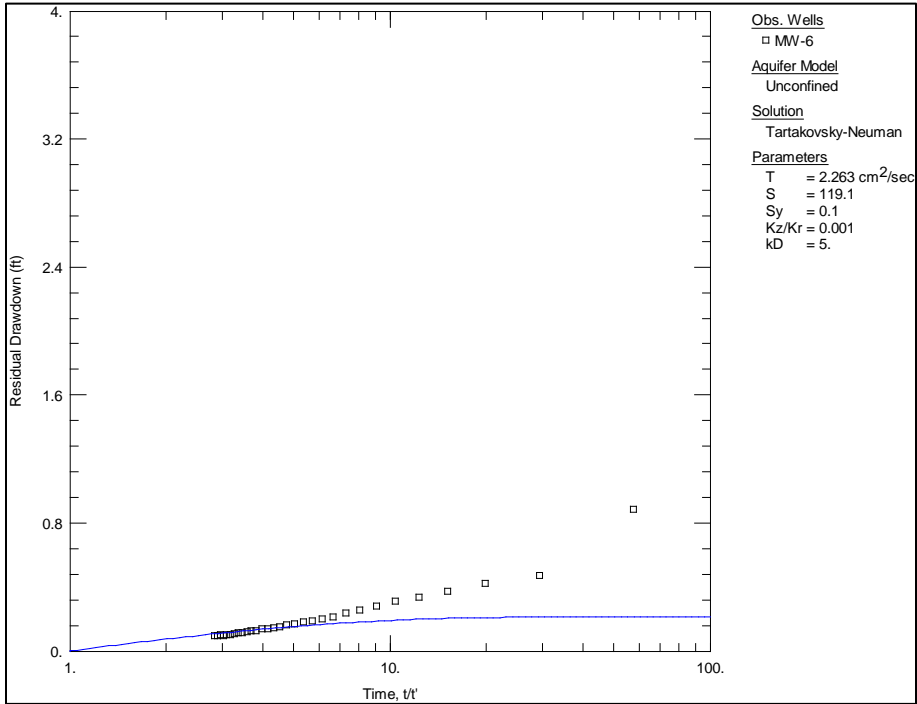
Graph 3. MW-6 Recovery Test, Residual Drawdown (Neuman Method) –K 1.14E-02 cm/sec.



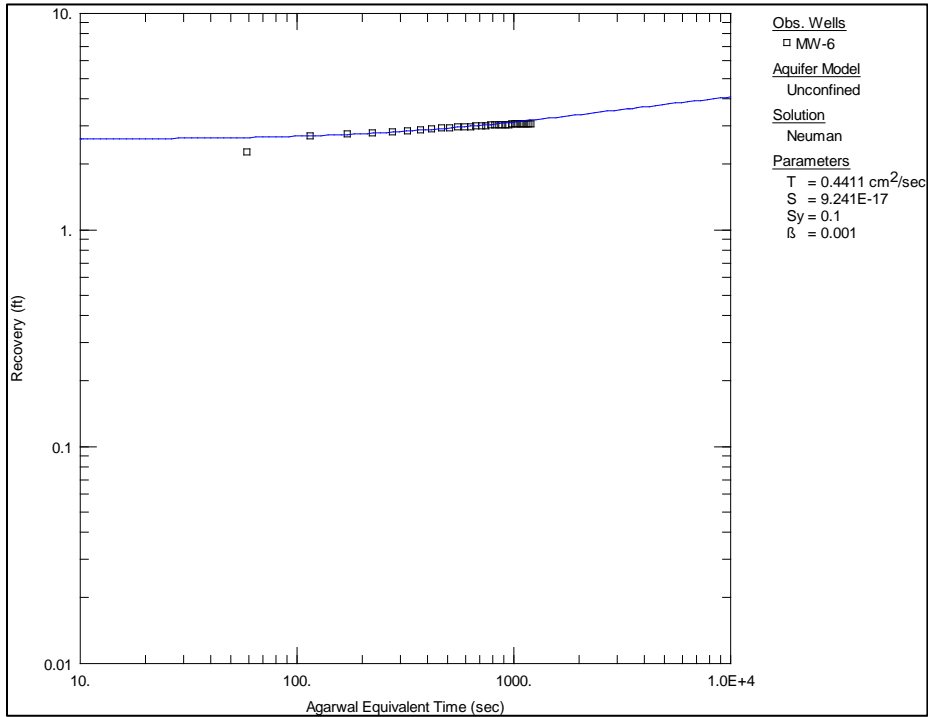
Graph 4. MW-6 Recovery Test, Residual Drawdown (Moench Method) –K 9.93E-03 cm/sec.



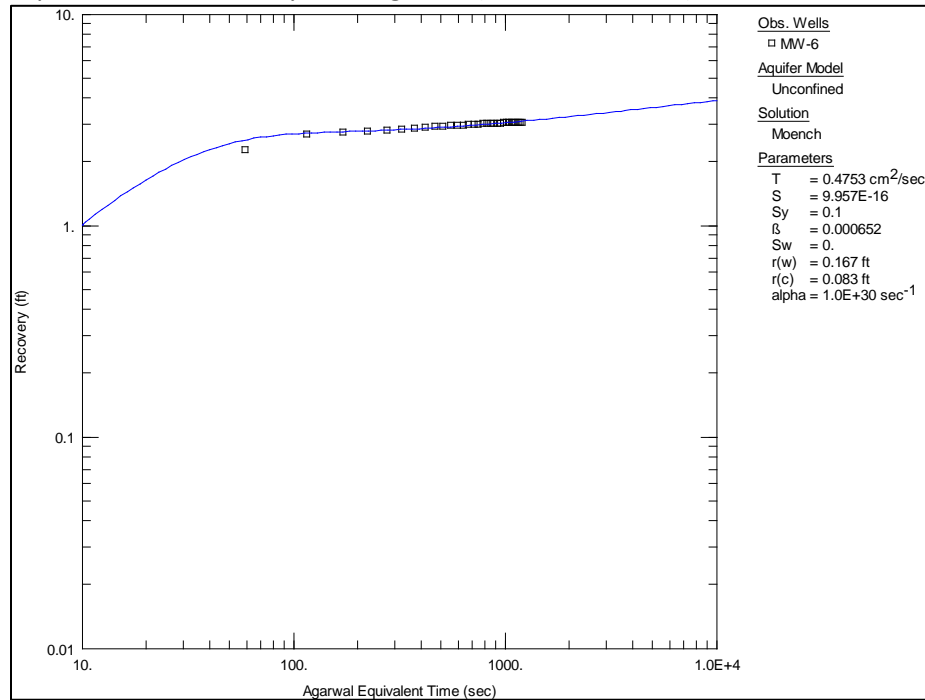
Graph 5. MW-6 Recovery Test, Residual Drawdown (Tartakovsky-Neuman Method)  
-K 1.14E-02 cm/sec.



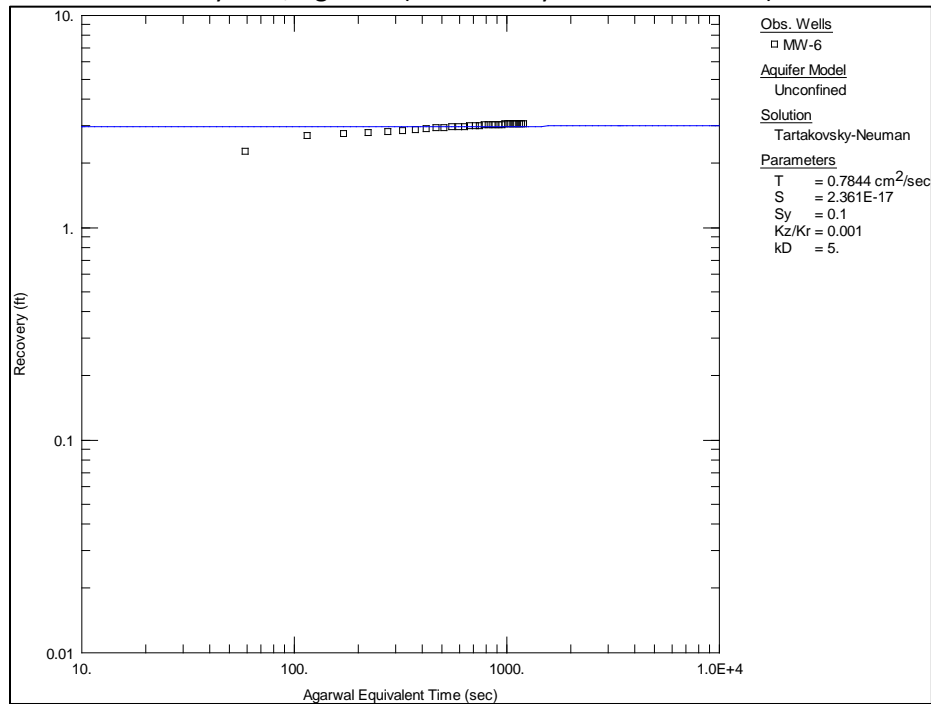
Graph 6. MW-6 Recovery Test, Agarwal (Neuman Method) -K 2.21E-03 cm/sec.



Graph 7. MW-6 Recovery Test, Agarwal (Moench Method) –K 2.38E-03 cm/sec.

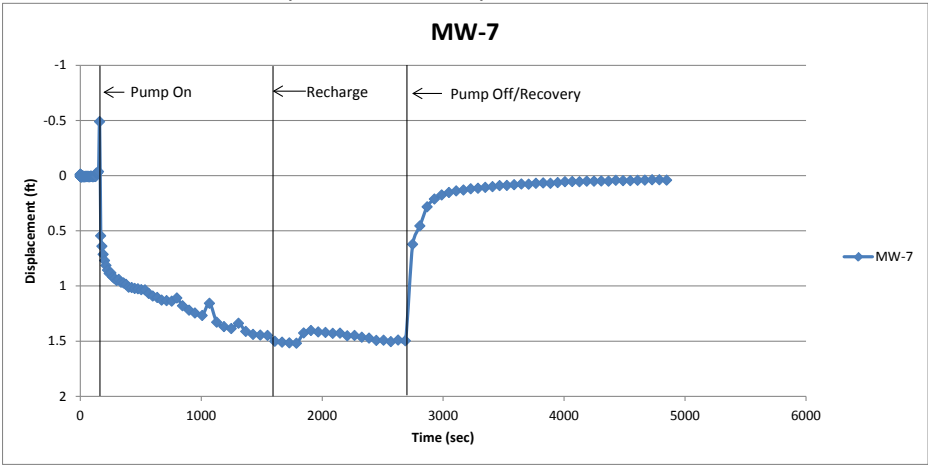


Graph 8. MW-6 Recovery Test, Agarwal (Tartakovsky-Neuman Method) –K 3.93E-03 cm/sec.

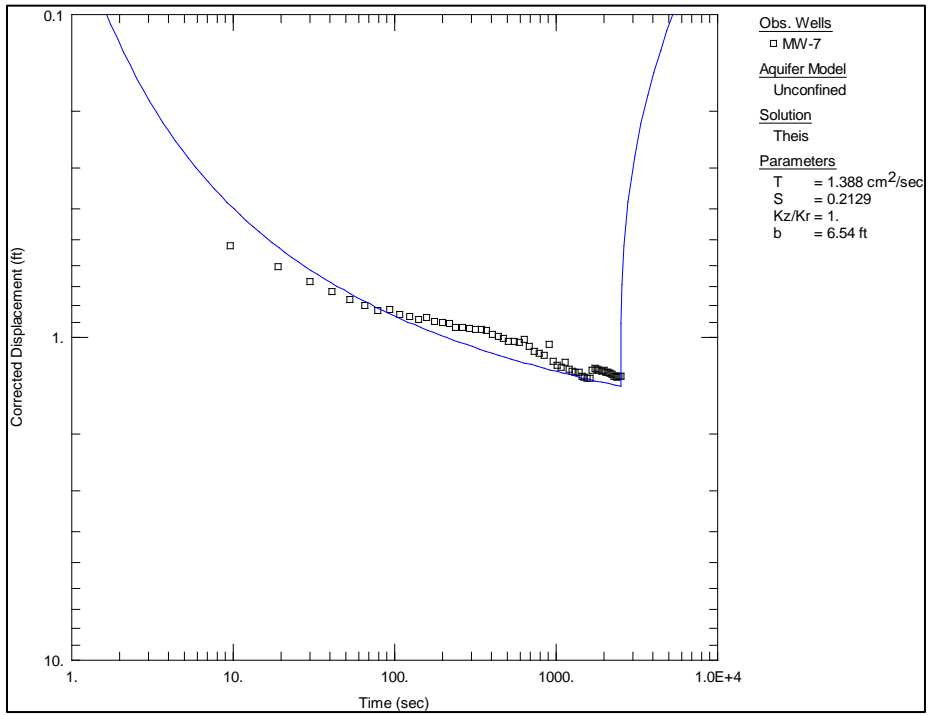


MW-7

Graph 9. MW-7 Displacement Curve.

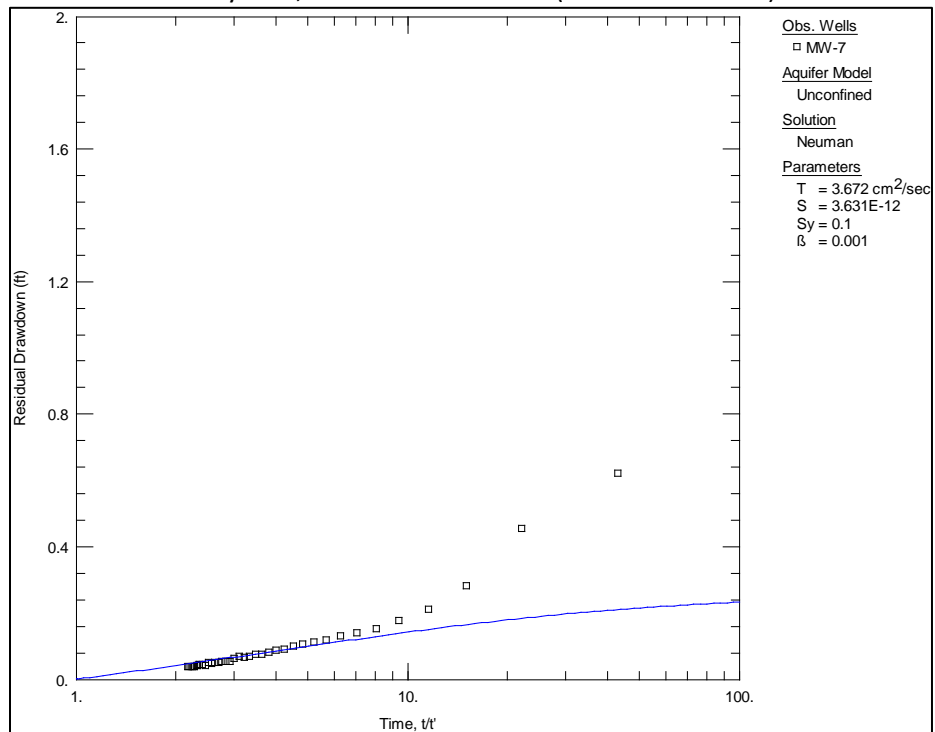


Graph 10. MW-7 Drawdown (Theis Method) –K 6.96E-03 cm/sec.

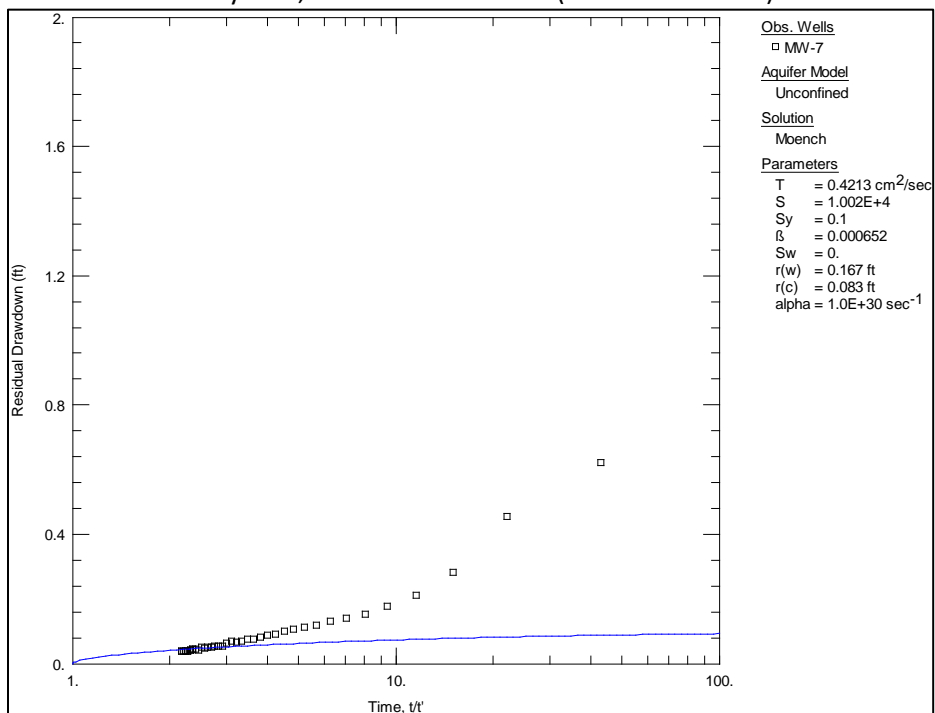




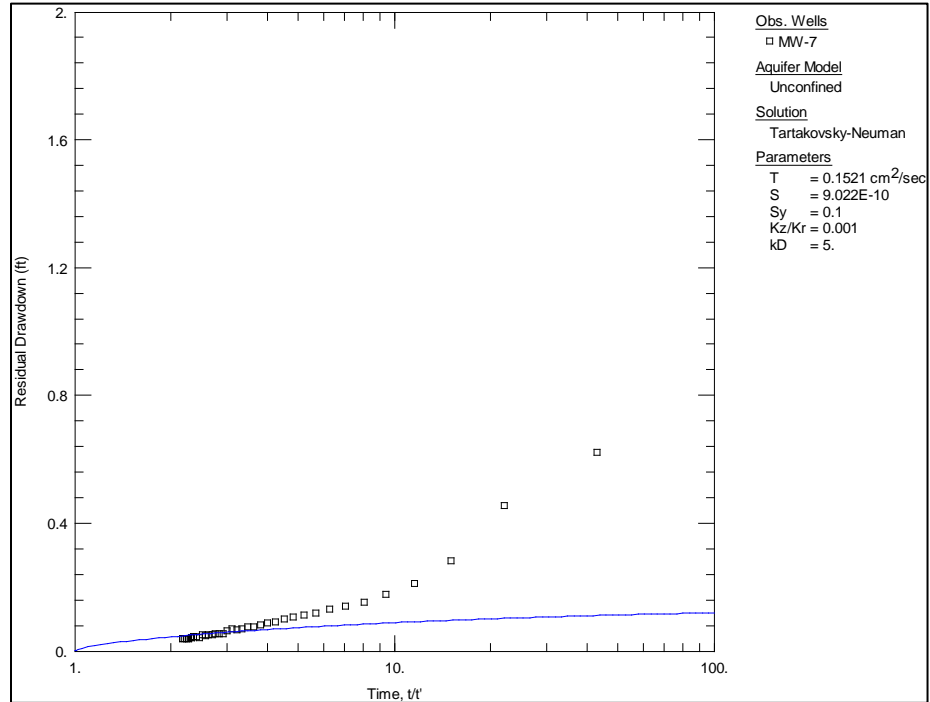
Graph 11. MW-7 Recovery Test, Residual Drawdown (Neuman Method) –K 1.84E-02 cm/sec.



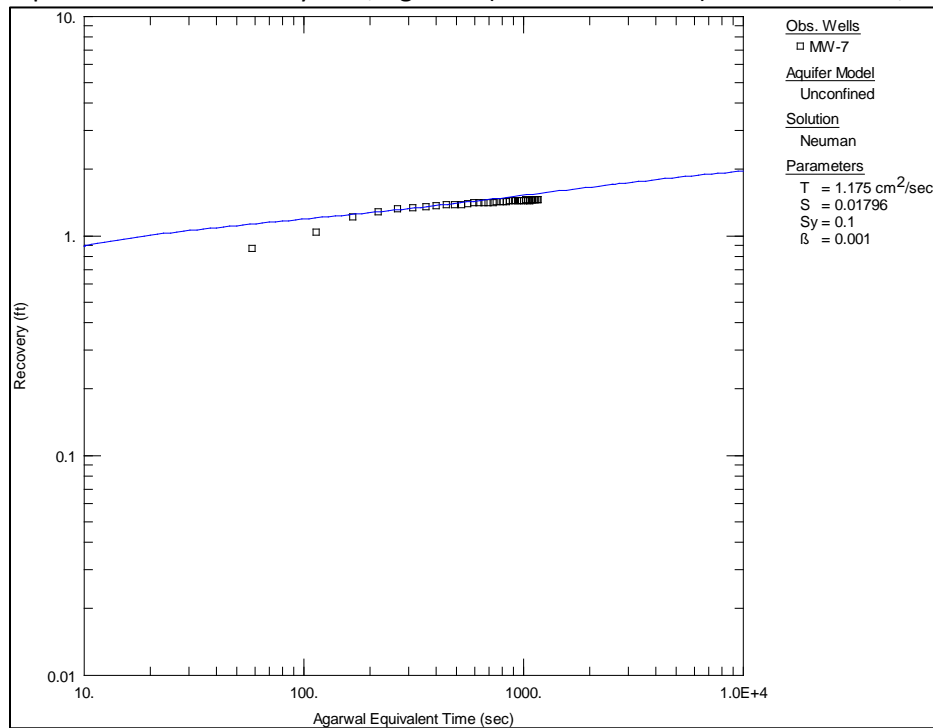
Graph 12. MW-7 Recovery Test, Residual Drawdown (Moench Method) –K 2.23E-03 cm/sec.



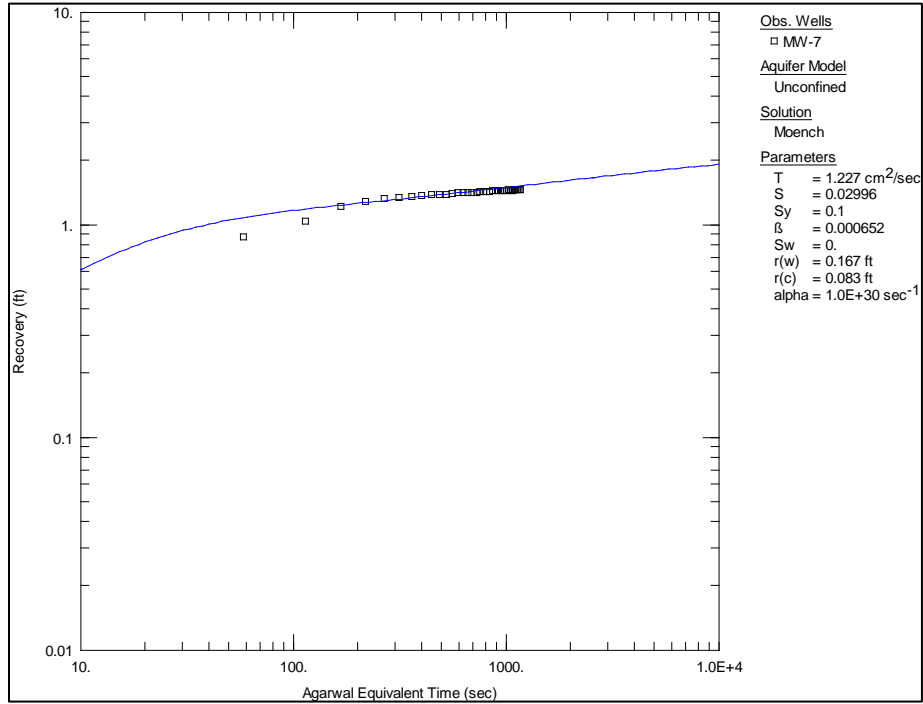
Graph 13. MW-7 Recovery Test, Residual Drawdown (Tartakovsky-Neuman Method)  
 $-K 7.63E-04 \text{ cm/sec.}$



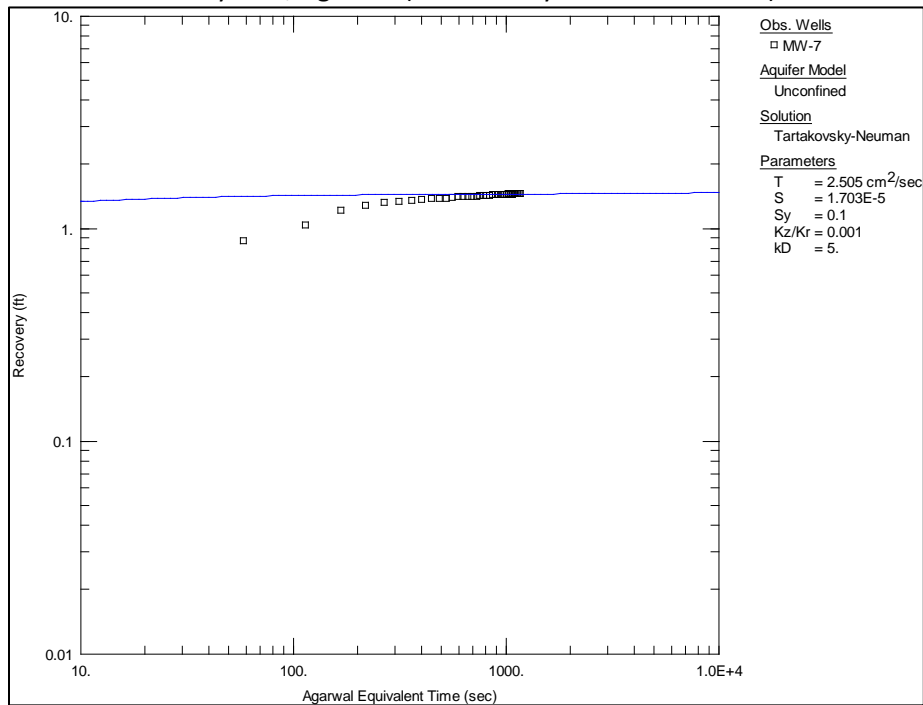
Graph 14. MW-7 Recovery Test, Agarwal (Neuman Method)  $-K 5.89E-03 \text{ cm/sec.}$



Graph 15. MW-7 Recovery Test, Agarwal (Moench Method) –K 6.15E-03 cm/sec.

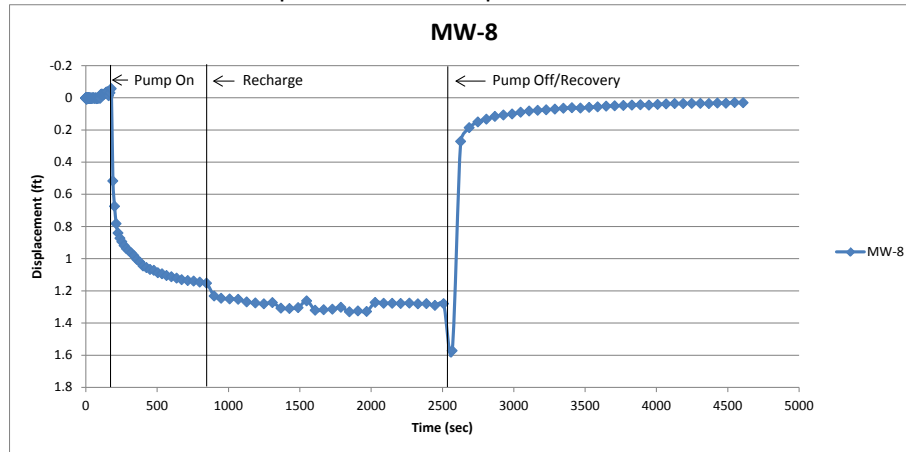


Graph 16. MW-7 Recovery Test, Agarwal (Tartakovsky-Neuman Method) –K 1.26E-02 cm/sec.

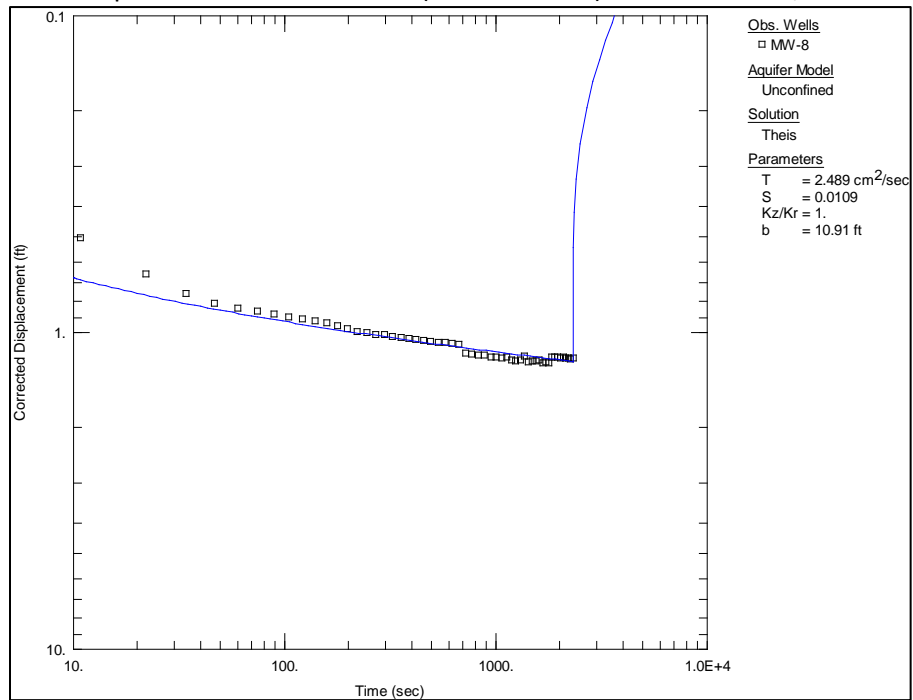


## MW-8

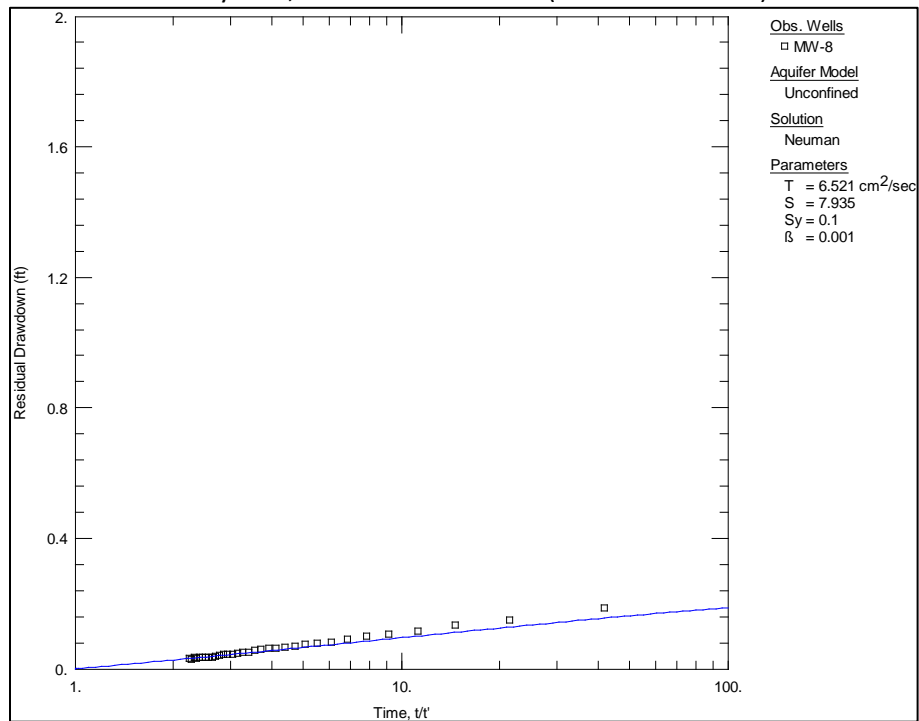
Graph 17. MW-8 Displacement Curve.



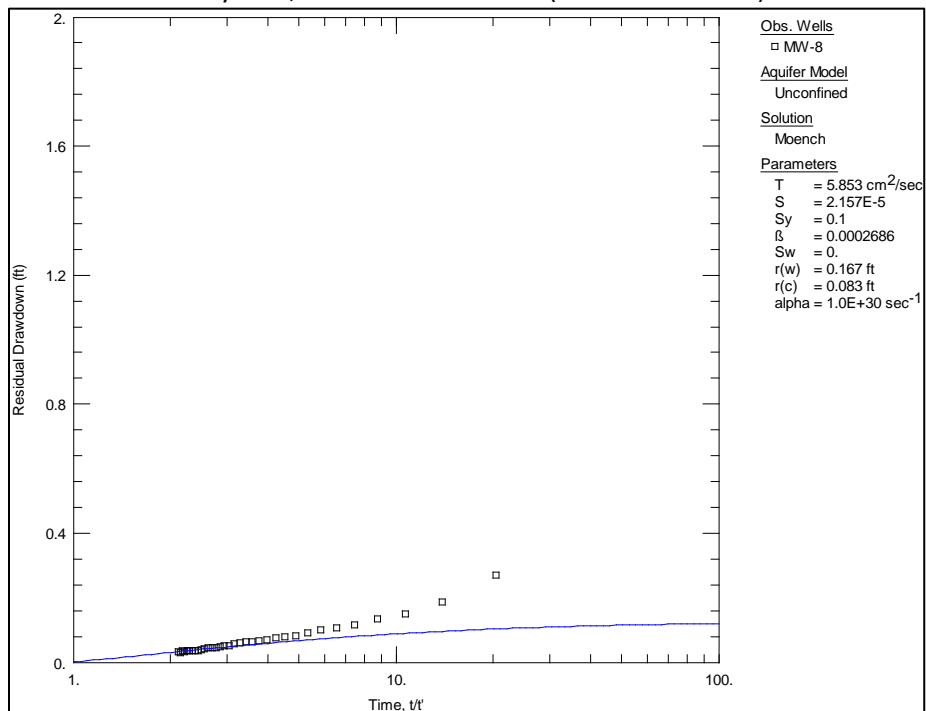
Graph 18. MW-8 Drawdown (Theis Method) –K 8.01E-03 cm/sec.



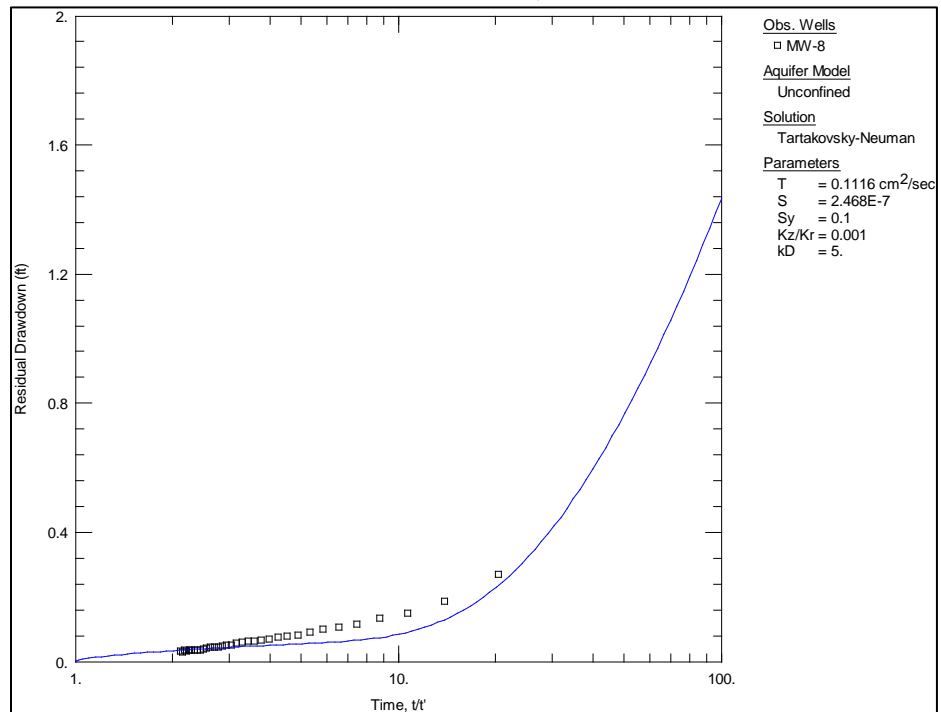
Graph 19. MW-8 Recovery Test, Residual Drawdown (Neuman Method) –K 2.10E-02 cm/sec.



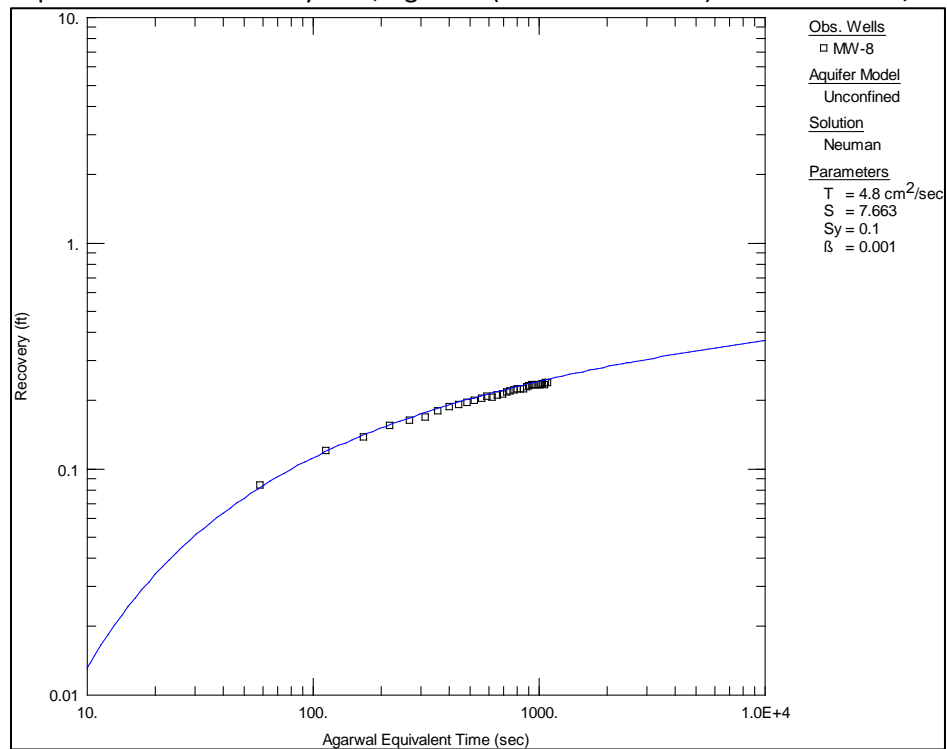
Graph 20. MW-8 Recovery Test, Residual Drawdown (Moench Method) –K 1.88E-02 cm/sec.



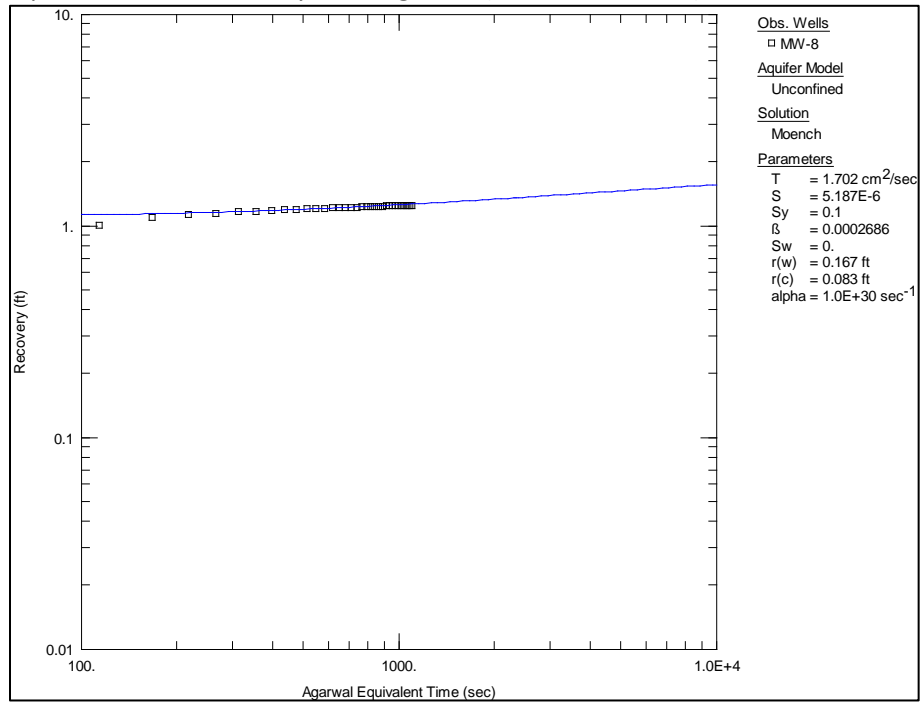
Graph 11. MW-8 Recovery Test, Residual Drawdown (Tartakovsky-Neuman Method)  
 $-K\ 3.59E-04\ \text{cm/sec.}$



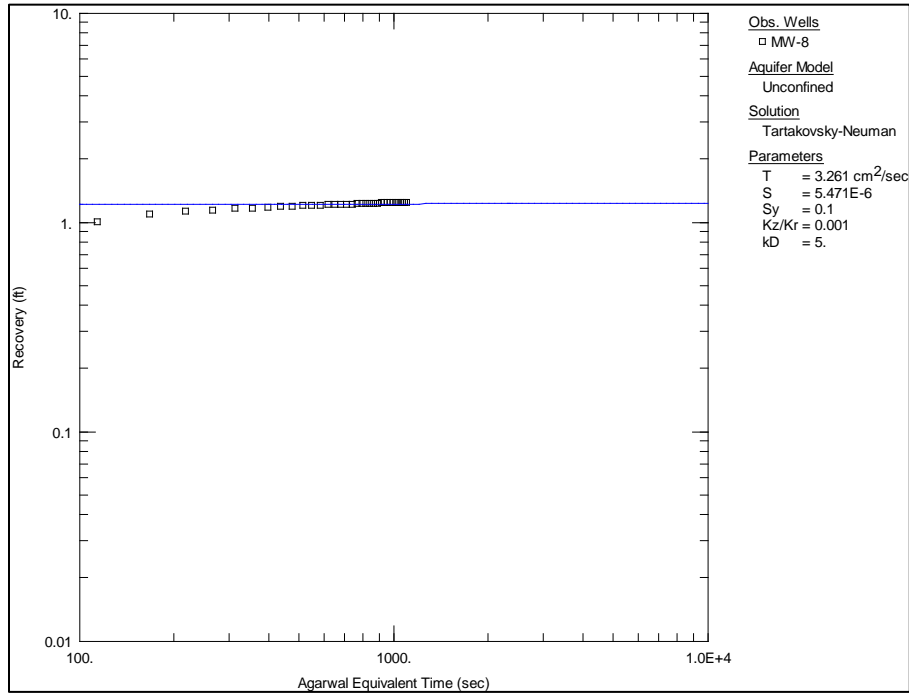
Graph 22. MW-8 Recovery Test, Agarwal (Neuman Method)  $-K\ 1.55E-02\ \text{cm/sec.}$



Graph 23. MW-8 Recovery Test, Agarwal (Moench Method) –K 5.48E-03 cm/sec

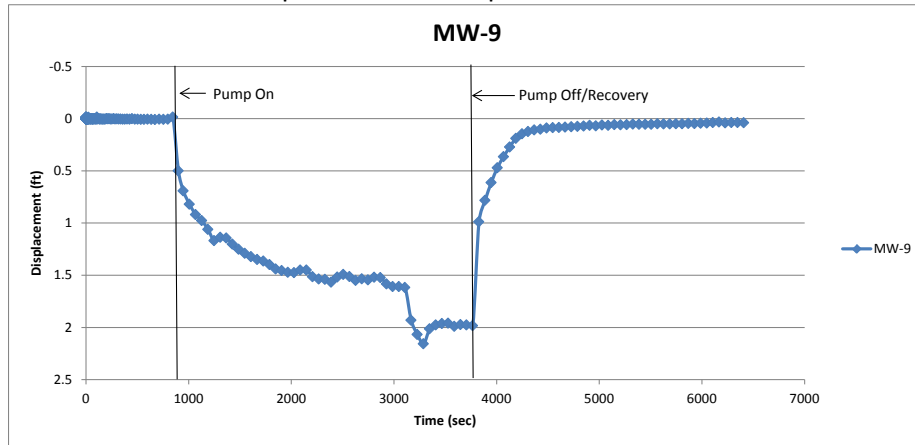


Graph 24. MW-8 Recovery Test, Agarwal (Tartakovsky-Neuman Method) –K 1.05E-02 cm/sec.



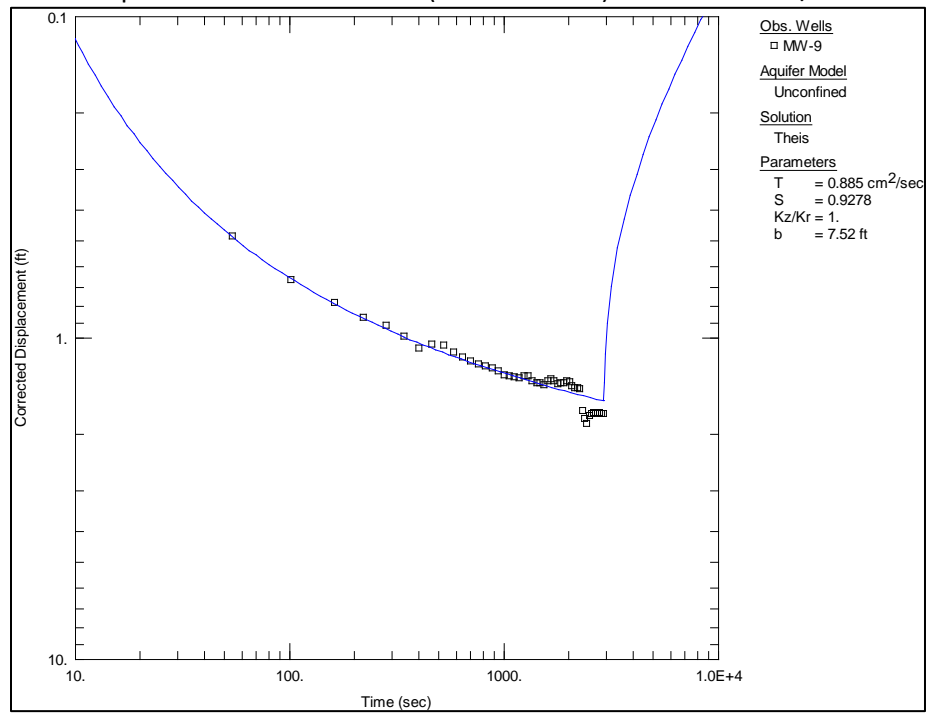
## MW-9

Graph 25. MW-9 Displacement Curve.

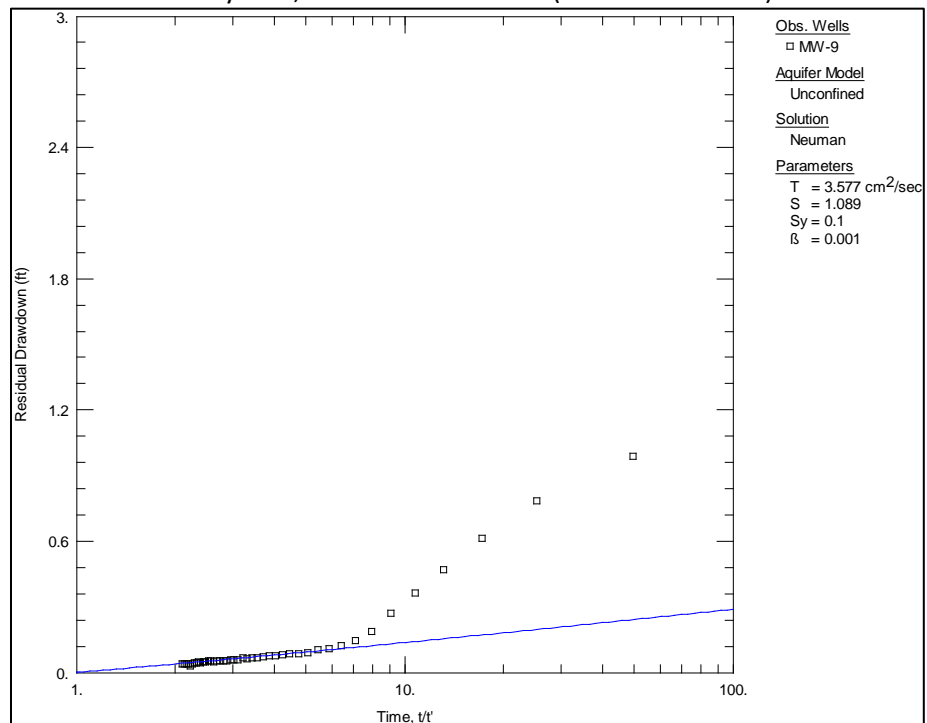




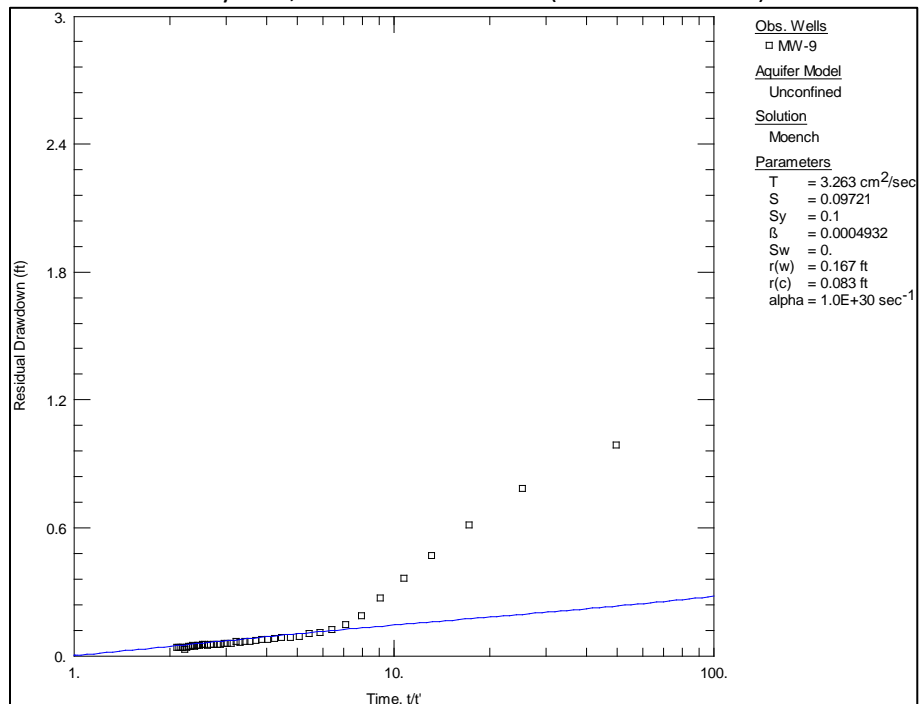
Graph 26. MW-9 Drawdown (Theis Method) –K 3.86E-03 cm/sec.



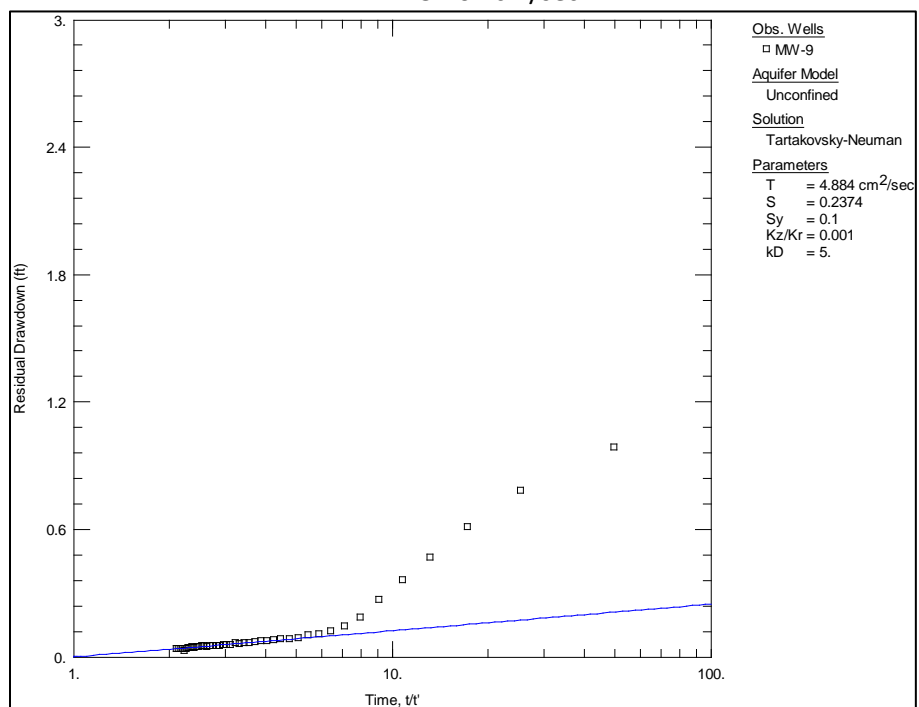
Graph 27. MW-9 Recovery Test, Residual Drawdown (Neuman Method) –K 1.20E-02 cm/sec



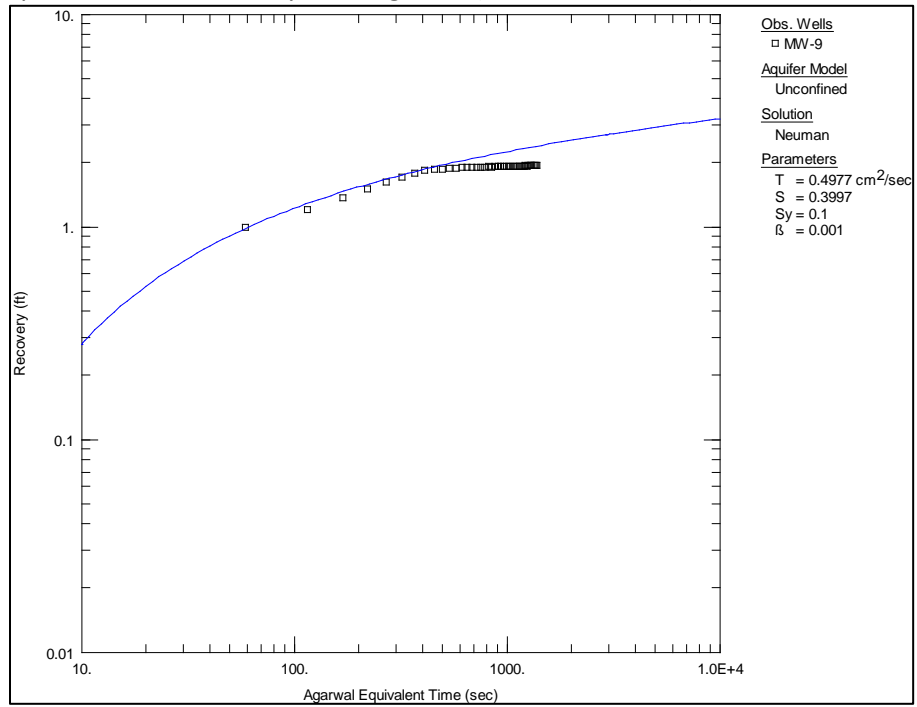
Graph 28. MW-9 Recovery Test, Residual Drawdown (Moench Method) –K 1.42E-02 cm/sec.



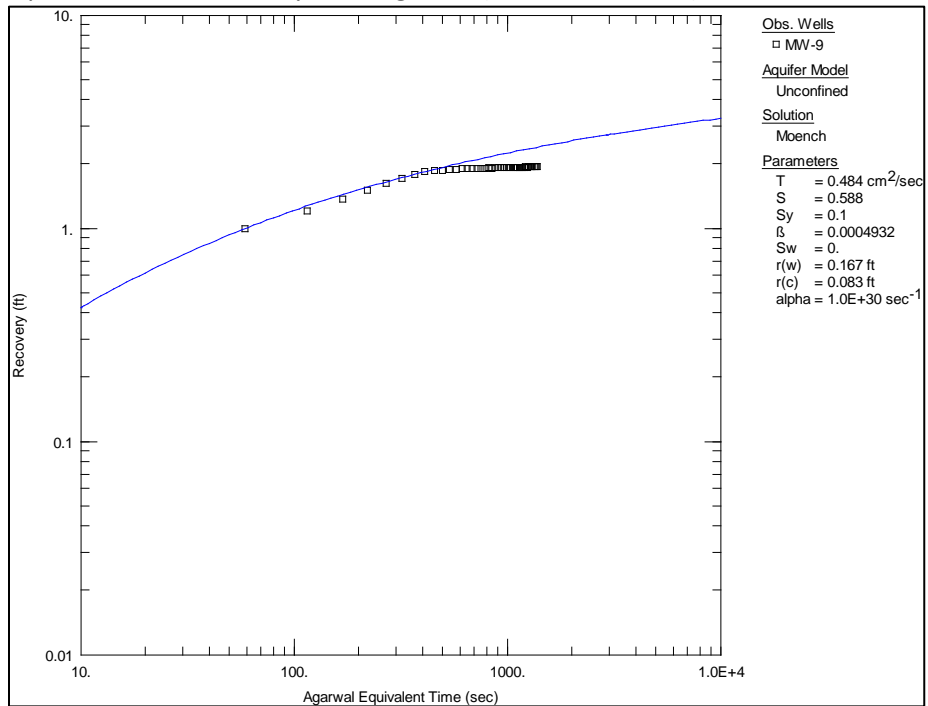
Graph 29. MW-9 Recovery Test, Residual Drawdown (Tartakovsky-Neuman Method) –K 2.13E-02 cm/sec.



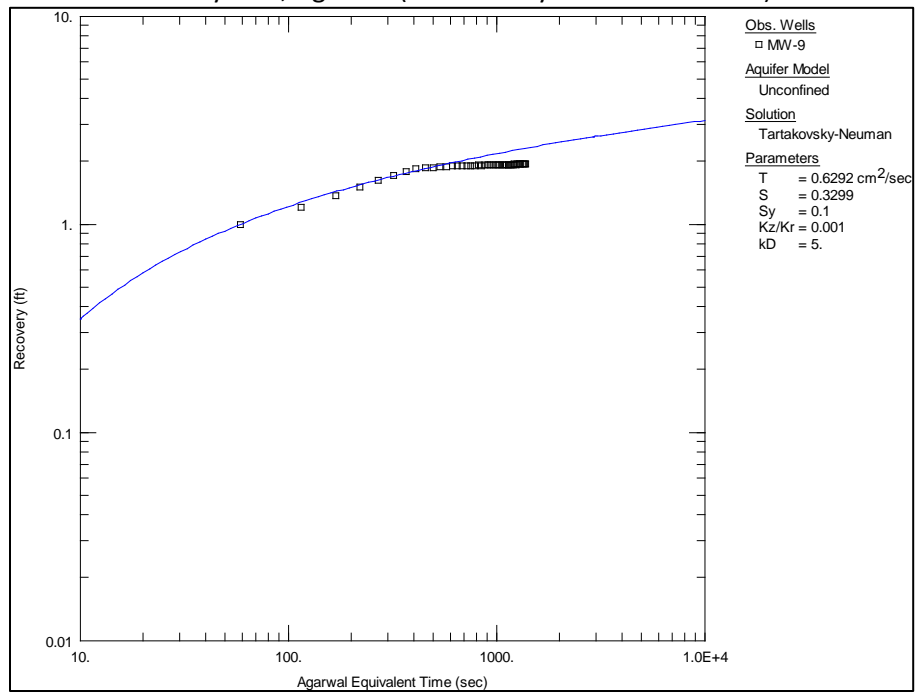
Graph 30. MW-9 Recovery Test, Agarwal (Neuman Method) –K 2.17E-03 cm/sec.



Graph 31. MW-9 Recovery Test, Agarwal (Moench Method) –K 2.11E-03 cm/sec.



Graph 32. MW-9 Recovery Test, Agarwal (Tartakovsky-Neuman Method) –K 2.75E-03 cm/sec.



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## Appendix D.





# Bill of Lading

45431

MANIFEST #

DATE 12.17.13

**JOB #**

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER COMBUSTION ENERGY NAME FRANK COLBERT

SIGNATURE 

DATE 12-17-13

PHONE 215-2744

COMPANY CONTACT 9 AIR  
Signatures required prior to distribution of the legal document.

White - Company Records, Yellow - Billing, Pink - Customer





# Bill of Lading

MANIFEST #

45440

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 12-18-13

JOB #

97057-0590

COMPLETE DESCRIPTION OF SHIPMENT										TRANSPORTING COMPANY			
LOAD NO.	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLs	COMPANY	TRK#	TIME	DRIVER SIGNATURE			
1	Enterprise Lat 6C	LFH-5	const soil	J-27	12	-	Doug Fontz	934	1005	Ron Bright			
2	"	"	"	J-27	12	-	"	935	1005	D. L. Loh			
3	"	"	"	K-27	12	-	"	935	1152	D. L. Loh			
4	"	"	"	K-27	12	-	"	934	1156	Ron Bright			
5	"	"	"	K-27	12	-	"	935	13:10	D. L. Loh			
6	"	"	"	K-27	12	-	"	934	13:20	Ron Bright			
7	"	"	"	K-27	12	-	"	935	14:30	D. L. Loh			
8	"	"	"	L-27	12	-	"	934	14:30	Ron Bright			
9	"	"	"	L-27	12	-	"	935	15:50	D. L. Loh			
10	"	"	"	L-27	12	-	"	934	15:50	Ron Bright			
					120								
RESULTS:		LANDFARM EMPLOYEE:		NOTES:									
287	CHLORIDE TEST	3	Certification of above receipt & placement										
	PAINT FILTER TEST	3	EL										

287

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO: Doug Fontz const NAME: Ron Bright SIGNATURE: Ron Bright

COMPANY CONTACT: Doug Fontz PHONE: 325-4922 DATE: 12-18-13

Signatures required prior to distribution of the legal document.



## Bill of Lading

MANIFEST #

45441

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 12-18-13 JOB # 97057-0590

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO.	NAME	SIGNATURE
Dong Fontez Const	Ron Bright	Ron Bright
COMPANY CONTACT	PHONE	DATE
Cons Fontez	325-4922	12-18-13

Signatures required prior to distribution of the legal document.

White - Company Records Yellow - Billing Pink - Customer

White - Company Records, Yellow - Billing, Pink - Customer



45442

MANIFEST #

97057-0590

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. *West states*

NAME FRANK COLBERT

**SIGNATURE**

## COMPANY CONTACT

## PHONE

**Signatures required prior to distribution of the legal document.**

White - Company Records, Yellow - Billing, Pink - Customer





# Bill of Lading

45443

MANIFEST #

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 12-18-13 JOB # 97057-0590

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. West states

NAME FRANK COLLANTON

SIGNATURE

**COMPANY CONTACT**

PHONE

**Signatures required prior to distribution of the legal document.**

White - Company Records, Yellow - Billing, Pink - Customer



45465

MANIFEST #

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. WEST STATION

NAME FRANK COLLIARD

SIGNATURE Shreshth Chakraborty

## COMPANY CONTACT

## PHONE

DATE \_\_\_\_\_

*Signatures required prior to distribution of the legal document.*

White - Company Records, Yellow - Billing, Pink - Customer



PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

# Bill of Lading

MANIFEST #

45466

DATE 12-20-13 JOB # 97057-0590

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

COMPLETE DESCRIPTION OF SHIPMENT				TRANSPORTING COMPANY						
LOAD NO.	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLs	COMPANY	TRK#	TIME	DRIVER SIGNATURE
1	Enterprise CAT 6C	LFH-5	CONC 5012	5-27	10	—	Doug Fortz	935	8:50	D. Rodriguez
2	"	"	"	5-27	10	—	"	835	8:50	Garcia
3	"	"	"	5-27	10	—	"	934	9:50	Ken B. Fortz
4	"	"	"	N-25	10	—	"	935	10:00	D. Rodriguez
5	"	"	"	N-25	10	—	"	835	10:05	Garcia
6	"	"	"	N-25	10	—	"	934	10:10	Ken B. Fortz
7	"	"	"	L-27	10	—	"	935	11:15	D. Rodriguez
8	"	"	"	L-27	10	—	"	8:35	11:15	Garcia
9	"	"	"	L-27	10	—	"	9:34	11:20	Ken B. Fortz
10	"	"	"	L-27	10	—	"	935	11:20	D. Rodriguez
11	"	"	"	L-27	10	—	"	835	11:20	Garcia
12	"	"	"	L-27	10	—	"	934	12:45	Ken B. Fortz
RESULTS:	LANDFARM EMPLOYEE:		NOTES:							
CHLORIDE TEST 3	PAINT FILTER TEST 3		Certification of above receipt & placement							

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO: Doug Fortz Const NAME: Tim Rodriguez SIGNATURE: D. Rodriguez DATE: 12-20-13

COMPANY CONTACT: Randy Fortz PHONE: 505-325-4922

Signatures required prior to distribution of the legal document.





# Bill of Lading

MANIFEST #

45467

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 12-20-13

JOB # 97057-0590

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT						TRANSPORTING COMPANY			
	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLs	COMPANY	TRK#	TIME	DRIVER SIGNATURE
2	E-tech	ENTERPRISE LAT 66	Clear Fill	-	10	-	Days Four 42	935	8:50	Jim [Signature]
2	E-tech	"	"	-	10	-	"	935	8:50	James [Signature]
3	E-tech	"	"	-	10	-	"	934	8:50	Ken [Signature]
4	"	"	"	-	10	-	"	935	10:00	Jim [Signature]
5	"	"	"	-	10	-	"	835	10:05	James [Signature]
6	"	"	"	-	10	-	"	934	10:10	Ken [Signature]
7	"	"	"	-	10	-	"	935	11:15	Jim [Signature]
8	"	"	"	-	10	-	"	835	11:15	James [Signature]
9	"	"	"	-	10	-	"	934	11:19	Ken [Signature]
10	"	"	"	-	10	-	"	935	11:20	Jim [Signature]
11	"	"	"	-	10	-	"	835	11:20	James [Signature]
12	"	"	"	-	10	-	"	934	12:45	Ken [Signature]
RESULTS:	LANDFARM EMPLOYEE: [Signature]						NOTES:			
CHLORIDE TEST	Certification of above receipt & placement									
PAINT FILTER TEST										

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. Days Four 42 NAME Tim [Signature] SIGNATURE [Signature]

COMPANY CONTACT Cordy [Signature] PHONE 505-325-4922 DATE 12-20-13

Signatures required prior to distribution of the legal document.



# Bill of Lading

MANIFEST #

45468

97057-0590

**JOB #**

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. WILSON STRENGTH NAME FRANK, EOLAN SIGNATURE [Signature] DATE \_\_\_\_\_

COMPANY CONTACT \_\_\_\_\_ PHONE \_\_\_\_\_

*Signatures required prior to distribution of the legal document.*

White, Common, Records, Yellow, Billing, Blank, Customer

san juan reproduction 5/8-126





# Bill of Lading

MANIFEST #


45472

DATE 12-20-13 JOB # 97057-0590

DATE 12-20-13

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO	NAME	SIGNATURE
Dave Fatz Const	Tim Ledner	
COMPANY CONTACT	PHONE	DATE
Lonny Fatz	95325-4922	12-20-13

Signatures required prior to distribution of the legal document.

White - Company Records Yellow - Billing Pink - Customer

White - Company Records, Yellow - Billing, Pink - Customer



# Bill of Lading

MANIFEST #

DATE

JOB #

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

COMPLETE DESCRIPTION OF SHIPMENT				TRANSPORTING COMPANY						
LOAD NO.	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLs	COMPANY	TRK#	TIME	DRIVER SIGNATURE
2	ENTRAPPEL SC	LFH-5	CONC	L-27	10	—	DOCS FORTZ	935	13:30	ALL
2	"	"	"	M-27	10	—	"	835	13:30	Anybody
3	"	"	"	M-27	10	—	"	934	13:50	Anybody
4	"	"	"	M-27	10	—	"	935	14:40	Anybody
5	"	"	"	M-27	10	—	"	835	14:40	Anybody
6	"	"	"	M-27	10	—	"	934	14:53	Anybody
7	"	"	"	M-27	10	—	"	934	15:55	Anybody
8	"	"	"	M-27	10	—	"	935	15:55	Anybody
					80					
RESULTS:										
CHLORIDE TEST	2									
PAINT FILTER TEST	2									
NOTES:										

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. Fortz Const NAME Ilm Rodriguez SIGNATURE ALL DATE 12-20-13

COMPANY CONTACT Andy Fortz PHONE 505 325-4922

Signatures required prior to distribution of the legal document.



DATE 12-23-15 JOB # 97057-0.590

COMPANY CONTACT \_\_\_\_\_  
PHONE \_\_\_\_\_  
DATE 12-23-13

san juan reproduction 578-126





DATE 12-23-13 JOB # 97057-0590

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. <u>Doug Fritz Const</u>	NAME <u>Tim Rodinquez</u>	SIGNATURE <u>[Signature]</u>
COMPANY CONTACT <u>Randy Fritz</u>	PHONE <u>505.325.4922</u>	DATE <u>12-23-13</u>

*Signatures required prior to distribution of the legal document.*



# Bill of Lading

MANIFEST #

45485

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO.	NAME <i>Tina Rodriguez</i>	SIGNATURE <i>[Signature]</i>
COMPANY CONTACT	PHONE <i>855-325-4922</i>	DATE <i>12-23-13</i>

*Dany Portz Const*  
*Randy Portz*

*Signatures required prior to distribution of the legal document.*

White - Company Records Yellow - Billions Pink - Customer

White - Company Records, Yellow - Billing, Pink - Customer

San Juan reproduction 578-126



97057-0590

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

TRANSPORTER CO. West States NAME Frank Collette SIGNATURE [Signature]

COMPANY CONTACT \_\_\_\_\_ PHONE \_\_\_\_\_ DATE 12-23-13

*Signatures required prior to distribution of the legal document.*

White - Company Records Yellow - Billing Pink - Customer

## Appendix E.




Photo #1	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: November 1, 2013	
AES Project No. 110904	Description: View of initial excavation area looking southeast.


Photo #2	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: November 1, 2013	
AES Project No. 110904	Description: View of release location in the initial excavation area looking northeast.




Photo #3	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: December 17, 2013	
AES Project No. 110904	Description: View of final excavation looking east.


Photo #4	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Excavation	
Taken by: Heather Woods	
Date: December 17, 2013	
AES Project No. 140108	Description: View of shallow excavation of misted area looking east.




Photo #5	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: December 17, 2013	
AES Project No. 110904	Description: View of final excavation looking southeast.



Photo #6	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: December 17, 2013	
AES Project No. 110904	Description: View of final excavation looking north.

Photo #7	
Client: Enterprise Field Services, LLC	
Project: Lateral 6C Pipeline Release	
Taken by: Heather Woods	
Date: December 17, 2013	
AES Project No. 110904	Description: View of final excavation looking northwest.

## Appendix F.



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)

December 24, 2013

Heather Woods

Animas Environmental Services

624 East Comanche

Farmington, NM 87401

TEL: (505) 716-2787

FAX

RE: Enterprise Trunk 6C

OrderNo.: 1312A07

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/18/2013 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 [www.hallenvironmental.com](http://www.hallenvironmental.com) 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.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

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 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-2

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 1:54:00 PM

**Lab ID:** 1312A07-001

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	320	9.9		mg/Kg	1	12/24/2013 6:39:13 AM	10939
Surr: DNOP	100	66-131		%REC	1	12/24/2013 6:39:13 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	15000	250		mg/Kg	50	12/21/2013 6:58:51 PM	10919
Surr: BFB	321	74.5-129	S	%REC	50	12/21/2013 6:58:51 PM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	66	2.5		mg/Kg	50	12/21/2013 6:58:51 PM	10919
Toluene	710	9.9		mg/Kg	200	12/22/2013 10:51:52 AM	10919
Ethylbenzene	54	2.5		mg/Kg	50	12/21/2013 6:58:51 PM	10919
Xylenes, Total	500	4.9		mg/Kg	50	12/21/2013 6:58:51 PM	10919
Surr: 4-Bromofluorobenzene	115	80-120		%REC	50	12/21/2013 6:58:51 PM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-3

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 1:55:00 PM

**Lab ID:** 1312A07-002

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	100	10		mg/Kg	1	12/24/2013 7:00:56 AM	10939
Surr: DNOP	119	66-131		%REC	1	12/24/2013 7:00:56 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	6200	93		mg/Kg	20	12/21/2013 7:56:17 PM	10919
Surr: BFB	403	74.5-129	S	%REC	20	12/21/2013 7:56:17 PM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	21	0.93		mg/Kg	20	12/21/2013 7:56:17 PM	10919
Toluene	270	4.6		mg/Kg	100	12/22/2013 11:20:35 AM	10919
Ethylbenzene	25	0.93		mg/Kg	20	12/21/2013 7:56:17 PM	10919
Xylenes, Total	270	9.3		mg/Kg	100	12/22/2013 11:20:35 AM	10919
Surr: 4-Bromofluorobenzene	119	80-120		%REC	20	12/21/2013 7:56:17 PM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-4

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 1:57:00 PM

**Lab ID:** 1312A07-003

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>					Analyst: <b>JME</b>		
Diesel Range Organics (DRO)	69	10		mg/Kg	1	12/24/2013 7:22:48 AM	10939
Surr: DNOP	106	66-131		%REC	1	12/24/2013 7:22:48 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>					Analyst: <b>NSB</b>		
Gasoline Range Organics (GRO)	1000	98		mg/Kg	20	12/21/2013 8:53:37 PM	10919
Surr: BFB	173	74.5-129	S	%REC	20	12/21/2013 8:53:37 PM	10919
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: <b>NSB</b>		
Benzene	ND	0.49		mg/Kg	20	12/21/2013 8:53:37 PM	10919
Toluene	21	0.98		mg/Kg	20	12/21/2013 8:53:37 PM	10919
Ethylbenzene	6.0	0.98		mg/Kg	20	12/21/2013 8:53:37 PM	10919
Xylenes, Total	59	2.0		mg/Kg	20	12/21/2013 8:53:37 PM	10919
Surr: 4-Bromofluorobenzene	97.1	80-120		%REC	20	12/21/2013 8:53:37 PM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-9

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:05:00 PM

**Lab ID:** 1312A07-004

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	49	10		mg/Kg	1	12/24/2013 7:44:29 AM	10939
Surr: DNOP	96.4	66-131		%REC	1	12/24/2013 7:44:29 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	94	24		mg/Kg	5	12/21/2013 9:22:12 PM	10919
Surr: BFB	118	74.5-129		%REC	5	12/21/2013 9:22:12 PM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	12/21/2013 9:22:12 PM	10919
Toluene	1.4	0.24		mg/Kg	5	12/21/2013 9:22:12 PM	10919
Ethylbenzene	0.45	0.24		mg/Kg	5	12/21/2013 9:22:12 PM	10919
Xylenes, Total	4.8	0.48		mg/Kg	5	12/21/2013 9:22:12 PM	10919
Surr: 4-Bromofluorobenzene	86.6	80-120		%REC	5	12/21/2013 9:22:12 PM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-10

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:07:00 PM

**Lab ID:** 1312A07-005

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	45	10		mg/Kg	1	12/24/2013 8:06:23 AM	10939
Surr: DNOP	99.4	66-131		%REC	1	12/24/2013 8:06:23 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	680	48		mg/Kg	10	12/21/2013 11:45:30 PM	10919
Surr: BFB	177	74.5-129	S	%REC	10	12/21/2013 11:45:30 PM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.63	0.48		mg/Kg	10	12/21/2013 11:45:30 PM	10919
Toluene	19	0.48		mg/Kg	10	12/21/2013 11:45:30 PM	10919
Ethylbenzene	3.5	0.48		mg/Kg	10	12/21/2013 11:45:30 PM	10919
Xylenes, Total	35	0.96		mg/Kg	10	12/21/2013 11:45:30 PM	10919
Surr: 4-Bromofluorobenzene	98.6	80-120		%REC	10	12/21/2013 11:45:30 PM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-11

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:09:00 PM

**Lab ID:** 1312A07-006

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/24/2013 8:28:06 AM	10939
Surr: DNOP	97.6	66-131		%REC	1	12/24/2013 8:28:06 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/22/2013 12:14:09 AM	10919
Surr: BFB	82.8	74.5-129		%REC	1	12/22/2013 12:14:09 AM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	12/22/2013 12:14:09 AM	10919
Toluene	ND	0.049		mg/Kg	1	12/22/2013 12:14:09 AM	10919
Ethylbenzene	ND	0.049		mg/Kg	1	12/22/2013 12:14:09 AM	10919
Xylenes, Total	ND	0.097		mg/Kg	1	12/22/2013 12:14:09 AM	10919
Surr: 4-Bromofluorobenzene	87.9	80-120		%REC	1	12/22/2013 12:14:09 AM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-13

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:11:00 PM

**Lab ID:** 1312A07-007

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/24/2013 8:49:57 AM	10939
Surr: DNOP	98.5	66-131		%REC	1	12/24/2013 8:49:57 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	5.6	4.8		mg/Kg	1	12/22/2013 12:42:48 AM	10919
Surr: BFB	88.5	74.5-129		%REC	1	12/22/2013 12:42:48 AM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	12/22/2013 12:42:48 AM	10919
Toluene	ND	0.048		mg/Kg	1	12/22/2013 12:42:48 AM	10919
Ethylbenzene	ND	0.048		mg/Kg	1	12/22/2013 12:42:48 AM	10919
Xylenes, Total	0.11	0.095		mg/Kg	1	12/22/2013 12:42:48 AM	10919
Surr: 4-Bromofluorobenzene	90.5	80-120		%REC	1	12/22/2013 12:42:48 AM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-17

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:18:00 PM

**Lab ID:** 1312A07-008

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/24/2013 9:11:53 AM	10939
Surr: DNOP	99.8	66-131		%REC	1	12/24/2013 9:11:53 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/22/2013 1:11:27 AM	10919
Surr: BFB	81.2	74.5-129		%REC	1	12/22/2013 1:11:27 AM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	12/22/2013 1:11:27 AM	10919
Toluene	ND	0.048		mg/Kg	1	12/22/2013 1:11:27 AM	10919
Ethylbenzene	ND	0.048		mg/Kg	1	12/22/2013 1:11:27 AM	10919
Xylenes, Total	ND	0.095		mg/Kg	1	12/22/2013 1:11:27 AM	10919
Surr: 4-Bromofluorobenzene	89.8	80-120		%REC	1	12/22/2013 1:11:27 AM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-18

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:21:00 PM

**Lab ID:** 1312A07-009

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/24/2013 9:34:21 AM	10939
Surr: DNOP	109	66-131		%REC	1	12/24/2013 9:34:21 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/22/2013 1:40:00 AM	10919
Surr: BFB	82.3	74.5-129		%REC	1	12/22/2013 1:40:00 AM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	12/22/2013 1:40:00 AM	10919
Toluene	ND	0.048		mg/Kg	1	12/22/2013 1:40:00 AM	10919
Ethylbenzene	ND	0.048		mg/Kg	1	12/22/2013 1:40:00 AM	10919
Xylenes, Total	0.16	0.096		mg/Kg	1	12/22/2013 1:40:00 AM	10919
Surr: 4-Bromofluorobenzene	88.2	80-120		%REC	1	12/22/2013 1:40:00 AM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1312A07

Date Reported: 12/24/2013

**CLIENT:** Animas Environmental Services

**Client Sample ID:** S-20

**Project:** Enterprise Trunk 6C

**Collection Date:** 12/17/2013 2:24:00 PM

**Lab ID:** 1312A07-010

**Matrix:** SOIL

**Received Date:** 12/18/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	330	10		mg/Kg	1	12/24/2013 9:56:05 AM	10939
Surr: DNOP	99.8	66-131		%REC	1	12/24/2013 9:56:05 AM	10939
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	40	24		mg/Kg	5	12/22/2013 2:08:35 AM	10919
Surr: BFB	106	74.5-129		%REC	5	12/22/2013 2:08:35 AM	10919
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	12/22/2013 2:08:35 AM	10919
Toluene	0.31	0.24		mg/Kg	5	12/22/2013 2:08:35 AM	10919
Ethylbenzene	0.28	0.24		mg/Kg	5	12/22/2013 2:08:35 AM	10919
Xylenes, Total	3.2	0.48		mg/Kg	5	12/22/2013 2:08:35 AM	10919
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	5	12/22/2013 2:08:35 AM	10919

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1312A07

24-Dec-13

Client: Animas Environmental Services

Project: Enterprise Trunk 6C

Sample ID	MB-10939		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 10939		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/24/2013		SeqNo: 452732		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		101	66	131			

Sample ID	MB-10940		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 10940		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/24/2013		SeqNo: 452733		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		117	66	131			

Sample ID	MB-10941		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 10941		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/23/2013		SeqNo: 452734		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	66	131			

Sample ID	LCS-10939		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 10939		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/24/2013		SeqNo: 452735		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	65	10	50.00	0	129	60.8	145			
Surr: DNOP	6.3		5.000		126	66	131			

Sample ID	LCS-10940		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 10940		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/24/2013		SeqNo: 452736		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.5		5.000		131	66	131			

Sample ID	LCS-10941		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 10941		RunNo: 15679					
Prep Date:	12/23/2013		Analysis Date: 12/23/2013		SeqNo: 452737		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		114	66	131			

### 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  
S Spike Recovery 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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1312A07

24-Dec-13

Client: Animas Environmental Services

Project: Enterprise Trunk 6C

Sample ID	MB-10919		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 10919		RunNo: 15666					
Prep Date:	12/20/2013		Analysis Date: 12/21/2013		SeqNo: 451650		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	820		1000		82.3	74.5	129			

Sample ID	LCS-10919		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 10919		RunNo: 15666					
Prep Date:	12/20/2013		Analysis Date: 12/21/2013		SeqNo: 451651		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	74.5	126			
Surr: BFB	820		1000		81.7	74.5	129			

### 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  
S Spike Recovery 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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1312A07

24-Dec-13

Client: Animas Environmental Services

Project: Enterprise Trunk 6C

Sample ID	MB-10919	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batch ID: 10919		RunNo: 15666						
Prep Date:	12/20/2013	Analysis Date: 12/21/2013		SeqNo: 451673		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.5	80	120			

Sample ID	LCS-10919		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 10919		RunNo: 15666					
Prep Date:	12/20/2013		Analysis Date: 12/21/2013		SeqNo: 451674		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.4	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.7	80	120			
Surr: 4-Bromofluorobenzene	0.85		1.000		84.5	80	120			

### 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  
S Spike Recovery 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

# Sample Log-In Check List

Client Name: Animas Environmental

Work Order Number: 1312A07

RcptNo: 1

Received by/date: MG 12/18/13

Logged By: Anne Thorne 12/18/2013 10:00:00 AM

*Anne Thorne*

Completed By: Anne Thorne 12/20/2013

*Anne Thorne*

Reviewed By: *[Signature]* 12/20/13

## Chain of Custody

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

## Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. 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)

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

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

