3R – 440

2014 GWMR

06 / 11 / 2015

Enterprise Products

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

ENTERPRISE PRODUCTS OPERATING LLC

June 11, 2015

Submitted via email to the NMOCD FTP Website

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

RE: ***Annual Groundwater Monitoring Report (March and November 2014 Sampling Events)***
Enterprise Field Services, LLC – Lateral K-31 Pipeline Release (12/02/2011)
Rio Arriba County, New Mexico
OCD RP: 3R-440

Dear Mr. von Gonten:

Please find attached, the above-referenced report prepared by Apex TITAN, Inc. (Apex). The report is associated with the Enterprise Field Services, LLC (Enterprise) Lateral K-31 pipeline release of natural gas condensate that was discovered on December 2, 2011.

The activities detailed in the attached *Annual Groundwater Monitoring Report* (AGMR) document the semi-annual groundwater monitoring activities completed at the site during March and November 2014. The monitoring activities were performed to further evaluate the concentrations of constituents of concern (COCs) in groundwater at the site. Groundwater samples collected from four of the nine total monitoring wells during the March 2014 sampling event exhibited benzene concentrations above the New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standard* (GQS). Additionally, the groundwater sample collected from one of these four monitoring wells during the November 2014 sampling event also exhibited a benzene concentration above the WQCC GQS. Based on the information presented in the attached report, Enterprise recommends: completing the delineation of impacted soil and groundwater; evaluating total dissolved solids concentrations in groundwater at the site; continuing semi-annual groundwater monitoring; and, evaluating corrective action alternatives for the remediation of impacted soil and groundwater.

Enterprise appreciates the Oil Conservation Division's continued assistance and guidance with this project. Should you have any questions, comments or concerns, or require additional information, please feel free to contact me any time at 713-381-8780, or at gemiller@eprod.com.

Sincerely,

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

/dep
Attachment

P. O. BOX 4324
HOUSTON, TX 77210-4324
713.381.6500

1100 LOUISIANA STREET
HOUSTON, TX 77002-5227
www.enterpriseproducts.com

ANNUAL GROUNDWATER MONITORING REPORT
(March and November 2014 Sampling Events)

Property:

Lateral K-31 Pipeline Release (12/02/2011)
SW 1/4 S16, T25N R6W
Rio Arriba County, New Mexico
OCD RP: 3R-440

June 10, 2015
Apex Project No. 7030414G014

Prepared for:

Enterprise Field Services, LLC
P.O. Box 4324
Houston, Texas 77210-4324
Attn: Mr. Greg E. Miller, P.G.

Prepared by:

Heather M. Woods

Heather Woods, P.G.
Senior Project Manager

Liz Scaggs

Elizabeth Scaggs, P.G.
Division Director

Apex TITAN, Inc., a subsidiary of Apex Companies, LLC
606 S Rio Grande, Unit A, Aztec, NM 87410 T 505.334.5200 F 505.334.5204 www.apexcos.com

Annual Groundwater Monitoring Report
(March and November 2014 Sampling Events)
Lateral K-31 Pipeline Release (12/02/2011)
Executive Summary

The Lateral K-31 (12/02/2011) pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way in the southwest 1/4 of Section 16, Township 25 North, Range 6 West, in Rio Arriba County, New Mexico (36.39373N, 107.47519W). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately northwest to southeast.

On December 2, 2011, a pipeline release of natural gas condensate resulting from internal corrosion was discovered at the Site and was subsequently repaired. Site assessments conducted by Animas Environmental Services, LLC (AES) during December 2011 and March 2012 identified concentrations of constituents of concern (COCs) in soils above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (RALs) and in groundwater above the New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standards* (GQSs).

During September 2012, AES advanced nine (9) additional soil borings which were completed as groundwater monitoring wells (MW-1 through MW-9) to further evaluate the extent of dissolved phase COCs in groundwater. Based on laboratory analytical results, COCs were not identified in soil above the OCD RALs at these monitoring well/soil boring locations. However, COCs were identified in groundwater above the WQCC GQSs. Groundwater monitoring events were conducted by AES during December 2012, March 2013, September 2013, and December 2013. Based on the laboratory analytical results, COC concentrations were identified in groundwater above the WQCC standards.

Semi-annual groundwater monitoring events were conducted on March 19, 2014, by AES, and on November 12, 2014, by Apex TITAN, Inc. (Apex) to further evaluate groundwater COC concentrations over time. Findings and recommendations based on these activities are as follows:

- **The groundwater samples collected from monitoring wells MW-1, MW-5, MW-6 and MW-8 during the March 2014 sampling event exhibited benzene concentrations ranging from 17 micrograms per liter (µg/L) to 77 µg/L, which exceed the WQCC GQS of 10 µg/L. The groundwater sample collected from monitoring well MW-6 during the November 2014 sampling event exhibited a benzene concentration of 19 µg/L, which exceeds the WQCC GQS of 10 µg/L.**

- **Report the groundwater monitoring results to the OCD.**

- **Continue semi-annual groundwater monitoring and evaluate total dissolved solids in groundwater during the next sampling event.**

- **Install additional soil borings/monitoring wells to further delineate the lateral extent of COCs in soil and groundwater.**

- **Based on available data, affected soil is still present at the Site. Subsequent to the completion of additional delineation, evaluate corrective action alternatives for the remediation of residual impacted soils and groundwater.**

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ANNUAL GROUNDWATER MONITORING REPORT
(March and November 2014 Sampling Events)

Lateral K-31 Pipeline Release (12/02/2011)
SW 1/4 S16, T25N R6W
Rio Arriba County, New Mexico
OCD RP: 3R-440

Apex Project No. 7030414G014

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral K-31 (12/02/2011) pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) 1/4 of Section 16, Township 25 North, Range 6 West, in Rio Arriba County, New Mexico (36.39373N, 107.47519W), referred to hereinafter as the "Site" or "subject Site". The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately northwest to southeast.

On December 2, 2011, a pipeline release of natural gas condensate resulting from internal corrosion was discovered at the Site and was subsequently repaired. An initial site assessment was conducted by Animas Environmental Services, LLC (AES) on December 8, 2011, which included the collection of soil samples from four (4) test holes advanced near the release area as well as a groundwater sample from an existing monitoring well located south of the release location and associated with another operator's release site. Based on laboratory analytical results, constituents of concern (COC) were identified in soils from two of the test holes at concentrations above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (RALs). The groundwater sample did not exhibit COC concentrations above the laboratory reporting limits, which are below the New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standards* (GQSs).

During March 2012, AES advanced twelve (12) soil borings (SB-1 through SB-12) at the Site to further delineate the extent of hydrocarbon affected soil and potentially impacted groundwater. Based on laboratory analytical results of soil and groundwater samples collected from the soil borings, COC concentrations were identified in soil above the EMNRD OCD RALs and in groundwater above the WQCC GQSs *(Site Investigation Report, dated May 16, 2012 – AES).*

During September 2012, nine (9) additional soil borings were advanced on-site by AES to further evaluate the extent of dissolved phase COCs in groundwater. Subsequent to advancement, the soil borings were completed as groundwater monitoring wells (MW-1 through MW-9). Based on laboratory analytical results, COCs were not identified in soil above the EMNRD OCD RALs at these monitoring well/soil boring locations. However, COCs were identified in groundwater above the WQCC GQSs *(Groundwater Investigation Report, dated November 28, 2012 – AES).*

Groundwater monitoring events were conducted by AES during December 2012, March 2013, September 2013, and December 2013. Groundwater samples were collected from each of the nine (9) groundwater monitoring wells and, based on the laboratory analytical results, COC

concentrations were identified in groundwater above WQCC standards.

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to crude oil/condensate releases, the New Mexico OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the EMNROD OCD rules, specifically New Mexico Administrative Code (NMAC) 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for release sites subject to reporting and/or corrective action.

The Site location is depicted on Figure 1 of Appendix A which was reproduced from a portion of the United States Geological Survey (USGS) 7.5-minute series topographic map. A Site Vicinity Map, created from an aerial photograph, is provided as Figure 2, and a Site Map, which indicates the approximate locations of the monitoring wells in relation to pertinent structures and general Site boundaries, is included as Figure 3 of Appendix A.

1.2 Scope of Work

The objective of the groundwater monitoring events was to further evaluate the COCs in groundwater at the Site.

1.3 Standard of Care, Limitations & Reliance

Apex TITAN, Inc.'s (Apex's) services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services.

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.

2.0 SAMPLING PROGRAM

Semi-annual groundwater sampling events were conducted on March 19, 2014, by AES, and on November 12, 2014, by Aaron Bryant and Ranee Deechilly, Apex environmental professionals.

Apex's groundwater sampling program consisted of the following:

Prior to sample collection, Apex gauged the depth to fluids in each monitoring well using an interface probe capable of detecting non-aqueous phase liquids (NAPL). NAPL was not detected at any of the monitoring well locations.

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

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

Subsequent to the completion of the micro-purge process, one (1) groundwater sample was collected from each monitoring well. The groundwater samples were collected from each monitoring well once produced groundwater was consistent in color, clarity, pH, temperature and conductivity.

Monitoring well MW-2 was apparently destroyed by construction activity prior to the November sampling event and was therefore not sampled. Additional attempts will be made to locate any remnants of this monitoring well to allow proper plugging and abandonment.

Groundwater samples were collected in laboratory supplied containers and placed on ice in a cooler secured with a custody seal. The samples collected during March 2014 were shipped under proper chain-of-custody to ALS Environmental in Houston, Texas (ALS did not provide custody seals for the sample containers), while the samples collected during November 2014 were relinquished to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico.

3.0 LABORATORY ANALYTICAL PROGRAM

The groundwater samples collected from the monitoring wells were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) utilizing EPA SW-846 Method #8021. The sample containers for organic analyses were pre-preserved with HCl for the March sampling event and $HgCl_2$ for the November sampling event.

A summary of the analysis, sample media, and EPA-approved methods are presented in the following table.

Analysis	Sample Media	No. of Samples (March/November)	EPA Method
BTEX	Groundwater	9/8	SW-846 8021

Laboratory results are summarized in Table 1 (Appendix B). The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

4.0 GROUNDWATER FLOW DIRECTION

Each of the monitoring wells was surveyed to establish relative top-of-casing (TOC) elevations. Prior to sample collection, Apex gauged the depth to fluids in each monitoring well. The groundwater flow direction (gradient) at the Site is generally toward the north-northwest. The calculated gradient during the March and November 2014 monitoring events averaged approximately 0.003 feet per foot (ft/ft) across the northern portion of the Site and 0.011 ft/ft across the southern portion of the Site.

Groundwater elevations derived from the March and November 2014 gauging events are presented with TOC elevations in Table 2 (Appendix B). Groundwater gradient maps for the March and November 2014 events are included as Figures 4A and 4B, respectively (Appendix A).

5.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to crude oil/condensate related releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the EMNRD/OCD rules, specifically NMAC 19.15.29 *Remediation Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

5.1 Groundwater Samples

Apex compared BTEX concentrations or laboratory reporting limits (RLs) associated with the groundwater samples collected from the monitoring wells during the March and November 2014 sampling events to the New Mexico WQCC GQSs; however, the New Mexico WQCC GQSs may not be applicable since the initial groundwater-bearing unit may not qualify as an "Underground Source of Drinking Water" as defined in 19.15.2 NMAC *General Provisions for Oil and Gas Operations* due to potentially elevated Total Dissolved Solids (TDS) concentrations. TDS concentrations have not yet been established for groundwater at this site and will be evaluated during the next semi-annual groundwater monitoring event. The results of the groundwater sample analyses are summarized in Table 1 of Appendix B. Groundwater Quality Standards Exceedance Zone maps are provided as Figures 5A and 5B of Appendix A.

March 2014:

<u>Benzene, Toluene, Ethylbenzene, and Xylenes</u>

The groundwater samples collected from monitoring wells MW-1, MW-5, MW-6, and MW-8 exhibited benzene concentrations ranging from 17 micrograms per liter (µg/L) (MW-1) to 77 µg/L (MW-6), which exceeded the WQCC GQS of 10 µg/L. The groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-7, and MW-9 exhibited benzene concentrations ranging from below the laboratory RLs to 3.0 µg/L (MW-3), which are below the WQCC GQS of 10 µg/L.

The groundwater samples collected from the monitoring wells exhibited toluene concentrations ranging from below the laboratory RLs to 15 µg/L (MW-1), which are below the WQCC GQS of 750 µg/L.

The groundwater samples collected from the monitoring wells exhibited ethylbenzene concentrations ranging from below laboratory RLs to 2 µg/L (MW-5), which are below the WQCC GQS of 750 µg/L.

The groundwater samples collected from the monitoring wells exhibited xylenes concentrations ranging from below laboratory RLs to 6 µg/L (MW-1), which are below the WQCC GQS of 620 µg/L.

No data qualifier flags were associated with the March 2014 analytical results.

November 2014:

Benzene, Toluene, Ethylbenzene, and Xylenes

Note: Monitoring Well MW-2 was apparently destroyed, and therefore was not sampled.

The groundwater sample collected from monitoring well MW-6 exhibited a benzene concentration of 19 µg/L, which exceeds the WQCC GQS of 10 µg/L. The groundwater samples collected from monitoring wells MW-1, MW-3, MW-4, MW-5, MW-7, M-8, and MW-9 exhibited benzene concentrations ranging from below the laboratory RLs to 5.8 µg/L (MW-8), which are below the WQCC GQS of 10 µg/L.

The groundwater samples collected from the monitoring wells did not exhibit toluene concentrations above the laboratory RLs, which are below the WQCC GQS of 750 µg/L.

The groundwater samples collected from the monitoring wells did not exhibit ethylbenzene concentrations above the laboratory RLs, which are below the WQCC GQS of 750 µg/L.

The groundwater samples collected from the monitoring wells did not exhibit xylenes concentrations above the laboratory RLs, which are below the WQCC GQS of 620 µg/L.

No data qualifier flags were associated with the November 2014 analytical results.

6.0 FINDINGS

Semi-annual groundwater monitoring events were conducted at the Lateral K-31 pipeline release (12/02/2011) Site during March and November 2014. The Site is located within the Enterprise pipeline ROW in the SW 1/4 of Section 16, Township 25 North, Range 6 West, in Rio Arriba County, New Mexico. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately northwest to southeast. The objective of the groundwater monitoring events was to further evaluate the concentrations of COCs in groundwater.

- The groundwater flow direction (gradient) at the Site is generally toward the north-northwest. The calculated gradient during the March and November 2014 monitoring events averages approximately 0.003 ft/ft across the northern portion of the Site and 0.011 ft/ft across the southern portion of the Site.

- **The groundwater samples collected from monitoring wells MW-1, MW-5, MW-6 and MW-8 during the March 2014 sampling event exhibited benzene concentrations ranging from 17 µg/L to 77 µg/L, which exceed the WQCC GQS of 10 µg/L. The groundwater sample collected from monitoring well MW-6 during the November 2014 sampling event exhibited a benzene concentration of 19 µg/L, which exceeds the WQCC GQS of 10 µg/L.**

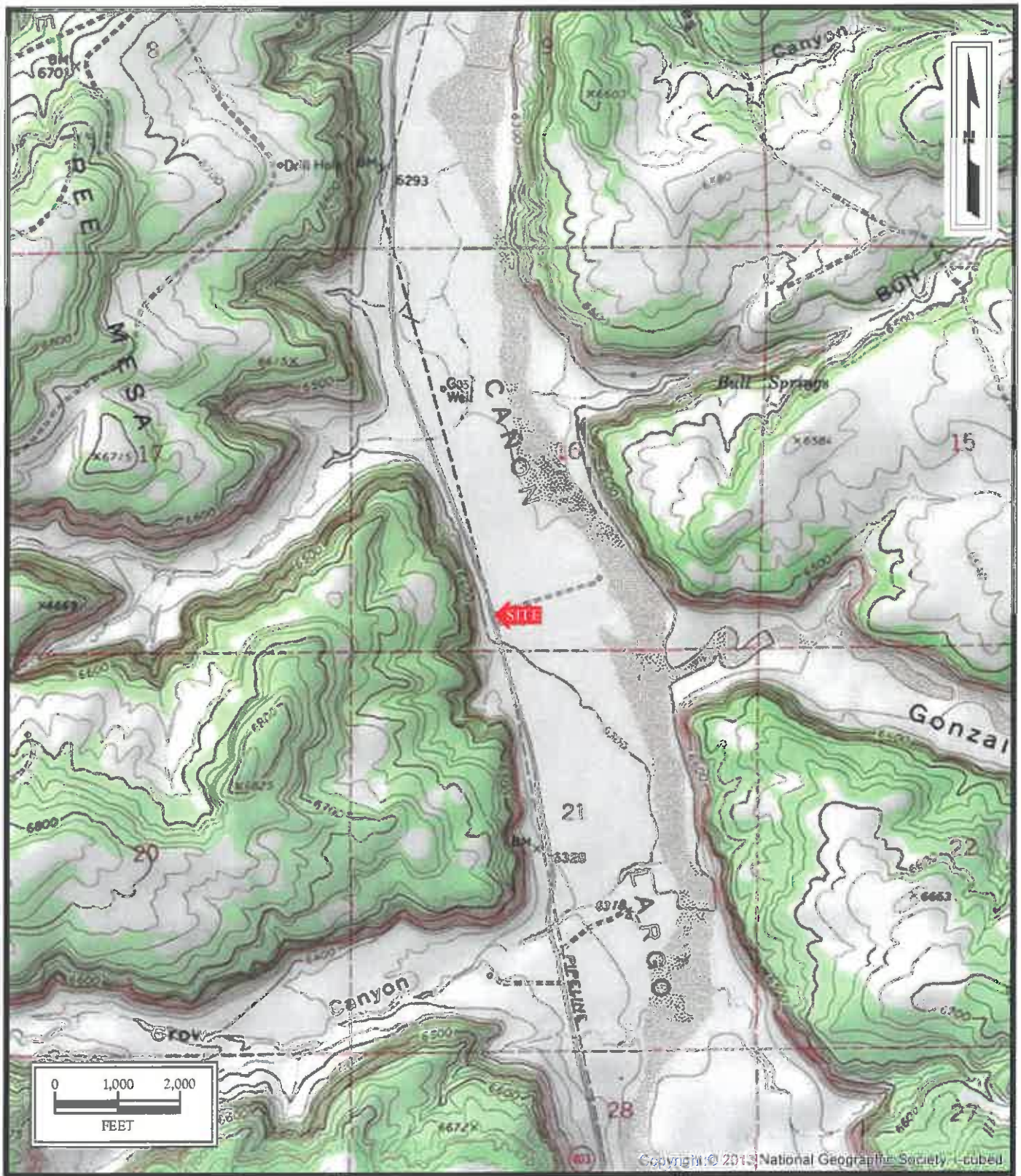
7.0 RECOMMENDATIONS

Based on the results of groundwater monitoring activities, Apex has the following recommendations:

- **Report the groundwater monitoring results to the OCD;**
- **Continue semi-annual groundwater monitoring and evaluate TDS in groundwater during the next sampling event;**
- **Install additional soil borings/monitoring wells to further delineate the lateral extent of COCs in soil and groundwater; and**
- **Based on available data, affected soil is still present at the Site. Subsequent to the completion of additional delineation, evaluate corrective action alternatives for the remediation of residual impacted soils and groundwater.**

APPENDIX A

Figures

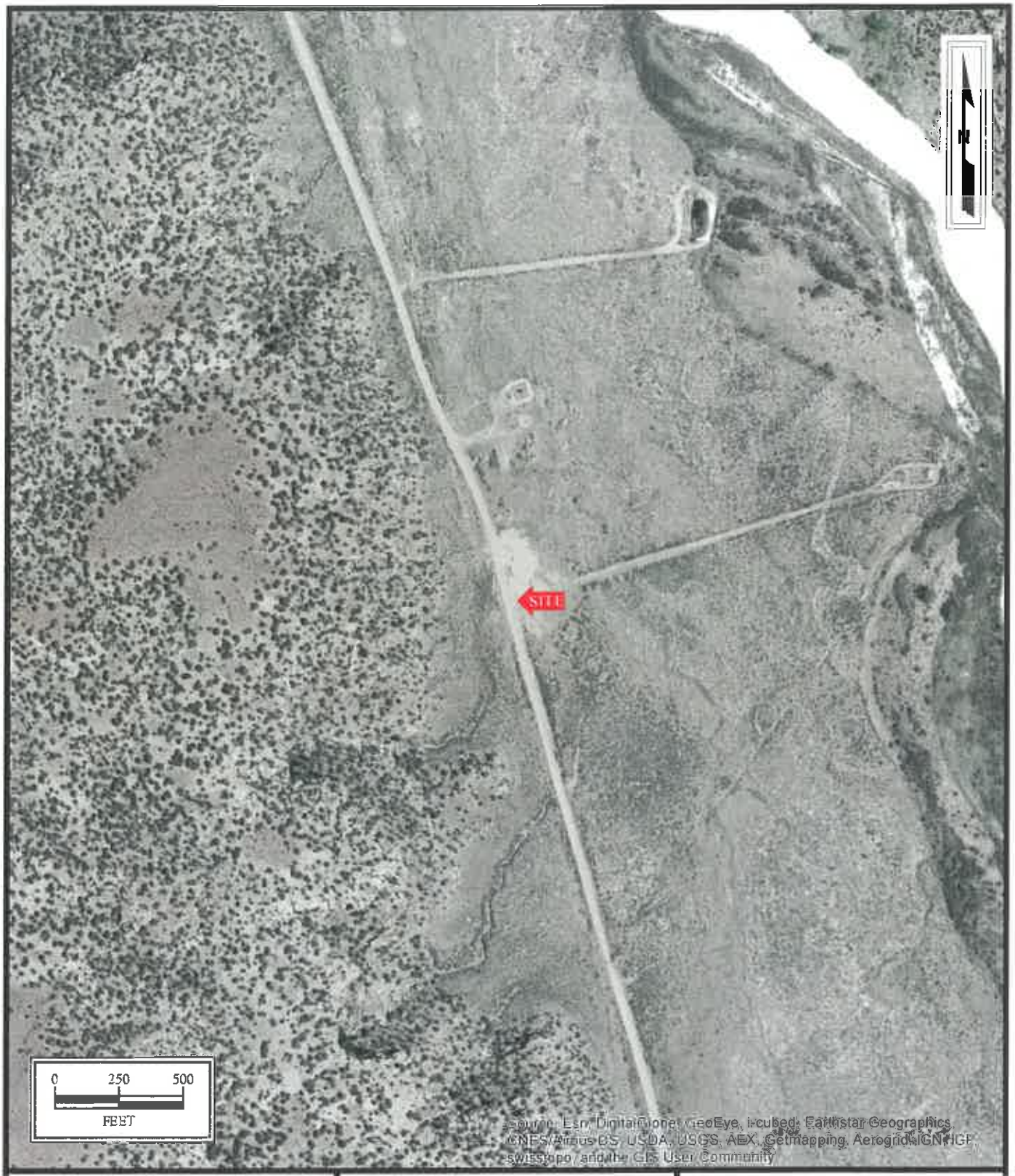


Lateral K-31 (12/02/11)
Pipeline Release
SW1/4 S16 T25N R6W
Rural Rio Arriba County, New Mexico
36.39373N, 107.47519W

Project No. 7030414G014.001

Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, NM 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 1
Topographic Map
Gonzales Mesa, NM Quadrangle
1963



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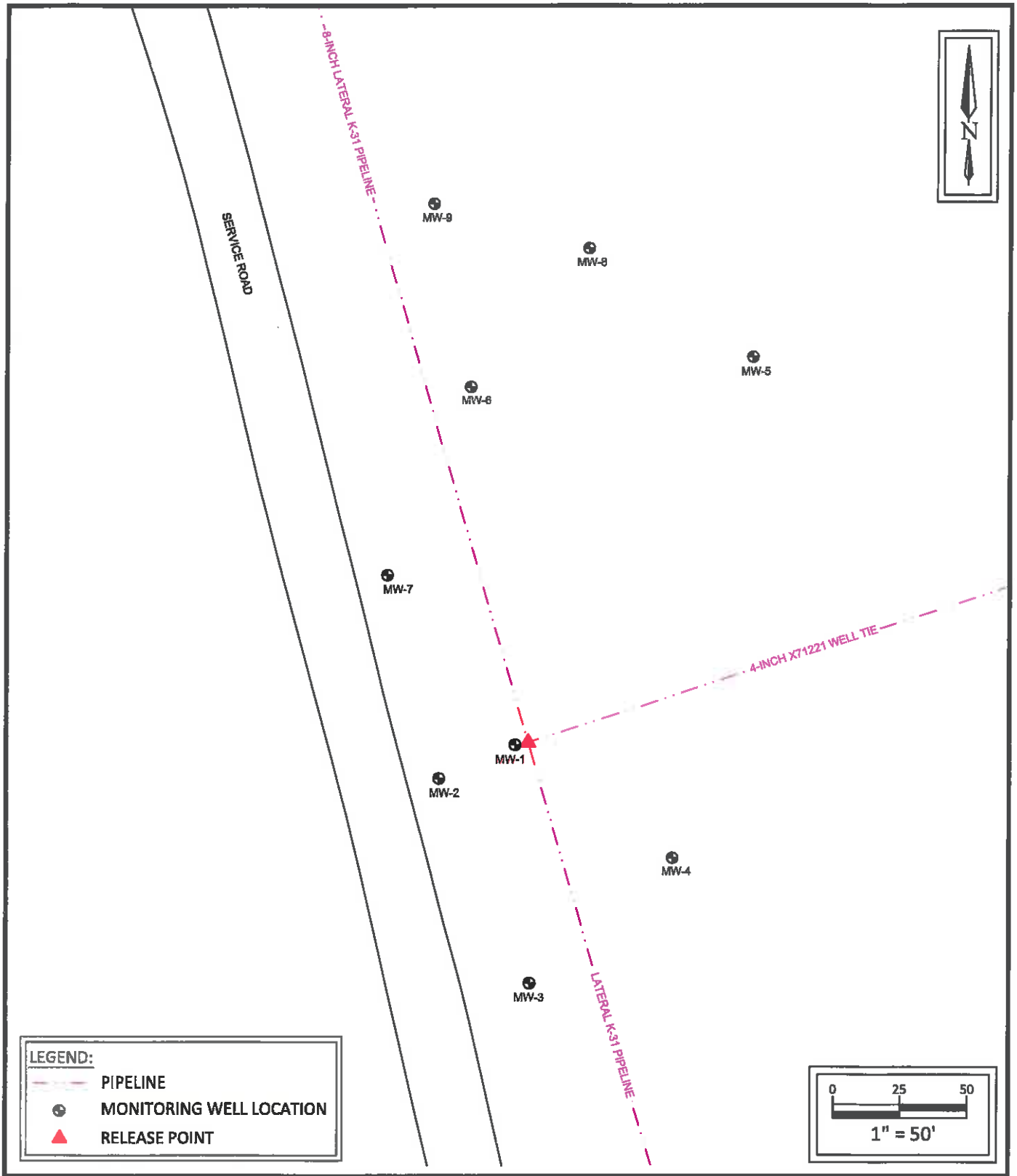
Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, NM 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 2
Site Vicinity Map



Lateral K-31 (12/02/11)
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SW¼ S16 T25N R6W
Rural Rio Arriba County, NM
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Apex TITAN, Inc.
606 S. Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
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FIGURE 3
Site Map with
Monitoring Well Locations

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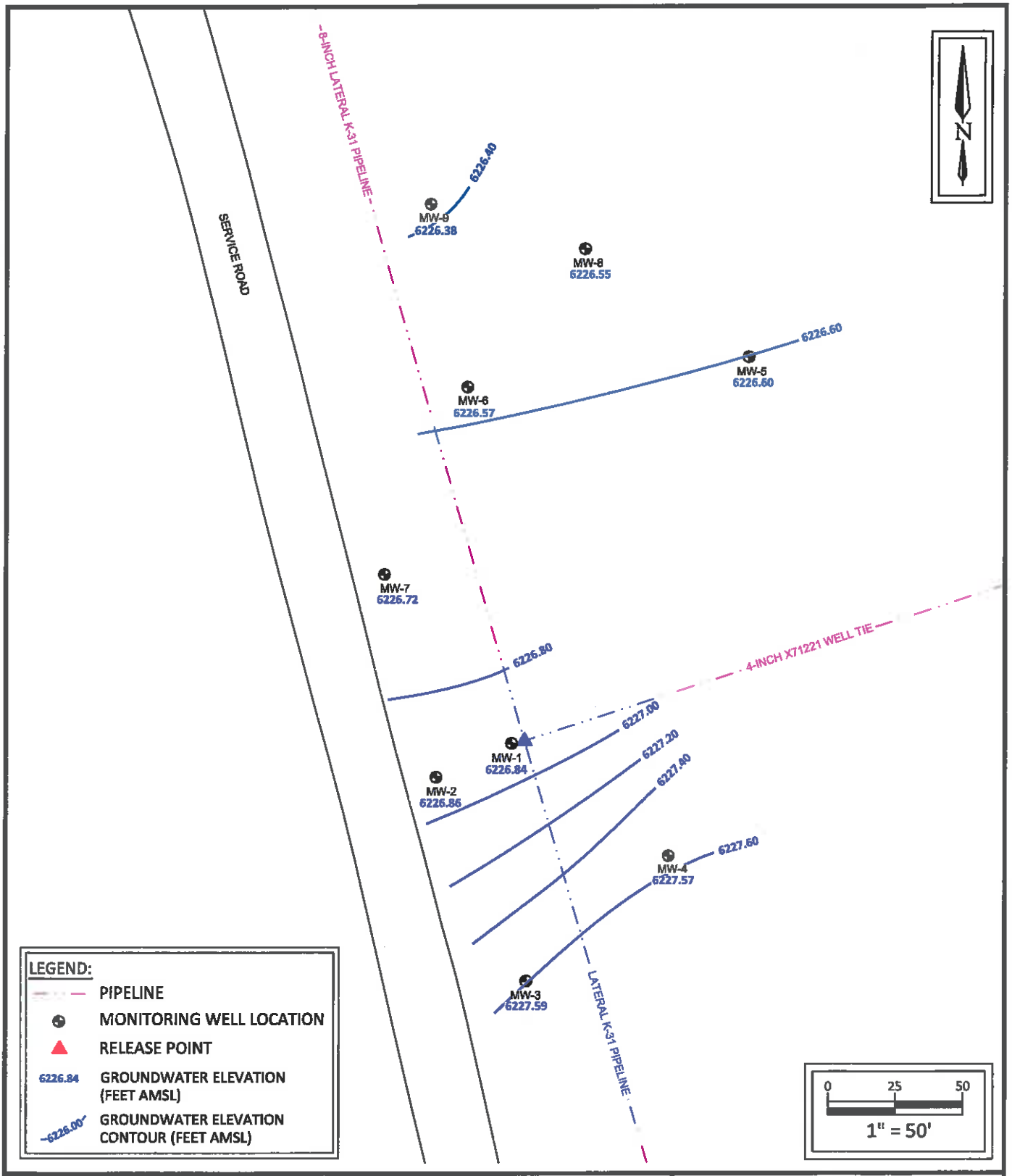

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Apex TITAN, Inc.
606 S. Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
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FIGURE 4A
Groundwater Gradient Map
March 2014

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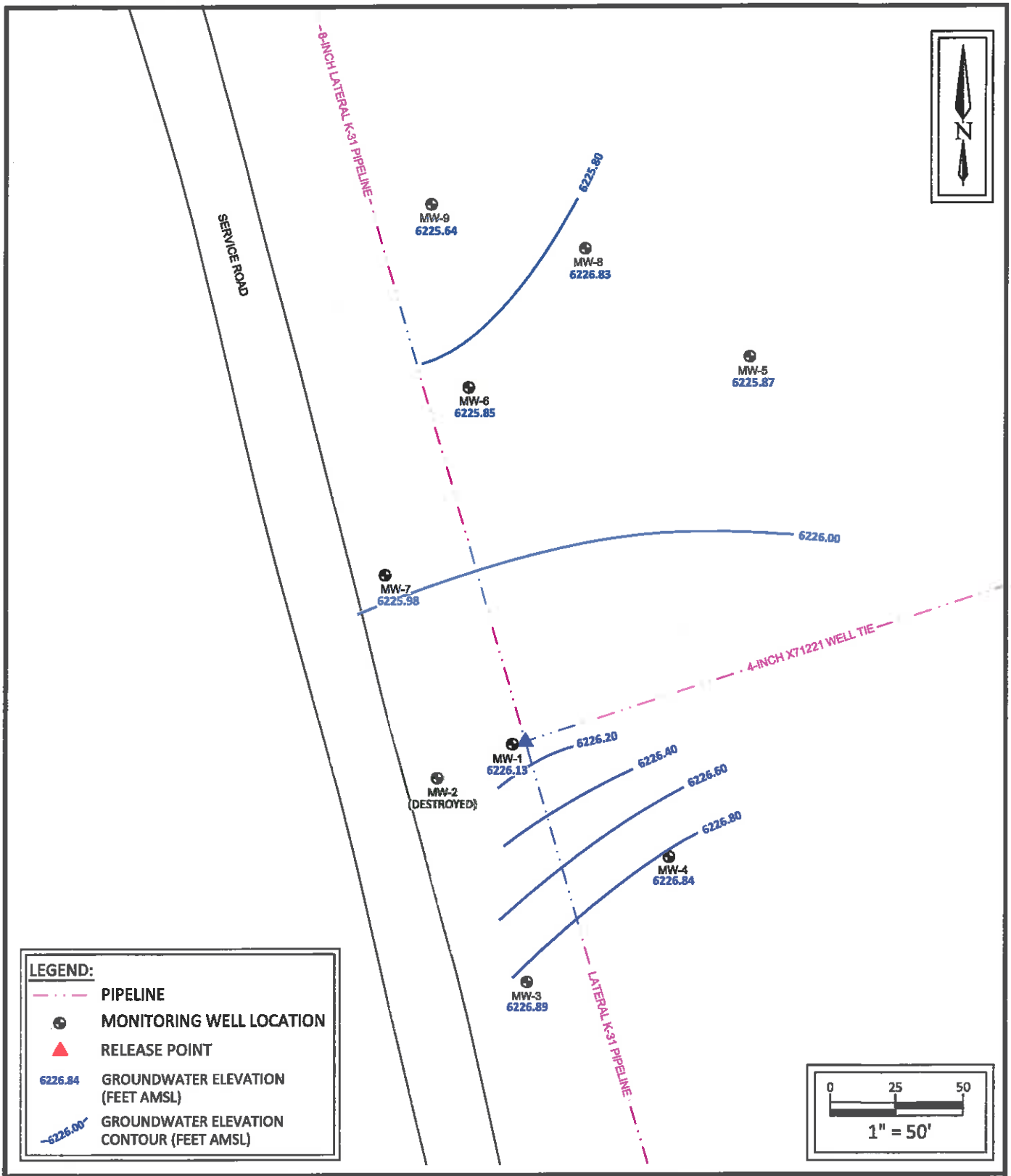

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Apex TITAN, Inc.
606 S. Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 4B
Groundwater Gradient Map
November 2014

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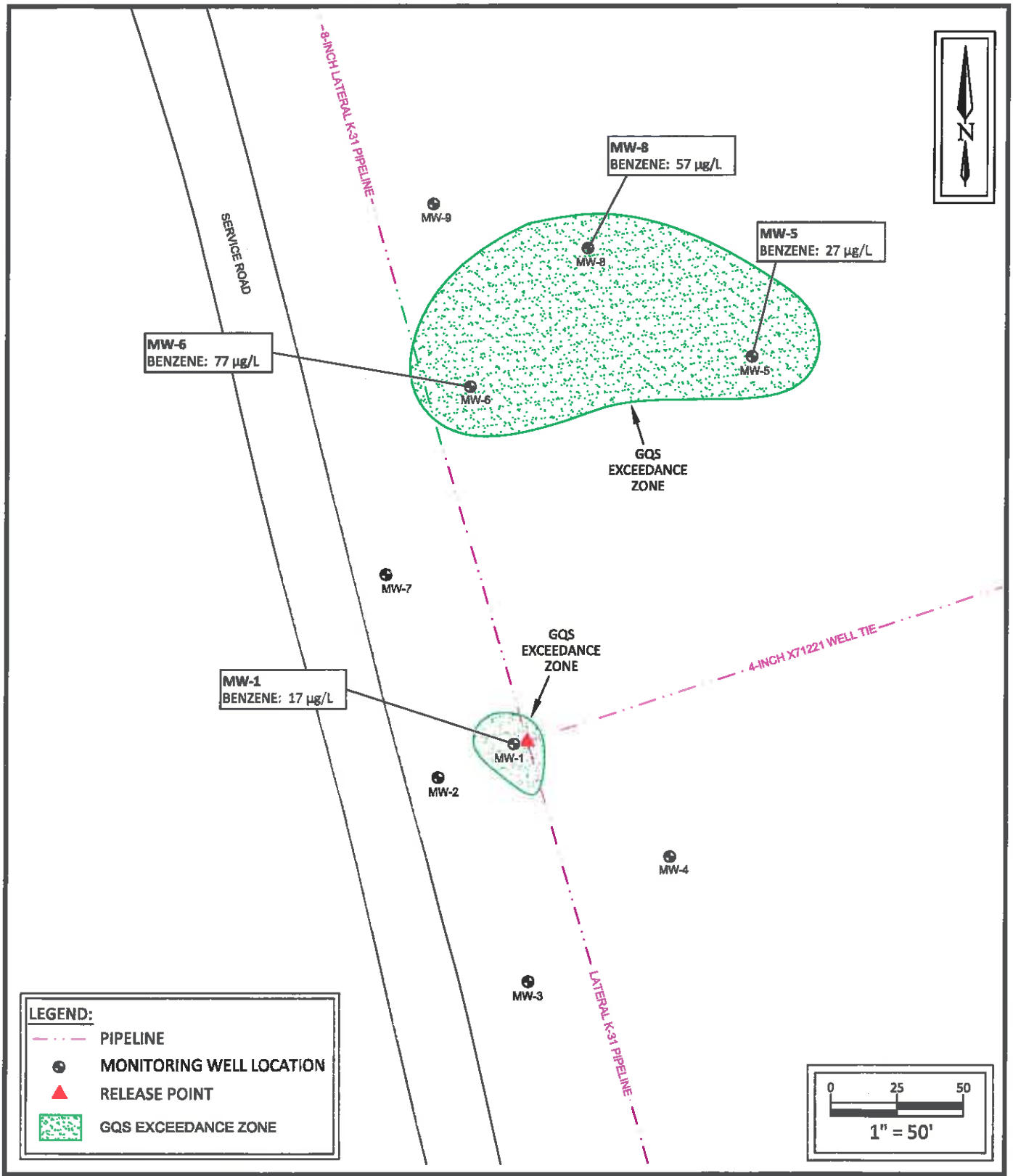

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Apex TITAN, Inc.
606 S. Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 5A
Groundwater GQS Exceedance Zone Map
March 2014

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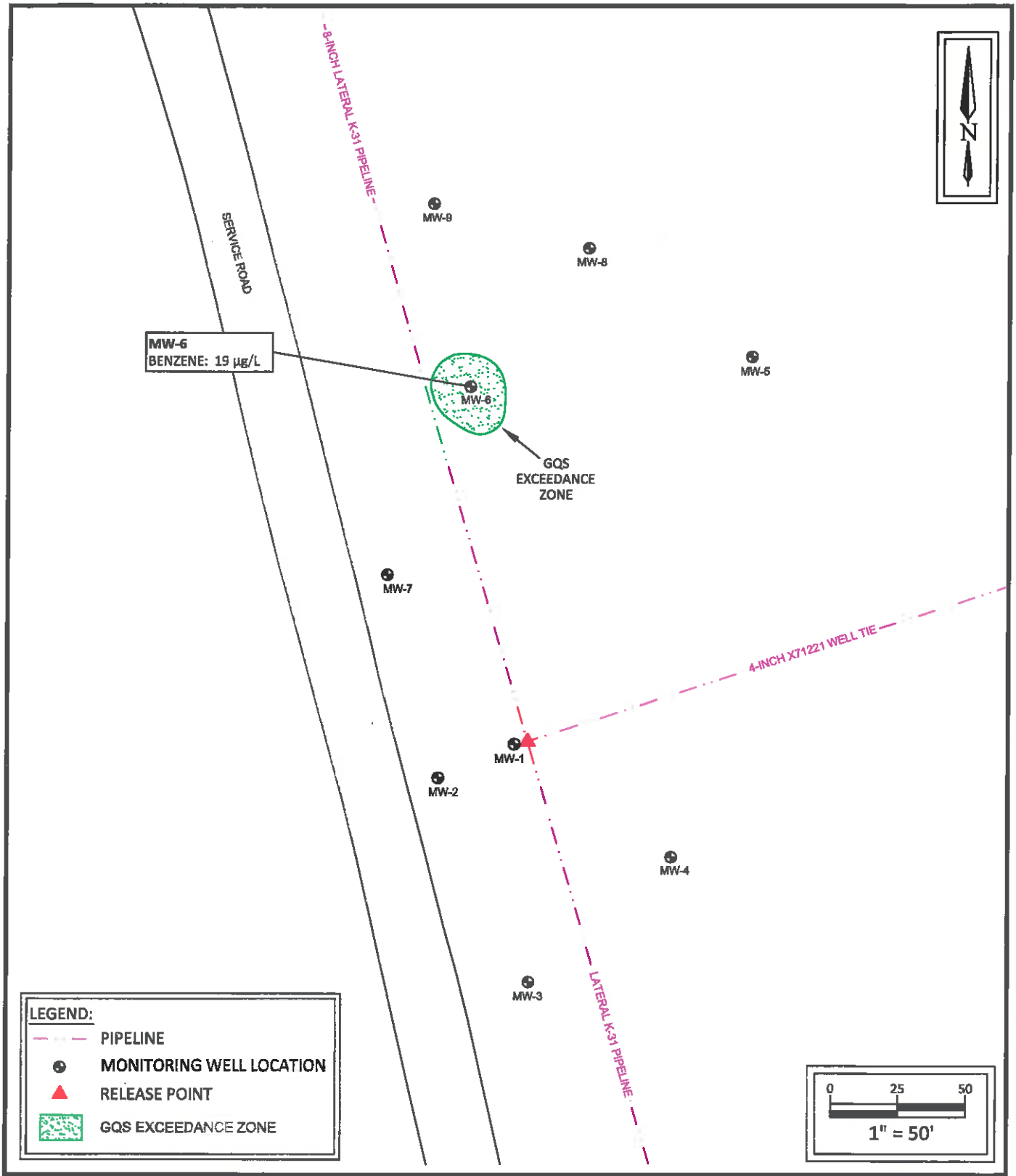

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Apex TITAN, Inc.
606 S. Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 5B
Groundwater GQS Exceedance Zone Map
November 2014

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APPENDIX B

Tables

APEX

TABLE 1
Lateral K-31 Pipeline Release (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10	750	750	620
MW-1	9.5.12	**18**	2.9	3.3	25
MW-1	12.20.12	**11**	<2.0	<2.0	5.8
MW-1	3.21.13	**29**	14	<2.0	6.8
MW-1	9.4.13	**24**	3.0	<2.0	10
MW-1	12.9.13	**42**	20	10	45
MW-1	3.19.14	**17**	15	<1	6
MW-1	11.12.14	<1.0	<1.0	<1.0	<2.0
MW-2	9.5.12	9.5	9.2	<2.0	30
MW-2	12.20.12	**17**	<2.0	<2.0	41
MW-2	3.21.13	**18**	<2.0	<2.0	18
MW-2	9.4.13	8.0	<2.0	<2.0	4.2
MW-2	12.9.13	**24**	13	11	49
MW-2	3.19.14	<1	<1	<1	<3
MW-2	11.12.14	Monitoring Well Destroyed			
MW-3	9.5.12	<2.0	<2.0	<2.0	<4.0
MW-3	12.20.12	<2.0	<2.0	<2.0	<4.0
MW-3	3.21.13	<2.0	<2.0	<2.0	<4.0
MW-3	9.4.13	5.4	<2.0	<2.0	<4.0
MW-3	12.9.13	**10**	15	9.7	37
MW-3	3.19.14	3	4	<1	<3
MW-3	11.12.14	<1.0	<1.0	<1.0	<2.0
MW-4	9.5.12	<2.0	<2.0	<2.0	<4.0
MW-4	12.20.12	**19**	<2.0	<2.0	<4.0
MW-4	3.21.13	4.8	<2.0	<2.0	<4.0
MW-4	9.4.13	<2.0	<2.0	<2.0	<4.0
MW-4	12.9.13	**42**	17	14	54
MW-4	3.19.14	<1	<1	<1	<3
MW-4	11.12.14	5.4	<1.0	<1.0	<2.0
MW-5	9.5.12	**10**	<2.0	<2.0	<4.0
MW-5	12.20.12	**10**	<2.0	<2.0	<4.0
MW-5	9.4.13	9.0	<2.0	<2.0	<4.0
MW-5	3.21.13	9.3	<2.0	<2.0	<4.0
MW-5	12.9.13	**48**	9.3	9.7	36
MW-5	3.19.14	**27**	<1	2	<3
MW-5	11.12.14	<1.0	<1.0	<1.0	<2.0

APEX

TABLE 1
Lateral K-31 Pipeline Release (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10	750	750	620
MW-6	9.5.12	**37**	8.3	<2.0	14
MW-6	12.20.12	**82**	5.8	<2.0	<4.0
MW-6	3.21.13	**130**	5.1	<2.0	<4.0
MW-6	9.4.13	**40**	22	<2.0	13
MW-6	12.9.13	**210**	20	12	51
MW-6	3.19.14	**77**	8	1	4
MW-6	11.12.14	**19**	<1.0	<1.0	<2.0
MW-7	9.5.12	3.6	<2.0	<2.0	<4.0
MW-7	12.20.12	5.9	<2.0	<2.0	<4.0
MW-7	3.21.13	<2.0	<2.0	<2.0	<4.0
MW-7	9.4.13	6.2	<2.0	<2.0	<4.0
MW-7	12.9.13	**30**	17	14	56
MW-7	3.19.14	<1	<1	<1	<3
MW-7	11.12.14	<1.0	<1.0	<1.0	<2.0
MW-8	9.5.12	**20**	<2.0	<2.0	<4.0
MW-8	12.20.12	**25**	<2.0	<2.0	<4.0
MW-8	3.21.13	**26**	<2.0	<2.0	<4.0
MW-8	9.4.13	**34**	<2.0	<2.0	<4.0
MW-8	12.9.13	**200**	14	11	46
MW-8	3.19.14	**57**	<1	<1	<3
MW-8	11.12.14	5.8	<1.0	<1.0	<2.0
MW-9	9.5.12	<2.0	<2.0	<2.0	<4.0
MW-9	12.20.12	<2.0	<2.0	<2.0	<4.0
MW-9	3.21.13	<2.0	<2.0	<2.0	<4.0
MW-9	9.4.13	<2.0	<2.0	<2.0	<4.0
MW-9	12.9.13	4.0	7.1	6.0	24
MW-9	3.19.14	<1	<1	<1	<3
MW-9	11.12.14	<1.0	<1.0	<1.0	<2.0

Note: Concentrations in **bold** and yellow exceed the applicable WQCC GQS

<1.0 = the numeral (in this case "1.0") identifies the laboratory reporting limit

APEX

TABLE 2
Lateral K-31 Pipeline Release (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-1	9.5.12	ND	19.44	ND	6245.24	6225.80
	12.20.12	ND	19.02	ND	6245.24	6226.22
	3.21.13	ND	18.59	ND	6245.24	6226.65
	9.4.13	ND	19.49	ND	6245.24	6225.75
	12.9.13	ND	18.80	ND	6245.24	6226.44
	3.19.14	ND	18.40	ND	6245.24	6226.84
	11.12.14	ND	19.11	ND	6245.24	6226.13
MW-2	9.5.12	ND	16.69	ND	6242.58	6225.89
	12.20.12	ND	16.33	ND	6242.58	6226.25
	3.21.13	ND	15.90	ND	6242.58	6226.68
	9.4.13	ND	16.72	ND	6242.58	6225.86
	12.9.13	ND	16.14	ND	6242.58	6226.44
	3.19.14	ND	15.72	ND	6242.58	6226.86
	11.12.14	Monitoring Well Apparently Destroyed				
MW-3	9.5.12	ND	18.93	ND	6245.48	6226.55
	12.20.12	ND	18.51	ND	6245.48	6226.97
	3.21.13	ND	18.07	ND	6245.48	6227.41
	9.4.13	ND	18.97	ND	6245.48	6226.51
	12.9.13	ND	18.30	ND	6245.48	6227.18
	3.19.14	ND	17.89	ND	6245.48	6227.59
	11.12.14	ND	18.59	ND	6245.48	6226.89
MW-4	9.5.12	ND	17.55	ND	6244.08	6226.53
	12.20.12	ND	17.14	ND	6244.08	6226.94
	3.21.13	ND	16.71	ND	6244.08	6227.37
	9.4.13	ND	17.59	ND	6244.08	6226.49
	12.9.13	ND	16.93	ND	6244.08	6227.15
	3.19.14	ND	16.51	ND	6244.08	6227.57
	11.12.14	ND	17.24	ND	6244.08	6226.84
MW-5	9.5.12	ND	15.88	ND	6241.41	6225.53
	12.20.12	ND	15.44	ND	6241.41	6225.97
	3.21.13	ND	15.00	ND	6241.41	6226.41
	9.4.13	ND	15.91	ND	6241.41	6225.50
	12.9.13	ND	15.20	ND	6241.41	6226.21
	3.19.14	ND	14.81	ND	6241.41	6226.60
	11.12.14	ND	15.54	ND	6241.41	6225.87
MW-6	9.5.12	ND	17.41	ND	6242.91	6225.50
	12.20.12	ND	16.97	ND	6242.91	6225.94
	3.21.13	ND	16.53	ND	6242.91	6226.38
	9.4.13	ND	17.45	ND	6242.91	6225.46
	12.9.13	ND	16.75	ND	6242.91	6226.16
	3.19.14	ND	16.34	ND	6242.91	6226.57
	11.12.14	ND	17.06	ND	6242.91	6225.85
MW-7	9.5.12	ND	17.61	ND	6243.27	6225.66
	12.20.12	ND	17.18	ND	6243.27	6226.09
	3.21.13	ND	16.74	ND	6243.27	6226.53
	9.4.13	ND	17.65	ND	6243.27	6225.62
	12.9.13	ND	16.96	ND	6243.27	6226.31
	3.19.14	ND	16.55	ND	6243.27	6226.72
	11.12.14	ND	17.29	ND	6243.27	6225.98

APEX

TABLE 2
Lateral K-31 Pipeline Release (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-8	9.5.12	ND	16.55	ND	6242.01	6225.46
	12.20.12	ND	16.09	ND	6242.01	6225.92
	3.21.13	ND	15.65	ND	6242.01	6226.36
	9.4.13	ND	16.57	ND	6242.01	6225.44
	12.9.13	ND	15.86	ND	6242.01	6226.15
	3.19.14	ND	15.46	ND	6242.01	6226.55
	11.12.14	ND	16.18	ND	6242.01	6225.83
MW-9	9.5.12	ND	16.33	ND	6241.59	6225.26
	12.20.12	ND	15.84	ND	6241.59	6225.75
	3.21.13	ND	15.39	ND	6241.59	6226.20
	9.4.13	ND	16.32	ND	6241.59	6225.27
	12.9.13	ND	15.61	ND	6241.59	6225.98
	3.19.14	ND	15.21	ND	6241.59	6226.38
	11.12.14	ND	15.95	ND	6241.59	6225.64

BTOC - below top of casing
TOC - top of casing
ND - Not Detected

APPENDIX C

Laboratory Data Sheets & Chain of Custody Documentation

ALS Environmental

27-Mar-2014

Heather Woods
Animas Environmental Services
624 E. Comanche
Farmington, NM 87401

Tel: (505) 436-2064
Fax: (505) 324-2022

Re: Lateral K-31 Pipeline Release Work Order: **14030896**

Dear Heather,

ALS Environmental received 10 samples on 21-Mar-2014 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 22.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Bethany McDaniel

Electronically approved by: Dayna.Fisher

Bethany McDaniel
Project Manager

Certificate No: T104704231-13-12

ALS Environmental

Date: 27-Mar-14

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14030896-01	MW-9	Water		3/19/2014 11:40	3/21/2014 09:15	☐
14030896-02	MW-2	Water		3/19/2014 13:16	3/21/2014 09:15	☐
14030896-03	MW-3	Water		3/19/2014 18:56	3/21/2014 09:15	☐
14030896-04	MW-7	Water		3/19/2014 14:33	3/21/2014 09:15	☐
14030896-05	MW-1	Water		3/19/2014 15:47	3/21/2014 09:15	☐
14030896-06	MW-4	Water		3/19/2014 16:13	3/21/2014 09:15	☐
14030896-07	MW-5	Water		3/19/2014 16:42	3/21/2014 09:15	☐
14030896-08	MW-8	Water		3/19/2014 17:17	3/21/2014 09:15	☐
14030896-09	MW-6	Water		3/19/2014 17:50	3/21/2014 09:15	☐
14030896-10	Trip Blank	Trip Blank		3/19/2014	3/21/2014 09:15	☐

ALS Environmental

Date: 27-Mar-14

Client:	Animas Environmental Services
Project:	Lateral K-31 Pipeline Release
Work Order:	14030896

Case Narrative

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Sample ID: MW-9
Collection Date: 3/19/2014 11:40 AM

Work Order: 14030896
Lab ID: 14030896-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 05:17 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 05:17 PM
Benzene	ND		1	ug/L	1	3/25/2014 05:17 PM
Toluene	ND		1	ug/L	1	3/25/2014 05:17 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 05:17 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 05:17 PM
Surr: 4-Bromofluorobenzene	*96.6*		*75-129*	*%REC*	1	3/25/2014 05:17 PM
Surr: Trifluorotoluene	*84.9*		*75-130*	*%REC*	1	3/25/2014 05:17 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-2
Lab ID: 14030896-02
Collection Date: 3/19/2014 01:16 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/26/2014 01:44 PM
o-Xylene	ND		1	ug/L	1	3/26/2014 01:44 PM
Benzene	ND		1	ug/L	1	3/26/2014 01:44 PM
Toluene	ND		1	ug/L	1	3/26/2014 01:44 PM
Ethylbenzene	ND		1	ug/L	1	3/26/2014 01:44 PM
Xylenes, Total	ND		3	ug/L	1	3/26/2014 01:44 PM
Surr: 4-Bromofluorobenzene	*102*		*75-129*	*%REC*	1	3/26/2014 01:44 PM
Surr: Trifluorotoluene	*87.8*		*75-130*	*%REC*	1	3/26/2014 01:44 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Sample ID: MW-3
Collection Date: 3/19/2014 06:56 PM

Work Order: 14030896
Lab ID: 14030896-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			SW8021B			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/26/2014 02:05 PM
o-Xylene	ND		1	ug/L	1	3/26/2014 02:05 PM
Benzene	**3**		1	**ug/L**	1	3/26/2014 02:05 PM
Toluene	**4**		1	**ug/L**	1	3/26/2014 02:05 PM
Ethylbenzene	ND		1	ug/L	1	3/26/2014 02:05 PM
Xylenes, Total	ND		3	ug/L	1	3/26/2014 02:05 PM
Surr: 4-Bromofluorobenzene	*100*		*75-129*	*%REC*	1	3/26/2014 02:05 PM
Surr: Trifluorotoluene	*84.4*		*75-130*	*%REC*	1	3/26/2014 02:05 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-7
Lab ID: 14030896-04
Collection Date: 3/19/2014 02:33 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 05:34 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 05:34 PM
Benzene	ND		1	ug/L	1	3/25/2014 05:34 PM
Toluene	ND		1	ug/L	1	3/25/2014 05:34 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 05:34 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 05:34 PM
Surr: 4-Bromofluorobenzene	*94.8*		*75-129*	*%REC*	1	3/25/2014 05:34 PM
Surr: Trifluorotoluene	*83.3*		*75-130*	*%REC*	1	3/25/2014 05:34 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Sample ID: MW-1
Collection Date: 3/19/2014 03:47 PM

Work Order: 14030896
Lab ID: 14030896-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			SW8021B			Analyst: **DNR**
m,p-Xylene	**5**		**2**	**ug/L**	1	3/25/2014 05:51 PM
o-Xylene	**1**		**1**	**ug/L**	1	3/25/2014 05:51 PM
Benzene	**17**		**1**	**ug/L**	1	3/25/2014 05:51 PM
Toluene	**15**		**1**	**ug/L**	1	3/25/2014 05:51 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 05:51 PM
Xylenes, Total	**6**		**3**	**ug/L**	1	3/25/2014 05:51 PM
Surr: 4-Bromofluorobenzene	*94.0*		*75-129*	*%REC*	1	3/25/2014 05:51 PM
Surr: Trifluorotoluene	*82.0*		*75-130*	*%REC*	1	3/25/2014 05:51 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-4
Lab ID: 14030896-06
Collection Date: 3/19/2014 04:13 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 06:09 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 06:09 PM
Benzene	ND		1	ug/L	1	3/25/2014 06:09 PM
Toluene	ND		1	ug/L	1	3/25/2014 06:09 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 06:09 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 06:09 PM
Surr: 4-Bromofluorobenzene	*91.7*		*75-129*	*%REC*	1	3/25/2014 06:09 PM
Surr: Trifluorotoluene	*81.5*		*75-130*	*%REC*	1	3/25/2014 06:09 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-5
Lab ID: 14030896-07
Collection Date: 3/19/2014 04:42 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 06:43 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 06:43 PM
Benzene	**27**		1	**ug/L**	1	3/25/2014 06:43 PM
Toluene	ND		1	ug/L	1	3/25/2014 06:43 PM
Ethylbenzene	**2**		1	**ug/L**	1	3/25/2014 06:43 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 06:43 PM
Surr: 4-Bromofluorobenzene	*97.8*		*75-129*	*%REC*	1	3/25/2014 06:43 PM
Surr: Trifluorotoluene	*84.5*		*75-130*	*%REC*	1	3/25/2014 06:43 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-8
Lab ID: 14030896-08
Collection Date: 3/19/2014 05:17 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 07:01 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 07:01 PM
Benzene	**57**		**1**	**ug/L**	1	3/25/2014 07:01 PM
Toluene	ND		1	ug/L	1	3/25/2014 07:01 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 07:01 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 07:01 PM
Surr: 4-Bromofluorobenzene	*96.8*		*75-129*	*%REC*	1	3/25/2014 07:01 PM
Surr: Trifluorotoluene	*84.0*		*75-130*	*%REC*	1	3/25/2014 07:01 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Work Order: 14030896
Sample ID: MW-6
Lab ID: 14030896-09
Collection Date: 3/19/2014 05:50 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	**4**		**2**	**ug/L**	1	3/26/2014 02:22 PM
o-Xylene	ND		1	ug/L	1	3/26/2014 02:22 PM
Benzene	**77**		**1**	**ug/L**	1	3/26/2014 02:22 PM
Toluene	**8**		**1**	**ug/L**	1	3/26/2014 02:22 PM
Ethylbenzene	**1**		**1**	**ug/L**	1	3/26/2014 02:22 PM
Xylenes, Total	**4**		**3**	**ug/L**	1	3/26/2014 02:22 PM
Surr: 4-Bromofluorobenzene	*99.6*		*75-129*	*%REC*	1	3/26/2014 02:22 PM
Surr: Trifluorotoluene	*84.9*		*75-130*	*%REC*	1	3/26/2014 02:22 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *27-Mar-14*

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
Sample ID: Trip Blank
Collection Date: 3/19/2014

Work Order: 14030896
Lab ID: 14030896-10
Matrix: TRIP BLANK

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX BY SW8021B			**SW8021B**			Analyst: **DNR**
m,p-Xylene	ND		2	ug/L	1	3/25/2014 07:18 PM
o-Xylene	ND		1	ug/L	1	3/25/2014 07:18 PM
Benzene	ND		1	ug/L	1	3/25/2014 07:18 PM
Toluene	ND		1	ug/L	1	3/25/2014 07:18 PM
Ethylbenzene	ND		1	ug/L	1	3/25/2014 07:18 PM
Xylenes, Total	ND		3	ug/L	1	3/25/2014 07:18 PM
Surr: 4-Bromofluorobenzene	*90.2*		*75-129*	*%REC*	1	3/25/2014 07:18 PM
Surr: Trifluorotoluene	*79.9*		*75-130*	*%REC*	1	3/25/2014 07:18 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Work Order: 14030896
Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID: R163437	**Test Name:** BTEX by SW8021B					
14030896-01A	MW-9	Water	3/19/2014 11:40:00 AM			3/25/2014 05:17 PM
14030896-04A	MW-7		3/19/2014 2:33:00 PM			3/25/2014 05:34 PM
14030896-05A	MW-1		3/19/2014 3:47:00 PM			3/25/2014 05:51 PM
14030896-06A	MW-4		3/19/2014 4:13:00 PM			3/25/2014 06:09 PM
14030896-07A	MW-5		3/19/2014 4:42:00 PM			3/25/2014 06:43 PM
14030896-08A	MW-8		3/19/2014 5:17:00 PM			3/25/2014 07:01 PM
14030896-10A	Trip Blank	Trip Blank	3/19/2014			3/25/2014 07:18 PM
Batch ID: R163483	**Test Name:** BTEX by SW8021B					
14030896-02A	MW-2	Water	3/19/2014 1:16:00 PM			3/26/2014 01:44 PM
14030896-03A	MW-3		3/19/2014 6:56:00 PM			3/26/2014 02:05 PM
14030896-09A	MW-6		3/19/2014 5:50:00 PM			3/26/2014 02:22 PM

Batch ID: **R163437** Instrument ID **BTEX1** Method: **SW8021B**

MBLK Sample ID: **BBLKW1-140325-R163437** Units: **µg/L** Analysis Date: **3/25/2014 12:14 PM**

Client ID: Run ID: **BTEX1_140325B** SeqNo: **3577722** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	ND	2.0								
o-Xylene	ND	1.0								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 4-Bromofluorobenzene	27.93	1.0	*30*	*0*	*93.1*	*75-129*		*0*		
Surr: Trifluorotoluene	25.39	1.0	*30*	*0*	*84.6*	*75-130*		*0*		

LCS Sample ID: **BLCSS1-140325-R163437** Units: **µg/L** Analysis Date: **3/25/2014 11:39 AM**

Client ID: Run ID: **BTEX1_140325B** SeqNo: **3577721** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	37.14	2.0	40	0	92.9	75-125				
o-Xylene	18.72	1.0	20	0	93.6	75-125				
Benzene	18.21	1.0	20	0	91	75-126				
Toluene	18.13	1.0	20	0	90.6	75-125				
Ethylbenzene	18.36	1.0	20	0	91.8	75-125				
Xylenes, Total	55.86	3.0	60	0	93.1	75-125				
Surr: 4-Bromofluorobenzene	26.82	1.0	*30*	*0*	*89.4*	*75-129*		*0*		
Surr: Trifluorotoluene	24.37	1.0	*30*	*0*	*81.2*	*75-130*		*0*		

MS Sample ID: **14030921-01AMS** Units: **µg/L** Analysis Date: **3/25/2014 03:16 PM**

Client ID: Run ID: **BTEX1_140325B** SeqNo: **3577726** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	38.95	2.0	40	0	97.4	75-125				
o-Xylene	20.09	1.0	20	0	100	75-125				
Benzene	19.28	1.0	20	0	96.4	75-126				
Toluene	19.05	1.0	20	0	95.2	75-125				
Ethylbenzene	19.2	1.0	20	0	96	75-125				
Xylenes, Total	59.04	3.0	60	0	98.4	75-125				
Surr: 4-Bromofluorobenzene	27.47	1.0	*30*	*0*	*91.6*	*75-129*		*0*		
Surr: Trifluorotoluene	23.99	1.0	*30*	*0*	*80*	*75-130*		*0*		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Animas Environmental Services
Work Order: 14030896
Project: Lateral K-31 Pipeline Release

QC BATCH REPORT

Batch ID: **R163437** Instrument ID **BTEX1** Method: **SW8021B**

MSD Sample ID: **14030921-01AMSD** Units: **µg/L** Analysis Date: **3/25/2014 03:33 PM**
Client ID: Run ID: **BTEX1_140325B** SeqNo: **3577727** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	39.86	2.0	40	0	99.7	75-125	38.95	2.33	20	
o-Xylene	20.35	1.0	20	0	102	75-125	20.09	1.28	20	
Benzene	19.57	1.0	20	0	97.8	75-126	19.28	1.5	20	
Toluene	19.49	1.0	20	0	97.4	75-125	19.05	2.29	20	
Ethylbenzene	19.72	1.0	20	0	98.6	76-125	19.2	2.64	20	
Xylenes, Total	60.22	3.0	60	0	100	75-125	59.04	1.97	20	
Surr: 4-Bromofluorobenzene	28.43	1.0	*30*	*0*	*94.8*	*75-129*	*27.47*	*3.44*	*20*	
Surr: Trifluorotoluene	24.98	1.0	*30*	*0*	*83.3*	*75-130*	*23.99*	*4.02*	*20*	

The following samples were analyzed in this batch:

14030896-01A	14030896-04A	14030896-05A	14030896-06A
14030896-07A	14030896-08A	14030896-10A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Animas Environmental Services
Work Order: 14030896
Project: Lateral K-31 Pipeline Release

QC BATCH REPORT

Batch ID: **R163483** Instrument ID **BTEX1** Method: **SW8021B**

MBLK Sample ID: **BBLKW1-140326-R163483** Units: **µg/L** Analysis Date: **3/26/2014 11:21 AM**
Client ID: Run ID: **BTEX1_140326B** SeqNo: **3578533** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	ND	2.0								
o-Xylene	ND	1.0								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 4-Bromofluorobenzene	29.35	1.0	*30*	*0*	*97.8*	*75-129*	*0*			
Surr: Trifluorotoluene	25.21	1.0	*30*	*0*	*84*	*75-130*	*0*			

LCS Sample ID: **BLCSS1-140326-R163483** Units: **µg/L** Analysis Date: **3/26/2014 10:46 AM**
Client ID: Run ID: **BTEX1_140326B** SeqNo: **3578532** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	37.04	2.0	40	0	92.6	75-125				
o-Xylene	18.95	1.0	20	0	94.8	75-125				
Benzene	18.29	1.0	20	0	91.4	75-126				
Toluene	18.17	1.0	20	0	90.9	75-125				
Ethylbenzene	18.07	1.0	20	0	90.3	75-125				
Xylenes, Total	55.99	3.0	60	0	93.3	75-125				
Surr: 4-Bromofluorobenzene	27.2	1.0	*30*	*0*	*90.7*	*75-129*	*0*			
Surr: Trifluorotoluene	24.2	1.0	*30*	*0*	*80.7*	*75-130*	*0*			

MS Sample ID: **14030965-02AMS** Units: **µg/L** Analysis Date: **3/26/2014 12:52 PM**
Client ID: Run ID: **BTEX1_140326B** SeqNo: **3578543** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	37.13	2.0	40	0	92.8	75-125				
o-Xylene	18.56	1.0	20	0	92.8	75-125				
Benzene	18.4	1.0	20	0	92	75-126				
Toluene	18.21	1.0	20	0	91	75-125				
Ethylbenzene	18.53	1.0	20	0	92.6	75-125				
Xylenes, Total	55.69	3.0	60	0	92.8	75-125				
Surr: 4-Bromofluorobenzene	29.1	1.0	*30*	*0*	*97*	*75-129*	*0*			
Surr: Trifluorotoluene	24.57	1.0	*30*	*0*	*81.9*	*75-130*	*0*			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Animas Environmental Services
Work Order: 14030896
Project: Lateral K-31 Pipeline Release

QC BATCH REPORT

Batch ID: **R163483** Instrument ID **BTEX1** Method: **SW8021B**

MSD Sample ID: **14030965-02AMSD** Units: **µg/L** Analysis Date: **3/26/2014 01:09 PM**

Client ID: Run ID: **BTEX1_140326B** SeqNo: **3578544** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	**36.37**	**2.0**	**40**	**0**	**90.9**	**75-125**	**37.13**	**2.06**	**20**	
o-Xylene	18.15	1.0	20	0	90.8	75-125	18.56	2.22	20	
Benzene	18.35	1.0	20	0	91.7	75-126	18.4	0.294	20	
Toluene	**18.02**	**1.0**	**20**	**0**	**90.1**	**75-125**	**18.21**	**1.07**	**20**	
Ethylbenzene	18.24	1.0	20	0	91.2	76-125	18.53	1.58	20	
Xylenes, Total	**54.53**	**3.0**	**60**	**0**	**90.9**	**75-125**	**55.69**	**2.11**	**20**	
Surr: 4-Bromofluorobenzene	28.95	1.0	*30*	*0*	*96.5*	*75-129*	*29.1*	*0.523*	*20*	
Surr: Trifluorotoluene	**24.81**	**1.0**	***30***	***0***	***82.7***	***75-130***	***24.57***	***0.993***	***20***	

The following samples were analyzed in this batch: 14030896-02A 14030896-03A 14030896-09A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Animas Environmental Services
Project: Lateral K-31 Pipeline Release
WorkOrder: 14030896

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
ug/L	Micrograms per Liter

ALS Environmental

Sample Receipt Checklist

Client Name: **ANIMAS ENVIRONMENTAL SER** Date/Time Received: **21-Mar-14 09:15**

Work Order: **14030896** Received by: **DRC**

Checklist completed by Sarah M. Giga (eSignature) 24-Mar-14 (Date) Reviewed by: Bethany MacDaniel (eSignature) 24-Mar-14 (Date)

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2c/1.2c c/U	IR1	
Cooler(s)/Kit(s):	5691		
Date/Time sample(s) sent to storage:	3/24/14 12:30		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Sample MW-8 - 1 x vial received broken

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 102388

14030896

ANIMAS ENVIRONMENTAL SERVICES: Animas Environmental Services

Project: Lateral K-31 Pipeline Release

Customer Information		Project Information		ALS Project Manager:
Purchase Order	AFE# Needed	Project Name	Lateral K-31	
Work Order		Project Number		
Company Name	Animas Environmental Services	Bill To Company	Enterprise Products	
Send Report To	Heather Woods	Invoice Attn	Farah Ullah	
Address	624 E. Comanche	Address	1100 Louisiana	
City/State/Zip	Farmington, NM 87401	City/State/Zip	Hosuton, TX 77002	
Phone	(505) 564-2281	Phone	(713) 381-4357	
	(505) 324-2022			
E-Mail Address	hwoods@animasenvironmental.com	E-Mail Address		

No.	Sample ID	Date	Time	Matrix	Preservative	# Containers	BTEX (8021)											Field Filtered
1	MW-9	3-19-2014	1140	H2O	HCL	3	X											
2	MW-2	3-19-2014	1316	H2O	HCL	3	X											
3	MW-3	3/19/2014	1856	H2O	HCL	3	X											
4	MW-7	3/19/2014	1433	H2O	HCL	3	X											
5	MW-1	3/19/2014	1547	H2O	HCL	3	X											
6	MW-4	3/19/2014	1613	H2O	HCL	3	X											
7	MW-5	3/19/2014	1642	H2O	HCL	3	X											
8	MW-8	3/19/2014	1717	H2O	HCL	3	X											
9	MW-6	3/19/2014	1750	H2O	HCL	3	X											
10	Trip Blank						X											

Sample(s) Relinquished & Sign: [signature]

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ Other 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
[signature]	3/20/14	0915	Heather Woods	
Relinquished by: Heather Woods	Date: 3/20/14	Time: 1000	Received by (Laboratory): [signature]	
Logged by (Laboratory):	Date:	Time:	Checked By (Laboratory): [signature] 3/21/14	

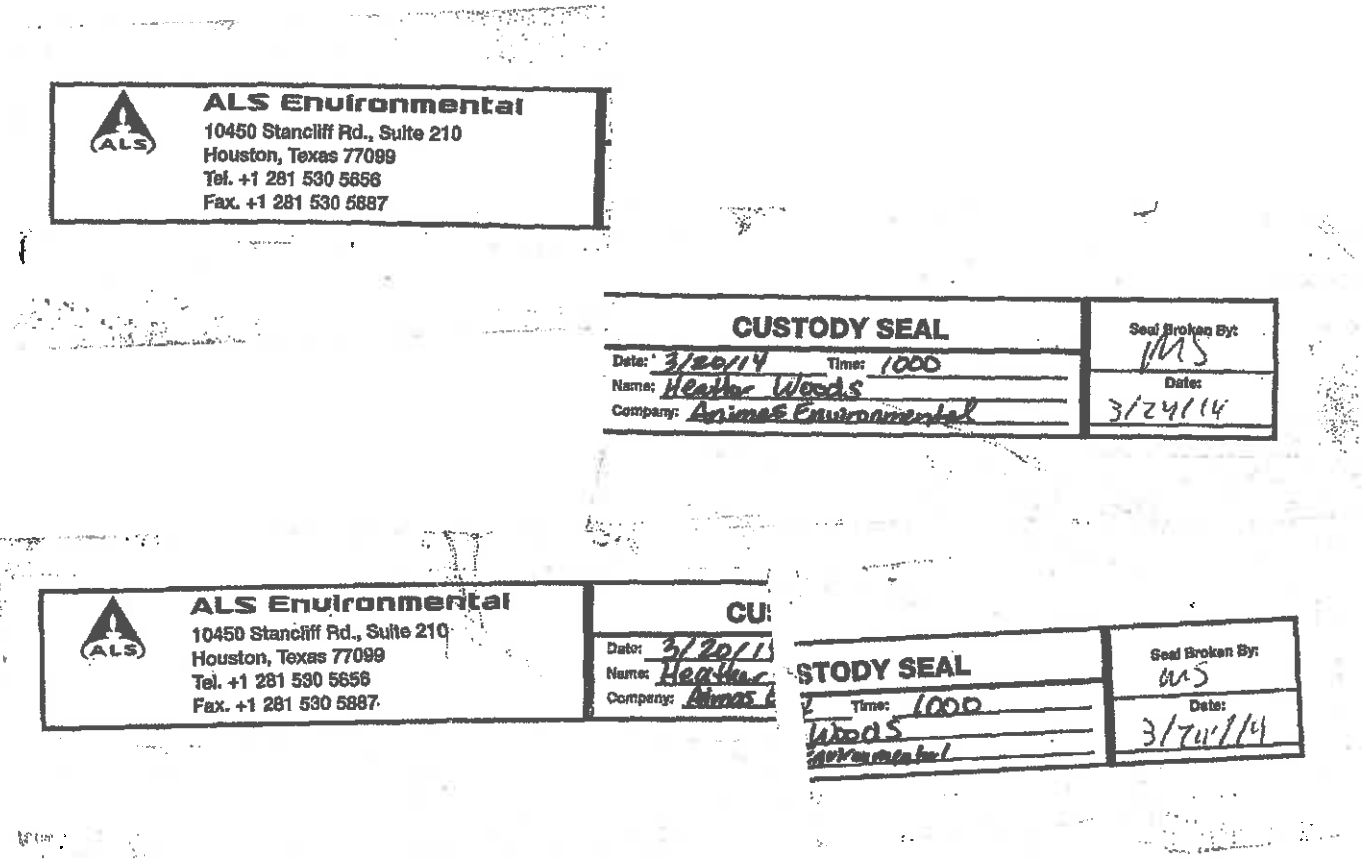
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other / EDD
- ☐ TRRP CheckList
- ☐ TRRP Level IV

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.


ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 3/20/14 Time: 1000
Name: Heather Woods
Company: Arcadis Environmental
Seal Broken By:
Date: 3/24/14
ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Time: 1000
Seal Broken By:
Date: 3/24/14


TRK# 8042 5199 0290
FRI - 21 MAR
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IA
973890 20Mar 23:33 ME

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 18, 2014

Heather Woods
Apex Titan, Inc.
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (505) 716-2787
FAX (214) 350-2914

RE: Lateral K-31

OrderNo.: 1411592

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 8 sample(s) on 11/15/2014 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 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 qualifers 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **1411592**
Date Reported: **11/18/2014**

CLIENT: Apex Titan, Inc.
Project: Lateral K-31
Lab Order: 1411592

Lab ID: 1411592-001
Client Sample ID: MW-9
Collection Date: 11/12/2014 9:25:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	11/17/2014 3:49:51 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 3:49:51 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 3:49:51 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 3:49:51 PM	R22597
Surr: 4-Bromofluorobenzene	109	66.6-167		%REC	1	11/17/2014 3:49:51 PM	R22597

Lab ID: 1411592-002
Client Sample ID: MW-3
Collection Date: 11/12/2014 10:15:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	11/17/2014 4:17:18 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 4:17:18 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 4:17:18 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 4:17:18 PM	R22597
Surr: 4-Bromofluorobenzene	103	66.6-167		%REC	1	11/17/2014 4:17:18 PM	R22597

Lab ID: 1411592-003
Client Sample ID: MW-7
Collection Date: 11/12/2014 11:05:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	11/17/2014 4:44:50 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 4:44:50 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 4:44:50 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 4:44:50 PM	R22597
Surr: 4-Bromofluorobenzene	104	66.6-167		%REC	1	11/17/2014 4:44:50 PM	R22597

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Apex Titan, Inc.
Project: Lateral K-31
Lab Order: 1411592

Lab ID: 1411592-004 **Collection Date:** 11/12/2014 11:50:00 AM
Client Sample ID: MW-4 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	5.4	1.0		µg/L	1	11/17/2014 5:12:17 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 5:12:17 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 5:12:17 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 5:12:17 PM	R22597
Surr: 4-Bromofluorobenzene	104	66.6-167		%REC	1	11/17/2014 5:12:17 PM	R22597

Lab ID: 1411592-005 **Collection Date:** 11/12/2014 12:30:00 PM
Client Sample ID: MW-1 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	11/17/2014 5:39:44 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 5:39:44 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 5:39:44 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 5:39:44 PM	R22597
Surr: 4-Bromofluorobenzene	103	66.6-167		%REC	1	11/17/2014 5:39:44 PM	R22597

Lab ID: 1411592-006 **Collection Date:** 11/12/2014 1:20:00 PM
Client Sample ID: MW-5 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	11/17/2014 9:45:43 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 9:45:43 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 9:45:43 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 9:45:43 PM	R22597
Surr: 4-Bromofluorobenzene	105	66.6-167		%REC	1	11/17/2014 9:45:43 PM	R22597

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

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.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Apex Titan, Inc. **Lab Order:** 1411592
Project: Lateral K-31

Lab ID: 1411592-007 **Collection Date:** 11/12/2014 2:05:00 PM
Client Sample ID: MW-8 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	5.8	1.0		µg/L	1	11/17/2014 10:13:01 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 10:13:01 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 10:13:01 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 10:13:01 PM	R22597
Surr: 4-Bromofluorobenzene	99.6	66.6-167		%REC	1	11/17/2014 10:13:01 PM	R22597

Lab ID: 1411592-008 **Collection Date:** 11/12/2014 2:45:00 PM
Client Sample ID: MW-6 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	19	1.0		µg/L	1	11/17/2014 11:07:31 PM	R22597
Toluene	ND	1.0		µg/L	1	11/17/2014 11:07:31 PM	R22597
Ethylbenzene	ND	1.0		µg/L	1	11/17/2014 11:07:31 PM	R22597
Xylenes, Total	ND	2.0		µg/L	1	11/17/2014 11:07:31 PM	R22597
Surr: 4-Bromofluorobenzene	99.9	66.6-167		%REC	1	11/17/2014 11:07:31 PM	R22597

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411592

18-Nov-14

Client: Apex Titan, Inc.

Project: Lateral K-31

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R22597	RunNo:	22597					
Prep Date:		Analysis Date:	11/17/2014	SeqNo:	666092	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		106	66.6	167			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R22597	RunNo:	22597					
Prep Date:		Analysis Date:	11/17/2014	SeqNo:	666093	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	107	80	120			
Xylenes, Total	65	2.0	60.00	0	108	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		105	66.6	167			

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.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: APEX AZTEC | Work Order Number: 1411592 | RcptNo: 1

Received by/date: AF 11/15/14

Logged By: Lindsay Mangin 11/15/2014 10:00:00 AM

Completed By: Lindsay Mangin 11/17/2014 9:16:28 AM

Reviewed By: CS 11/17/14

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	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	4.5	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location AZTEC, NM

Project Manager HEATHER WOODS

Laboratory: HALL

Address: ABQ

Contact: FREEMAN

Phone:

PO/SO #:

Sampler's Name: AARON BRYANT RANEE DEECHILLY

Sampler's Signature:

Proj. No.: 7030414G014

Project Name: LATERAL K-31

No/Type of Containers

ANALYSIS REQUESTED: BTEX 8021

Lab use only
Due Date:

Temp. of coolers when received (C°): 4.5

1 | 2 | 3 | 4 | 5

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	11-12-14	0925		X	mw-9			3					1411592-001
		1015			mw-3								-002
		1105			mw-7								-003
		1150			mw-4								-004
		1230			mw-1								-005
		1320			mw-5								-006
		1405			mw-8								-007
		1446			mw-6								008
					NFE								009
					AB								

Turn around time: Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11-12-14	1616	Heather M. Woods	11-12-14	1616
Heather M. Woods	11-14-14	1408	Matthew Walker	11-14-14	1408
Matthew Walker	11/14/14	1725		11/15/14	0700

NOTES:
Enterprise rate billed to Apex

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other