pBBB1219836828

ANNUAL GROUNDWATER MONITORING REPORT
(JUNE 2017 AND JANUARY 2018 SAMPLING EVENTS)

Property:

Trunk 6C Kutz Wash Pipeline Release
SW 1/4, S26 T28N R11W
San Juan County, New Mexico
OCD RP: 3R-438

May 24, 2018
Apex Project No. 725040112183

Prepared for:

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

Prepared by:

Ranee Deechilly
Project Scientist

Kyle Summers, CPG
Branch Manager / Senior Geologist

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

APEX

ANNUAL GROUNDWATER MONITORING REPORT
(JUNE 2017 AND JANUARY 2018 SAMPLING EVENTS)
Trunk 6C Kutz Wash Pipeline Release
Executive Summary

The Trunk 6C Kutz Wash pipeline release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way in the southwest (SW) 1/4 of Section 26, Township 28 North, Range 11 West, in San Juan County, New Mexico (36.63202N, 107.97400W). The surrounding area is predominately 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 September 22, 2011, a pipeline release of natural gas and associated pipeline liquids was discovered at the Site and the pipeline was subsequently repaired. A Site assessment conducted by Animas Environmental Services, LLC (AES) during October 2011 identified total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbon (TPH) concentrations in "test hole" excavation soil and groundwater that exceeded the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (*RALs*) for soils and the New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standards* (*GQSs*) for groundwater.

During November 2011, AES advanced eight (8) soil borings at the Site to further delineate the extent of hydrocarbon affected soil and potentially impacted groundwater. Resulting soil and groundwater analytical data indicated constituent of concern concentrations above the New Mexico EMNRD OCD *RALs* and WQCC *GQSs*.

During September 2012, AES advanced nine (9) soil borings and converted three (3) wells on-Site, to further evaluate the extent of dissolved phase impacts. Based on laboratory analytical results, COCs were not detected above the OCD *RALs* at these soil boring/monitoring well locations. Benzene was detected above the WQCC *GQSs*. On October 16, 2012, AES supervised the excavation conducted by AES. Soil and groundwater samples collected from the excavation exhibited COC concentrations above the New Mexico EMNRD OCD *RALs*.

On October 28, 2013, an additional leak was discovered on the pipeline and the pipeline was subsequently repaired. AES collected confirmation soils samples from the pipeline repair excavation. Benzene concentrations above the New Mexico EMNRD OCD *RALs* remained. Slug tests were conducted in four (4) wells by AES to evaluate hydraulic conductivity. Results for hydraulic conductivity averaged 5.27E-03 cm/sec using Bouwer-Rice analysis and 8.81E-03 cm/sec using recovery analysis.

During September 2016, Apex advanced five (5) soil borings. Three (3) of the five (5) soil borings were completed as groundwater monitoring wells. Impacts were identified in soil above the New Mexico EMNRD OCD *RALS* at soil boring locations for existing wells MW-15, MW-17, and SB-18A. In addition, COC concentrations were identified in groundwater above the WQCC *GQSs* in monitoring well MW-17. Semi-annual groundwater monitoring events are ongoing at the Site.

The objective of the semi-annual groundwater water monitoring events was to further evaluate the concentrations of COCs in soil/groundwater at the Site.

- During June 2017 and January 2018, Apex performed groundwater sampling events at the Site. During completion of the June and January sampling events, one (1) groundwater sample was collected from each monitoring well utilizing low-flow or bailer sampling techniques. Monitoring well MW-12 was not sampled during either event due to an obstructed screen/casing. Monitoring well MW-11 did not produce a sufficient volume of water to allow for the collection of samples during the June sampling event and was not sampled.

- The groundwater flow direction at the Site is generally toward the northwest, with an average gradient of approximately 0.008 feet per foot (ft/ft) across Site.

- **During the June 2017 sampling event, the groundwater samples collected from monitoring wells MW-1 and MW-17 exhibited BTEX constituent concentrations above the applicable WQCC *GQSs*.** The groundwater samples collected from the remaining monitoring wells did not exhibit BTEX constituent concentrations above the applicable WQCC *GQSs*.

- **During the January 2018 sampling event, the groundwater sample collected from monitoring well MW-1 exhibited BTEX constituent concentrations above the applicable WQCC *GQSs*.** The groundwater samples collected from the remaining monitoring wells did not exhibit BTEX constituent concentrations above the applicable WQCC *GQSs*.

- With the exception of monitoring well MW-1, which has exhibited relatively consistent COC concentrations, results from the sampling events at the Site demonstrate generally declining COC concentrations in groundwater.

Apex offers the following recommendations:

- **Report the groundwater monitoring results to the New Mexico EMNRD OCD;**

- **Continue semi-annual groundwater sampling; and,**

- **Evaluate in situ remediation as an option to address remaining soil and/or groundwater impact at the Site.**

TABLE OF CONTENTS

LIST OF APPENDICES

APEX

ANNUAL GROUNDWATER MONITORING REPORT
(JUNE 2017 AND JANUARY 2018 SAMPLING EVENTS)

Trunk 6C Kutz Wash Pipeline Release
SW 1/4, S26 T28N R11W
San Juan County, New Mexico
OCR RP: 3R-438

Apex Project No. 725040112183

1.0 INTRODUCTION

1.1 Site Description & Background

The Trunk 6C Kutz Wash pipeline release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) 1/4 of Section 26, Township 28 North, Range 11 West, in San Juan County, New Mexico (36.63202N, 107.97400W). The surrounding area is predominately 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 September 22, 2011, a pipeline release of natural gas and associated pipeline liquids was discovered at the Site and the pipeline was subsequently repaired. Animas Environmental Services, LLC (AES) collected one (1) soil sample from the floor of the repair excavation. Based on field screening results, the soil sample exhibited elevated levels of volatile organic compounds (VOCs). A site assessment was conducted by AES on October 11, 2011, which included the collection of soil samples from four (4) test holes (TP-1 through TP-4) which were advanced near the release area, as well as groundwater samples from two (2) of the four (4) test holes. Based on laboratory analytical results, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons (TPH) were identified in soils from two (2) of the test holes (TP-1 and TP-2) at concentrations above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (*RALs*). The test hole water samples collected from TP-2 and TP-4 exhibited concentrations of benzene, toluene, and total xylenes above New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standards* (*GQSs*). Additional detail regarding the initial site assessment activities are provided in the *Release Assessment Report, dated October 28, 2011- AES.*

During November 2011, AES advanced eight (8) soil borings (SB-1 through SB-8) at the Site to further delineate the extent of hydrocarbon affected soil and potentially impacted groundwater. Laboratory analytical results for the soil and groundwater samples collected from the soil borings identified constituent of concern (COC) concentrations in soil above the New Mexico EMNRD OCD *RALs* (SB-2, SB-7, and SB-8) and in groundwater above the WQCC *GQSs* (SB-2W, SB-3W, and SB-7W) *(Site Investigation Report, dated February 20, 2012 – AES).*

During September 2012, nine (9) additional soil borings were advanced at the 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). Laboratory analytical results did not indicate COCs in soil above the New Mexico EMNRD OCD *RALs* at these soil boring/monitoring well locations. However, COCs were confirmed in groundwater above the WQCC *GQSs (Groundwater Investigation Report, dated October 31, 2012 – AES).*

On October 16, 2013, AES advanced four (4) additional soil borings/monitoring wells (MW-10 through MW-13) in and around the former release area to further evaluate the extent of COCs in groundwater. Laboratory analytical results indicated COC concentrations in soil and groundwater from soil boring/monitoring well MW-10 were present at levels above the New Mexico EMNRD OCD *RALs* and the WQCC *GQSs*. (*3rd Quarter 2013 Groundwater Monitoring and Well Installation Report, dated December 10, 2013 and 4th Quarter 2013 Groundwater Monitoring and Continued Investigation Report, dated July 23, 2014 – AES*).

On October 28, 2013, an additional leak was discovered in the vicinity of the original release and the pipeline was subsequently repaired. On December 17, 2013, AES collected 20 discrete soil samples from the resulting pipeline repair excavation. Laboratory analytical results indicated benzene, total BTEX, and total TPH concentrations in soil were above the New Mexico EMNRD OCD *RALs*. In addition, aquifer pumping tests were conducted at four wells (MW-6 through MW-9) by AES to estimate hydraulic conductivity. Based on pumping test results, the reported estimate for hydraulic conductivity averaged 5.27E-03 centimeters per second (cm/sec) and 8.81E-03 cm/sec using drawdown and recovery analysis, respectively. (*4th Quarter 2013 Groundwater Monitoring and Continued Investigation Report, dated July 23, 2014 – AES*).

During September 2016, Apex performed site investigation activities to further evaluate and delineate the concentrations of COCs in soil and groundwater at the Site. Five (5) soil borings were advanced and three (3) of the five (5) soil borings were completed as groundwater monitoring wells MW-14, MW-15, and MW-17. Laboratory analytical results indicated COC concentrations in soil (MW-15 and MW-17) and groundwater (MW-17) above the New Mexico EMNRD OCD *RALs* and the WQCC *GQSs* (*Supplemental Environmental Site Investigation (September 2016) and Annual Groundwater Monitoring Report (June and December 2016), dated February 13, 2017 – Apex*).

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 EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the New Mexico EMNROD OCD rules, specifically New Mexico Administrative Code (NMAC) 19.15.29 *Release Notification*. These guidance documents and rules establish investigation and abatement action requirements for release sites subject to reporting and/or corrective action, and reference baseline New Mexico WQCC *GQSs*.

A **Topographic Map** is provided as **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 locations of the monitoring wells and sample locations in relation to pertinent structures and general Site boundaries, is included as **Figure 3** of **Appendix A**.

1.2 Objective

The objective of the semi-annual groundwater monitoring was to further evaluate the concentrations of COCs in groundwater at the Site with respect to WQCC *GQSs*.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Sampling Program

During June 2017 and January 2018, Apex conducted semi-annual groundwater sampling events.

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 during either sampling event.

Each monitoring well was sampled utilizing either micro-purge low-flow or bailer sampling techniques. Subsequent to the completion of the micro-purge process, one (1) groundwater sample was collected from each of these monitoring wells.

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 or decontaminated sampling equipment. 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.

The groundwater samples are collected from each monitoring well once produced groundwater is consistent in color, clarity, pH, temperature, and conductivity. Measurements are taken every three to five minutes while purging. Purging is considered complete once key parameters (especially pH and conductivity) have stabilized for three successive readings.

Monitoring well MW-12 was not sampled during the June and January sampling events due to an obstructed well screen/casing.

The casings of monitoring wells MW-10 through MW-13 are approximately 1-inch in diameter, which is smaller than the bladder pump diameter. As a result, these monitoring wells were purged until effectively dry, utilizing a disposable bailer. Subsequent to the completion of the purging process and the recovery of groundwater to static or near static levels, one (1) groundwater sample was collected from each monitoring well. During the June 2017 sampling event, monitoring well MW-11 was not sampled. The monitoring well did not produce a sufficient volume of water to allow for the collection of samples.

Groundwater samples were collected in laboratory supplied containers, labeled/sealed using the laboratory supplied labels and custody seals, and stored on ice in a cooler. The samples were relinquished to the courier for Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico under proper chain-of-custody procedures.

2.2 Groundwater Laboratory Analytical Program

Groundwater samples were analyzed for BTEX utilizing EPA SW-846 Method 8021/8260. Sample containers for groundwater were pre-preserved with mercuric chloride ($HgCl_2$).

A summary of the analyte, sample matrix, sample frequency, and EPA-approved methods is presented in the following table:

Analyte	Sample Matrix	No. of Samples (per event)	EPA Method
BTEX	Groundwater	14/15	SW-846 8021/8260

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

2.3 Groundwater Flow Direction

Each of the monitoring wells was geospatially surveyed or re-surveyed to determine top-of-casing (TOC) elevations. Apex gauged the depth to fluids in each monitoring well with an interface probe capable of detecting/measuring NAPL. NAPL was not identified at the Site during the 2017 and 2018 sampling events. Based on gauging data, the groundwater flow direction at the Site is generally toward the northwest, with an average gradient of approximately 0.008 feet per foot (ft/ft) across Site.

Groundwater measurements collected during the sampling events are presented with TOC elevations in **Table 2** (**Appendix B**). Groundwater Gradient Maps are included as **Figure 4A** and **Figure 4B** (**Appendix A**).

2.4 Groundwater Data Evaluation

Apex compared BTEX concentrations or laboratory PQLs associated with the groundwater samples collected from the Site monitoring wells during the June 2017 and January 2018 sampling events to the WQCC *GQSs*. The results of the groundwater sample analyses are summarized in **Table 1** of **Appendix B**. Groundwater Quality Standards Exceedance Zone Maps that include the results from the June 2017 and January 2018 sampling events are provided as **Figure 5A** and **Figure 5B** of **Appendix A**.

Monitoring well MW-12 was not sampled during the June and December sampling events due to an obstructed well screen/casing. In addition, monitoring well MW-11 was not sampled during the June 2017 sampling event due to an insufficient volume of water to allow sample collection.

June 2017 Samples Results:

The groundwater samples collected from monitoring wells MW-1 and MW-17 exhibited benzene concentrations of 3,500 microgram per liter (µg/L) and 130 µg/L, respectively, which exceed the WQCC *GQS* of 10 µg/L. The groundwater samples collected from monitoring wells MW-10 and MW-15 exhibited benzene concentrations of 3.4 µg/L and 4.1 µg/L, respectively, which are below the WQCC *GQS* of 10 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit benzene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 10 µg/L.

The groundwater sample collected from monitoring well MW-1 exhibited a toluene concentration of 4,200 µg/L, which exceeds the WQCC GQS of 750 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit toluene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 750 µg/L.

The groundwater samples collected from monitoring wells MW-1 and MW-15 exhibited ethylbenzene concentrations of 180 µg/L and 4.6 µg/L, respectively, which are below the WQCC *GQS* of 750 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit ethylbenzene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 750 µg/L.

The groundwater samples collected from monitoring wells MW-1 and MW-17 exhibited total xylenes concentrations of 1,800 µg/L and 950 µg/L, respectively, which exceed the WQCC *GQS* of 620 µg/L. The groundwater sample collected from monitoring well MW-15 exhibited a total xylenes concentration of 89 µg/L, which is below the WQCC *GQS* of 620 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit total xylenes concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 620 µg/L.

Data Qualifier Flags		
Sample ID	**Data Qualifier Flag**	**Comments/Reactions**
MW-15 (collected 6/27/2017)	SW-846 Method 8021 BTEX Surrogate Recovery was outside the accepted recovery limits.	The BTEX data is suitable for use as an estimated value. The surrogate recovery was outside the accepted "high" limit of 153% with a recovery of 140% due to matrix interference.
MW-1 (collected 6/28/2017)	SW-846 Method 8021 BTEX Surrogate Recovery was outside the accepted recovery limits.	The BTEX data is suitable for use as an estimated value. The surrogate recovery was slightly outside the accepted "high" limit of 140% with a recovery of 145% due to matrix interference.
MW-17 (collected 6/28/2017)	SW-846 Method 8021 BTEX Surrogate Recovery was outside the accepted recovery limits.	The BTEX data is suitable for use as an estimated value. The surrogate recovery was slightly outside the accepted "high" limit of 140% with a recovery of 145% due to matrix interference.

January 2018 Sample Results:

The groundwater sample collected from monitoring well MW-1 exhibited a benzene concentration of 1,300 µg/L, which exceeds the WQCC *GQS* of 10 µg/L. The groundwater samples collected from monitoring wells MW-15 and MW-17 exhibited benzene concentrations of 4.7 µg/L and 5.2 µg/L, respectively, which are below the WQCC *GQS* of 10 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit benzene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 10 µg/L.

The groundwater samples collected from monitoring wells MW-1 and MW-17 exhibited toluene concentrations of 710 µg/L and 2.2 µg/L, which are below the WQCC GQS of 750 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit toluene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 750 µg/L.

The groundwater samples collected from monitoring wells MW-1, MW-6, MW-15, and MW-17 exhibited ethylbenzene concentrations ranging from 1.2 µg/L (MW-17) to 59 µg/L (MW-1), which are below the WQCC *GQS* of 750 µg/L. The groundwater samples collected from the remaining

monitoring wells did not exhibit ethylbenzene concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 750 µg/L.

The groundwater samples collected from monitoring wells MW-1, MW-6, MW-15, and MW-17 exhibited total xylenes concentrations ranging from 12 µg/L (MW-6) to 350 µg/L (MW-1), which are below the WQCC *GQS* of 620 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit total xylenes concentrations above the laboratory PQLs, which are below the WQCC *GQS* of 620 µg/L.

No data qualifier flags were associated with the January 2018 groundwater analytical results.

3.0 FINDINGS

During June 2017 and January 2018, Apex performed groundwater monitoring events at the Site. The primary objective of the groundwater monitoring events was to further evaluate the concentrations of COCs in groundwater at the Site with respect to WQCC *GQSs*.

- During completion of the June 2017 and January 2018 sampling events, one (1) groundwater sample was collected from each monitoring well utilizing low-flow or bailer sampling techniques. Monitoring well MW-12 was not sampled during either event due to an obstructed screen/casing. Monitoring well MW-11 did not produce a sufficient volume of water to allow for the collection of samples during the June sampling event and was not sampled.

- The groundwater flow direction at the Site is generally toward the northwest, with an average gradient of approximately 0.008 ft/ft across Site.

- **During the June 2017 sampling event, the groundwater samples collected from monitoring wells MW-1 and MW-17 exhibited BTEX constituent concentrations above the applicable WQCC *GQSs*.** The groundwater samples collected from the remaining monitoring wells did not exhibit BTEX constituent concentrations above the applicable WQCC *GQSs*.

- **During the January 2018 sampling event, the groundwater sample collected from monitoring well MW-1 exhibited a benzene concentration above the applicable WQCC *GQS*.** The groundwater samples collected from the remaining monitoring wells did not exhibit BTEX constituent concentrations above the applicable WQCC *GQSs*.

- With the exception of monitoring well MW-1, which has exhibited relatively consistent COC concentrations, results from the sampling events at the Site demonstrate generally declining COC concentrations in groundwater.

4.0 RECOMMENDATIONS

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

- **Report the groundwater monitoring results to the New Mexico EMNRD OCD;**
- **Continue semi-annual groundwater sampling; and,**
- **Evaluate insitu remediation as an option to address remaining soil and/or groundwater impact at the Site.**

5.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

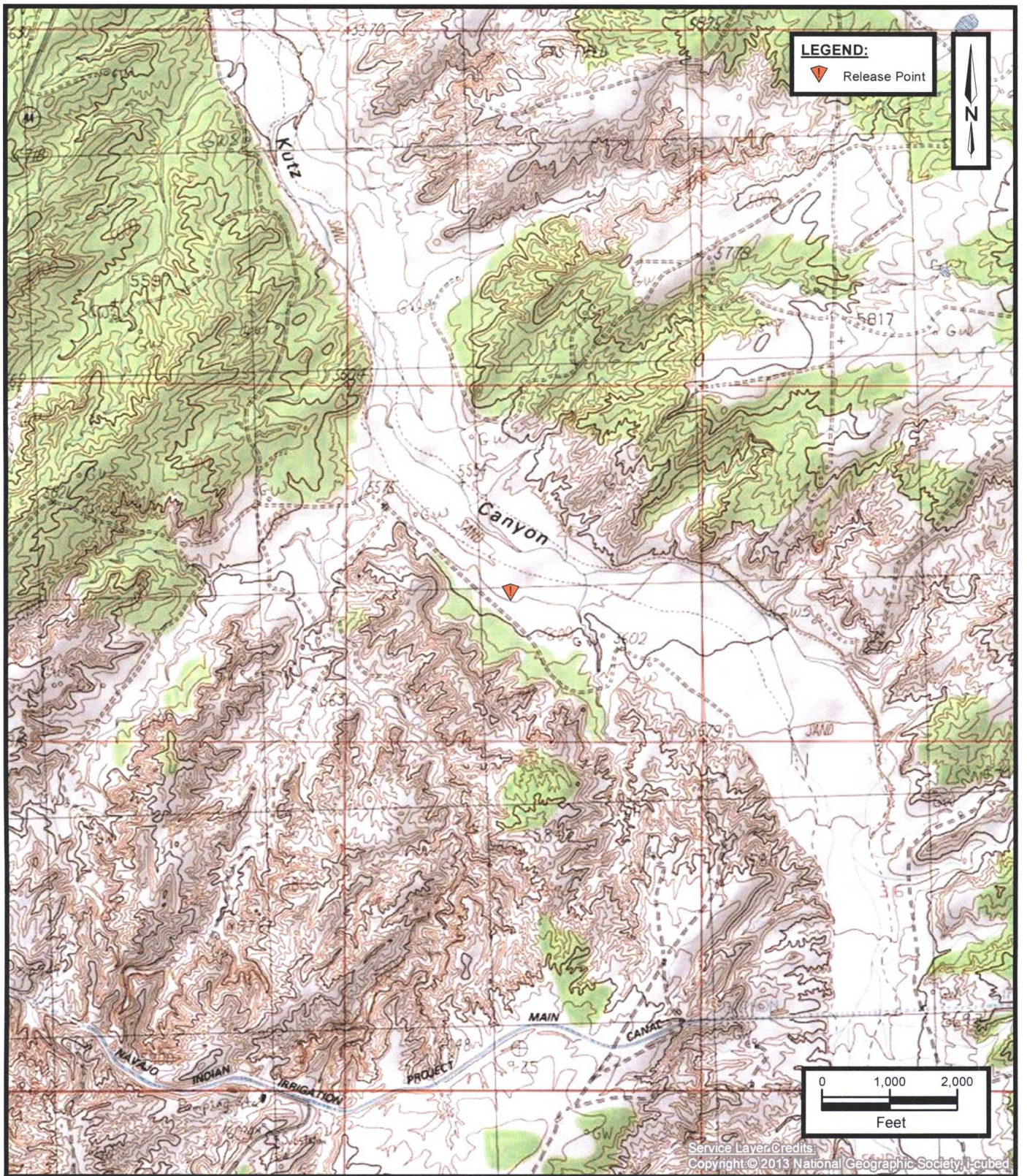
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work 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.

APPENDIX A

Figures



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

Project No. 725040112183

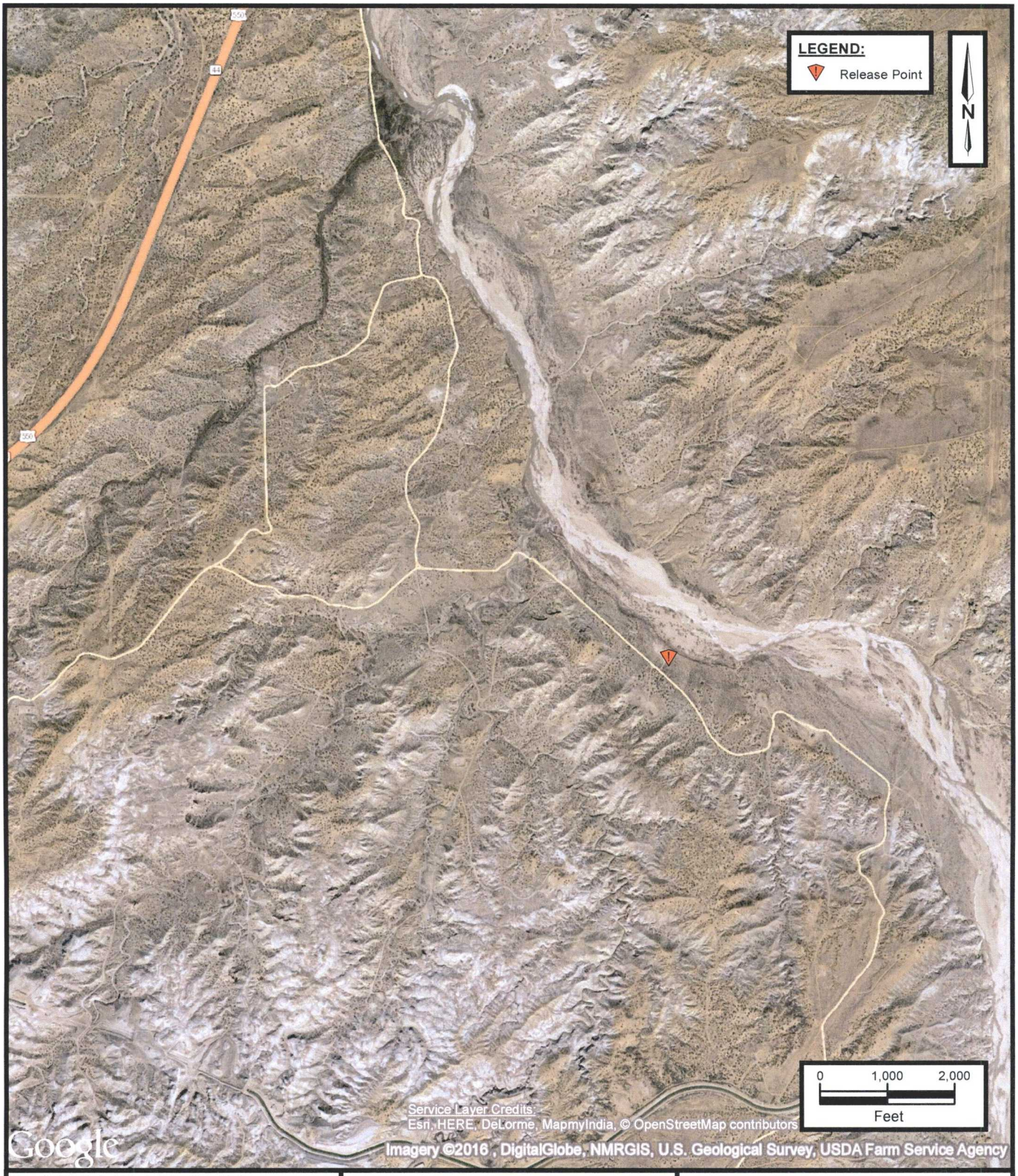
Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 1

Topographic Map

Bloomfield and East Fork Kutz Canyon
New Mexico 7.5-Minute Quadrangles
1985

Z:\Dallas South\Drafting\2016\725040112183\Figure 1.mxd Modified 9/26/2016 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

Project No. 725040112183

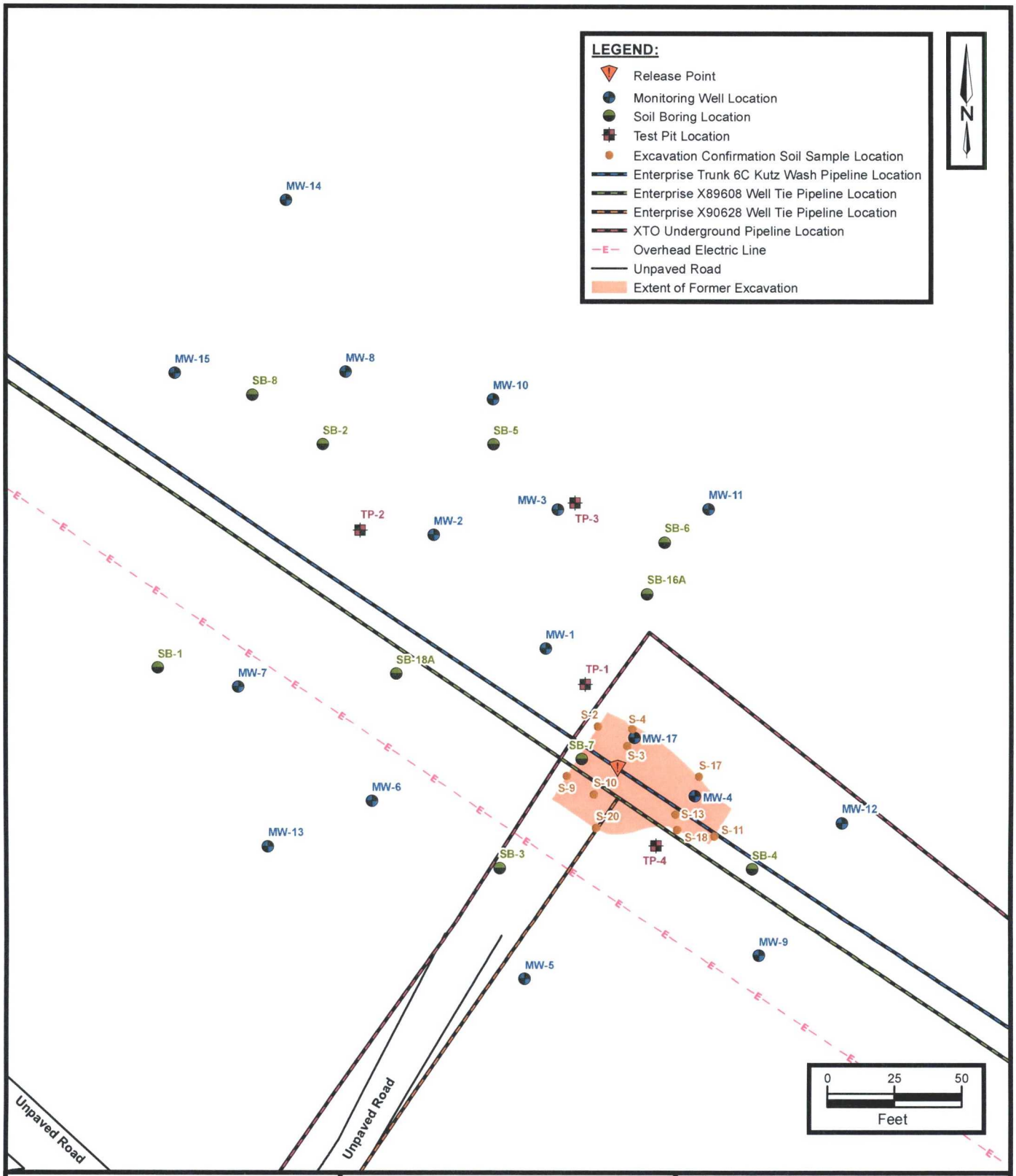
Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 2

Site Vicinity Map

Aerial Photograph March 2015

Z:\Dallas South\Drafting\2016\725040112183\Figure 2.mxd Modified 9/26/2016 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

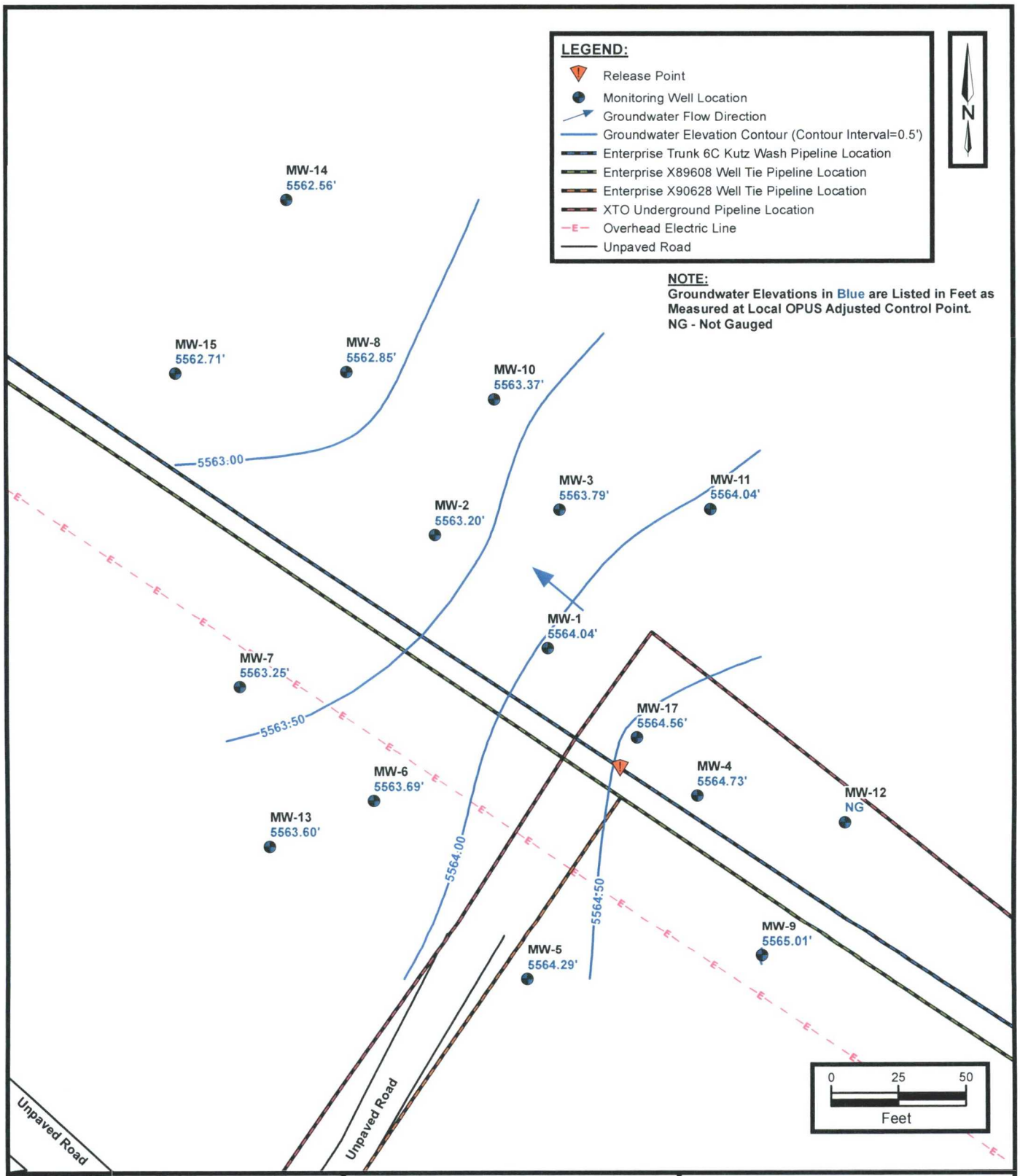
Project No. 725040112183

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

FIGURE 3

Site Map

Z:\Dallas South\Drafting\2016\725040112183\Figure 3.mxd Modified 5/14/2018 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

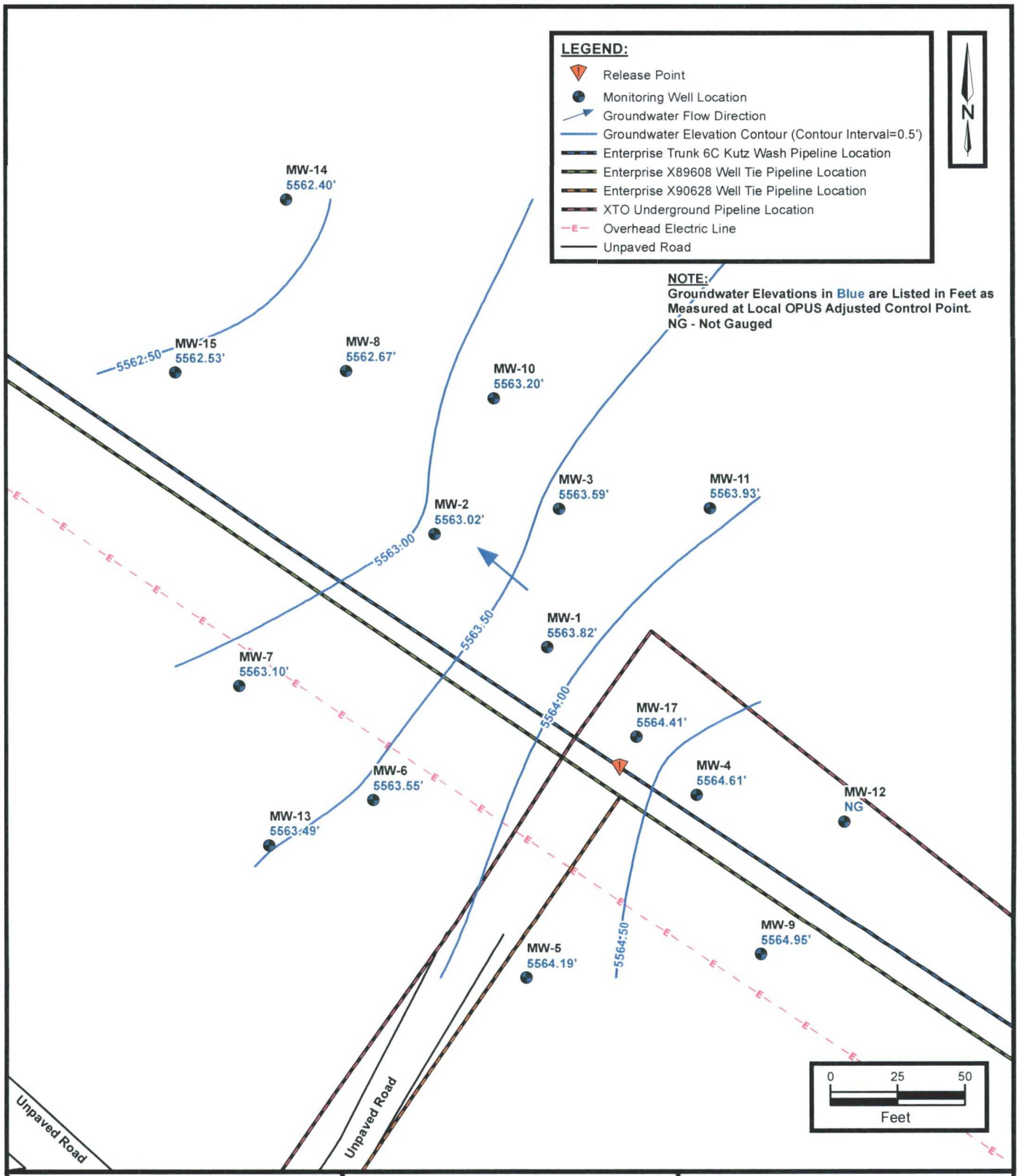
Project No. 725040112183

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

FIGURE 4A

Groundwater Gradient Map
June 2017

Z:\Dallas South\Drafting\2016\725040112183\Figure 4A.mxd Modified 5/14/2018 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

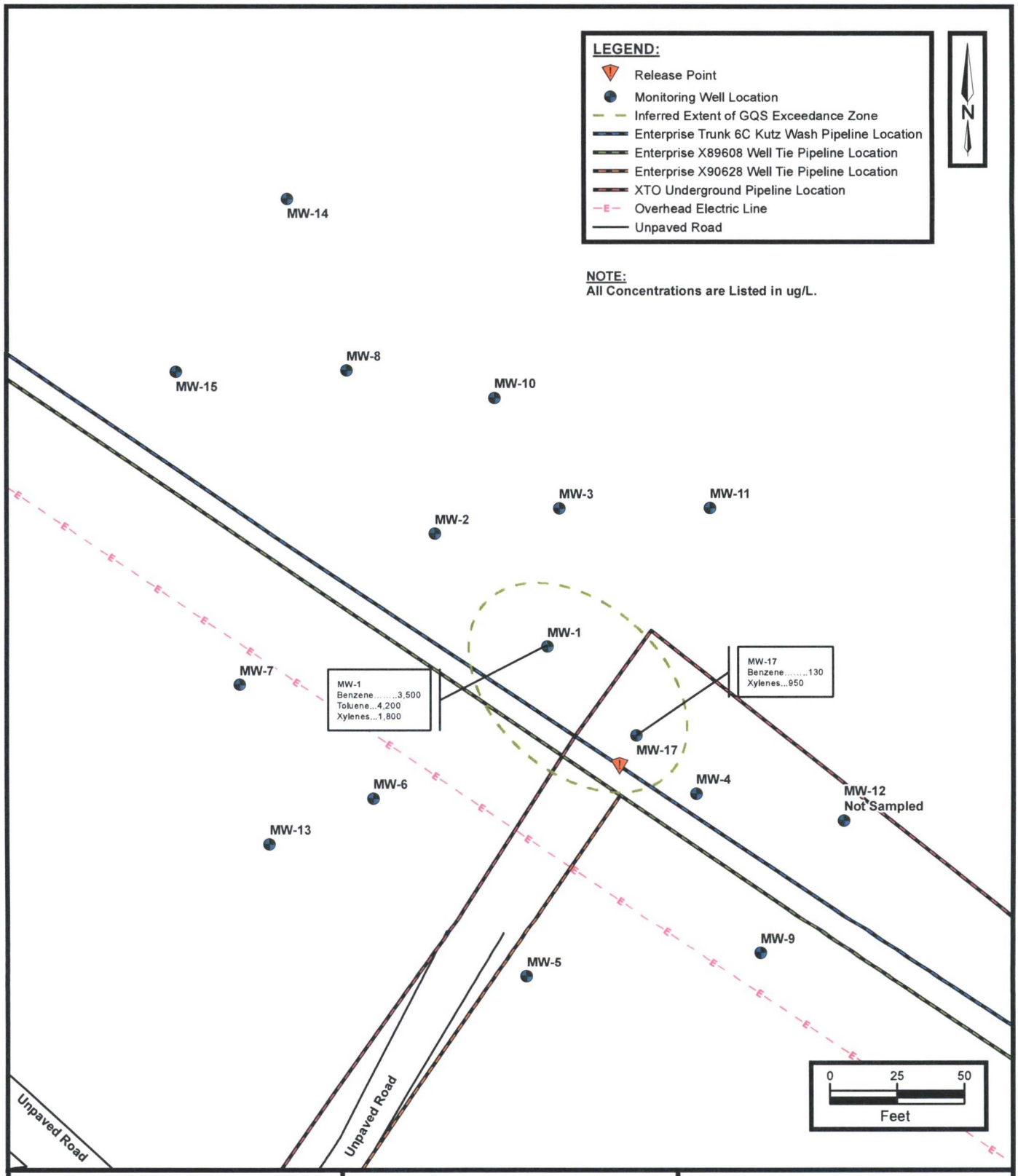
Project No. 725040112183

Apex TITAN, Inc.
606 South 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
January 2018

Z:\Dallas South\Drafting\2016\725040112183\Figure 4B.mxd Modified 5/14/2018 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

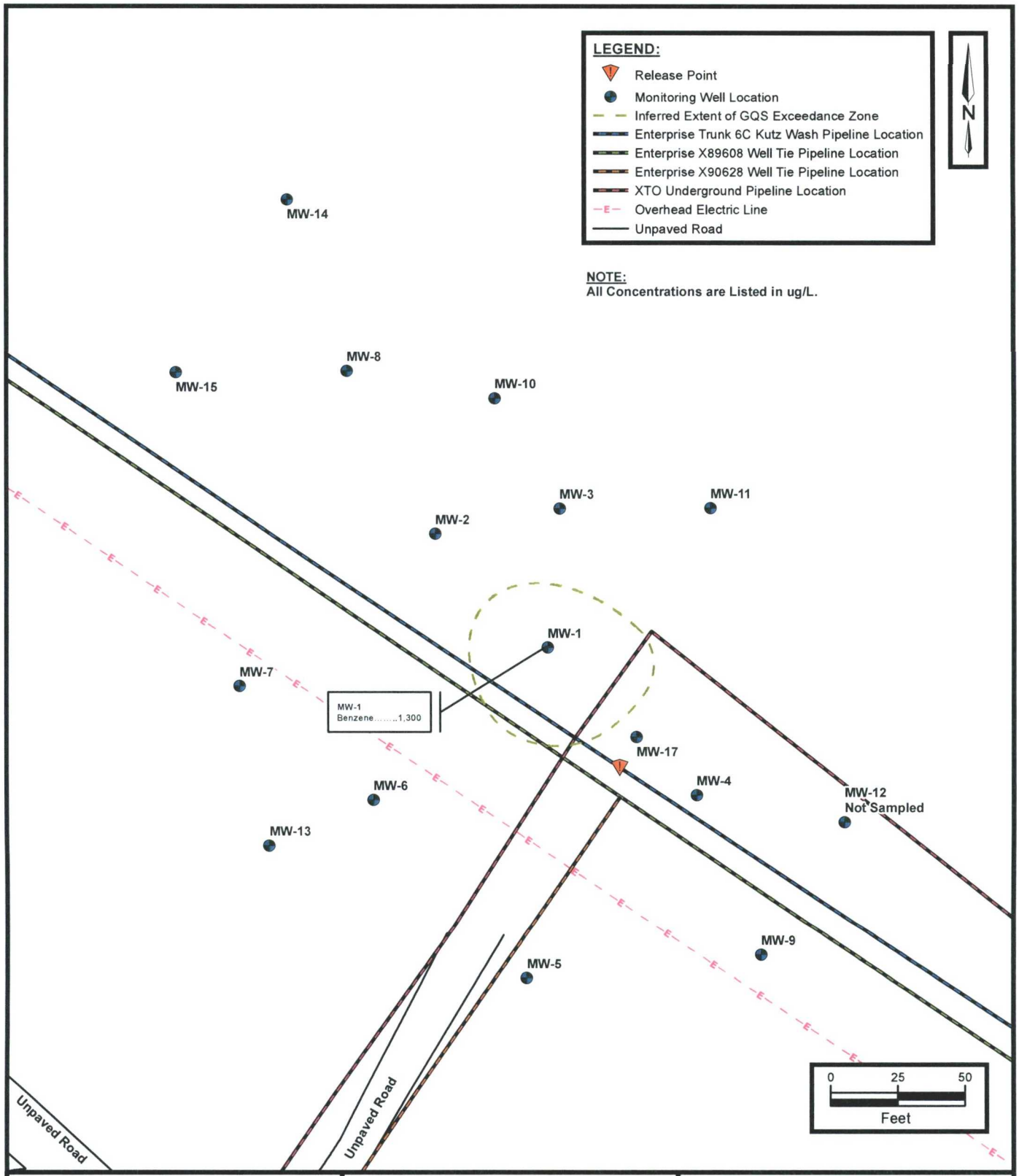
Project No. 725040112183

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

FIGURE 5A

Groundwater Quality Standard (GQS) Exceedance Zone Map
June 2017

Z:\Dallas South\Drafting\2016\725040112183\Figure 5A.mxd Modified 5/14/2018 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Trunk 6C Kutz Wash Pipeline Release
SW 1/4 Sec 26, T28N, R11W
San Juan County, New Mexico
36.63202 N, 107.97400 W

Project No. 725040112183

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

FIGURE 5B

Groundwater Quality Standard (GQS) Exceedance Zone Map
January 2018

Z:\Dallas South\Drafting\2016\725040112183\Figure 5B.mxd Modified 5/14/2018 by JSimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System

APPENDIX B

Tables

TABLE 1
Trunk 6C Kutz Wash Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10	750	750	620
Monitoring Wells Installed by AES					
MW-1	9.7.12	**2,200**	350	68	**650**
	12.20.12	**1,100**	250	37	180
	3.20.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	6.19.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	9.17.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	12.16.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	3.14.15	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	9.9.15	**1,900**	440	54	400
	6.15.15	**6,900**	**2,700**	170	**1,400**
	12.7.15	**3,900**	**1,400**	120	**870**
	6.02.16	**1,400**	**850**	41	330
	12.20.16	**76**	59	2.5	23
	6.28.17	**3,500**	**4,200**	180	**1,800**
	1.10.18	**1,300**	710	59	350
MW-2	9.7.12	**270**	**1,100**	66	**1,800**
	12.20.12	**26**	49	5.1	250
	3.20.13	<5.0	<5.0	<5.0	67
	6.19.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	9.17.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	12.16.13	**NAPL**	**NAPL**	**NAPL**	**NAPL**
	3.14.14	**1,200**	**1,600**	74	**660**
	9.9.14	**78**	76	2.9	110
	6.15.15	<1.0	1.1	<1.0	44
	12.7.15	<1.0	<1.0	<1.0	13
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0
MW-3	9.7.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.20.13	<2.0	<2.0	<2.0	<4.0
	6.19.13	**780**	130	2.5	15
	9.18.13	**150**	28	<5.0	15
	12.16.13	**660**	340	16	130
	3.14.14	**200**	86	4.0	49
	9.9.14	2.5	1.7	<1.0	3.3
	6.12.15	1.3	<1.0	<1.0	2.2
	12.7.15	<1.0	<1.0	<1.0	<2.0
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.28.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0

TABLE 1
Trunk 6C Kutz Wash Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10	750	750	620
MW-4	9.7.12	18	5.1	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.20.13	**290**	110	<2.0	15
	6.19.13	**600**	45	<10	<20
	9.18.13	**830**	39	<20	<30
	12.16.13	**300**	110	10	63
	3.14.14	4.0	<1.0	<1.0	<3.0
	9.9.14	<2.0	<2.0	<2.0	<4.0
	6.11.15	<1.0	<1.0	<1.0	<2.0
	12.4.15	<1.0	<1.0	<1.0	<2.0
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.28.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0
MW-5	9.7.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.20.13	<2.0	<2.0	<2.0	<4.0
	6.19.13	<1.0	<1.0	<1.0	<2.0
	9.17.13	<1.0	<1.0	<1.0	<1.5
	12.16.13	2.1	4.7	4.0	17
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<1.0	<1.0	<1.0	<2.0
	6.12.15	<1.0	<1.0	<1.0	<2.0
	12.4.15	<1.0	<1.0	<1.0	<2.0
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0
MW-6	9.7.12	<5.0	<5.0	260	**2,200**
	12.20.12	<5.0	<5.0	180	**1,200**
	3.20.13	<5.0	<5.0	120	**800**
	6.19.13	9.6	6.2	150	**1,100**
	9.18.13	<5.0	<5.0	180	**1,200**
	12.16.13	<5.0	<5.0	140	**990**
	3.14.14	<1.0	<1.0	150	**990**
	9.9.14	<5.0	<5.0	49	400
	6.12.15	<5.0	<5.0	89	590
	12.4.15	<2.5	<5.0	41	210
	6.02.16	<1.0	<1.0	16	70
	12.19.16	<1.0	<1.0	26	80
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	3.6	12

TABLE 1
Trunk 6C Kutz Wash Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10	750	750	620
MW-7	9.7.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	2.4
	3.20.13	<2.0	<2.0	<2.0	<4.0
	6.19.13	<1.0	<1.0	<1.0	<2.0
	9.17.13	<1.0	<1.0	<1.0	<1.5
	12.16.13	1.6	3.9	3.6	16
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<1.0	<1.0	<1.0	<2.0
	6.12.15	<1.0	<1.0	<1.0	<2.0
	12.7.15	<1.0	<1.0	<1.0	<2.0
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0
MW-8	9.7.12	**41**	40	3.8	320
	12.20.12	<2.0	<2.0	<2.0	20
	3.20.13	**41**	36	<2.0	89
	6.19.13	**21**	12	<1.0	6.8
	9.18.13	<1.0	<1.0	3.4	27
	12.16.13	**18**	21	5.1	74
	3.14.14	**66**	190	10	210
	9.9.14	**NAPL****	**NAPL****	**NAPL****	**NAPL****
	6.15.15	<1.0	<1.0	<1.0	10
	12.7.15	1.3	<1.0	<1.0	53
	6.02.16	4.0	1.6	<1.0	5.1
	12.19.16	<1.0	<1.0	<1.0	2.1
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0
MW-9	9.7.12	<2.0	2.4	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.20.13	<2.0	<2.0	<2.0	<4.0
	6.19.13	<1.0	<1.0	<1.0	<2.0
	9.17.13	<1.0	<1.0	<1.0	<1.5
	12.16.13	1.5	3.5	2.9	12
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<2.0	<2.0	<2.0	<4.0
	6.11.15	<1.0	<1.0	<1.0	<2.0
	12.4.15	<1.0	<1.0	<1.0	<2.0
	6.02.16	<1.0	<1.0	<1.0	<2.0
	12.19.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.09.18	<1.0	<1.0	<1.0	<2.0

TABLE 1
Trunk 6C Kutz Wash Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10	750	750	620
MW-10	12.16.13	**950**	34	12	39
	3.14.14	**560**	4.0	16	27
	9.9.14	**580**	<10	34	<20
	6.15.15	**75**	<1.0	12	2.9
	12.7.15	**17**	<1.0	2.0	<2.0
	6.03.16	**16**	<1.0	<1.0	<2.0
	12.20.16	4.8	<1.0	<1.0	<1.5
	6.27.17	3.4	<1.0	<1.0	<2.0
	1.10.18	<1.0	<1.0	<1.0	<2.0
MW-11	12.16.13	2.6	3.5	<1.0	6
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<2.0	<2.0	<2.0	<4.0
	6.12.15	<1.0	<1.0	<1.0	<2.0
	12.4.15	<1.0	<1.0	<1.0	<2.0
	6.03.16	<1.0	<1.0	<1.0	<2.0
	12.20.16	<1.0	<1.0	<1.0	<1.5
	6.28.17	Insufficient volume of water to sample.			
	1.10.18	<1.0	<1.0	<1.0	<2.0
MW-12	12.16.13	3.3	3.8	<1.0	6
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<2.0	<2.0	<2.0	<4.0
	6.12.15	Casing Obstruction			
	12.4.15	Casing Obstruction			
	6.02.16	Casing Obstruction			
	12.20.16	Casing Obstruction			
	6.27.17	Casing Obstruction			
	1.10.18	Casing Obstruction			
MW-13	12.16.13	4.4	5.1	1.2	8
	3.14.14	<1.0	<1.0	<1.0	<3.0
	9.9.14	<2.0	<2.0	<2.0	<4.0
	6.15.15	<1.0	<1.0	<1.0	<2.0
	12.4.15	<1.0	<1.0	<1.0	<2.0
	6.03.16	<1.0	<1.0	<1.0	<2.0
	12.20.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.10.18	<1.0	<1.0	<1.0	<2.0

TABLE 1
Trunk 6C Kutz Wash Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10	750	750	620
Monitoring Wells Installed by APEX					
MW-14	9.16.16	<1.0	<1.0	<1.0	<2.0
	12.20.16	<1.0	<1.0	<1.0	<1.5
	6.27.17	<1.0	<1.0	<1.0	<2.0
	1.10.18	<1.0	<1.0	<1.0	<2.0
MW-15	9.16.16	3.6	<1.0	4.1	43
	12.20.16	<1.0	<1.0	6.2	87
	6.27.17	4.1	<1.0	4.6	89
	1.10.18	4.7	<1.0	2.8	33
MW-17	9.16.16	**380**	**790**	33	**1,200**
	12.20.16	**200**	100	11	310
	6.28.17	**130**	<5.0	<5.0	**950**
	1.10.18	5.2	2.2	1.2	13

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

µg/L = micrograms per liter

NAPL = Non-aqueous phase liquid

** - Field personnel recorded the presence of NAPL utilizing an interface probe, but the product was not visually verified.

<1.0 = the numeral (in this case "1.0") identifies the laboratory RL or PQL

APEX

TABLE 2
Trunk 6C Kutz Wash Pipeline Release
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*	9.7.12	ND	15.78	ND	5579.73	5563.95
	12.20.12	ND	15.69	ND		5564.04
	3.20.13	15.31	15.73	0.42		5564.31
	6.19.13	15.49	15.75	0.26		5564.17
	9.17.13	15.79	16.27	0.48		5563.81
	12.16.13	15.59	15.75	0.16		5564.10
	3.14.14	15.35	15.36	0.01		5564.38
	9.9.14	15.98	15.99	0.01		5563.75
	6.10.15	15.29	15.30	0.01		5564.44
	12.04.15	ND	15.81	ND		5563.92
	6.02.16	ND	15.41	ND		5564.32
	9.16.16	16.12	16.13	0.01	5579.43	5563.31
	12.19.16	ND	15.83	ND		5563.60
	6.27.17	ND	15.39	ND		5564.04
	1.09.18	ND	15.61	ND		5563.82
MW-2*	9.7.12	ND	16.29	ND	5579.39	5563.10
	12.20.12	ND	16.22	ND		5563.17
	3.20.13	ND	15.97	ND		5563.42
	6.19.13	15.96	16.40	0.44		5563.31
	9.17.13	16.40	16.54	0.14		5562.95
	12.16.13	16.14	16.22	0.08		5563.23
	3.14.14	ND	15.89	ND		5563.50
	9.9.14	ND	16.50	ND		5562.89
	6.10.15	ND	15.81	ND		5563.58
	12.04.15	ND	16.32	ND		5563.07
	6.02.16	ND	15.93	ND		5563.46
	9.16.16	ND	16.61	ND	5579.15	5562.54
	12.19.16	ND	16.35	ND		5562.80
	6.27.17	ND	15.95	ND		5563.20
	1.09.18	ND	16.13	ND		5563.02
MW-3*	9.7.12	ND	15.98	ND	5579.52	5563.54
	12.20.12	ND	15.79	ND		5563.73
	3.20.13	ND	15.50	ND		5564.02
	6.19.13	ND	15.66	ND		5563.86
	9.18.13	ND	15.96	ND		5563.56
	12.16.13	ND	15.70	ND		5563.82
	3.14.14	ND	15.39	ND		5564.13
	9.9.14	ND	16.10	ND		5563.42
	6.10.15	ND	15.28	ND		5564.24
	12.04.15	ND	15.87	ND		5563.65
	6.02.16	ND	15.47	ND		5564.05
	9.16.16	ND	16.24	ND	5579.24	5563.00
	12.19.16	ND	15.87	ND		5563.37
	6.27.17	ND	15.45	ND		5563.79
	1.09.18	ND	15.65	ND		5563.59

APEX

TABLE 2
Trunk 6C Kutz Wash Pipeline Release
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-4*	9.7.12	ND	15.59	ND	5580.36	5564.77
	12.20.12	ND	15.51	ND		5564.85
	3.20.13	ND	15.25	ND		5565.11
	6.19.13	ND	15.41	ND		5564.95
	9.18.13	ND	15.74	ND		5564.62
	12.16.13	ND	15.45	ND		5564.91
	3.14.14	ND	15.14	ND		5565.22
	9.9.14	ND	15.80	ND		5564.56
	6.10.15	ND	15.06	ND		5565.30
	12.04.15	ND	15.56	ND		5564.80
	6.02.16	ND	15.22	ND		5565.14
	9.16.16	ND	15.92	ND	5579.95	5564.03
	12.19.16	ND	15.55	ND		5564.40
	6.27.17	ND	15.22	ND		5564.73
	1.09.18	ND	15.34	ND		5564.61
MW-5*	9.7.12	ND	19.35	ND	5583.53	5564.18
	12.20.12	ND	19.28	ND		5564.25
	3.20.13	ND	19.10	ND		5564.43
	6.19.13	ND	19.21	ND		5564.32
	9.17.13	ND	19.55	ND		5563.98
	12.16.13	ND	19.28	ND		5564.25
	3.14.14	ND	19.03	ND		5564.50
	9.9.14	ND	19.58	ND		5563.95
	6.10.15	ND	18.98	ND		5564.55
	12.04.15	ND	19.41	ND		5564.12
	6.02.16	ND	19.08	ND		5564.45
	9.16.16	ND	19.69	ND	5583.41	5563.72
	12.19.16	ND	19.42	ND		5563.99
	6.27.17	ND	19.12	ND		5564.29
	1.09.18	ND	19.22	ND		5564.19
MW-6*	9.7.12	ND	18.55	ND	5582.22	5563.67
	12.20.12	ND	18.49	ND		5563.73
	3.20.13	ND	18.27	ND		5563.95
	6.19.13	ND	18.38	ND		5563.84
	9.18.13	ND	18.74	ND		5563.48
	12.16.13	ND	18.46	ND		5563.76
	3.14.14	ND	18.21	ND		5564.01
	9.9.14	ND	18.75	ND		5563.47
	6.10.15	ND	18.16	ND		5564.06
	12.04.15	ND	18.60	ND		5563.62
	6.02.16	ND	18.25	ND		5563.97
	9.16.16	ND	18.86	ND	5581.98	5563.12
	12.19.16	ND	18.61	ND		5563.37
	6.27.17	ND	18.29	ND		5563.69
	1.09.18	ND	18.43	ND		5563.55

APEX

TABLE 2
Trunk 6C Kutz Wash Pipeline Release
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-7*	9.7.12	ND	19.03	ND	5582.24	5563.21
	12.20.12	ND	18.97	ND		5563.27
	3.20.13	ND	18.79	ND		5563.45
	6.19.13	ND	18.87	ND		5563.37
	9.17.13	ND	19.22	ND		5563.02
	12.16.13	ND	18.46	ND		5563.78
	3.14.14	ND	18.73	ND		5563.51
	9.9.14	ND	19.24	ND		5563.00
	6.10.15	ND	18.65	ND		5563.59
	12.04.15	ND	19.10	ND		5563.14
	6.02.16	ND	18.76	ND		5563.48
	9.16.16	ND	19.37	ND	5582.05	5562.68
	12.19.16	ND	19.13	ND		5562.92
	6.27.17	ND	18.80	ND		5563.25
	1.09.18	ND	18.95	ND		5563.10
MW-8*	9.7.12	ND	14.96	ND	5577.81	5562.85
	12.20.12	ND	14.87	ND		5562.94
	3.20.13	ND	14.63	ND		5563.18
	6.19.13	ND	14.74	ND		5563.07
	9.18.13	ND	15.08	ND		5562.73
	12.16.13	ND	14.81	ND		5563.00
	3.14.14	ND	14.53	ND		5563.28
	9.9.14**	15.12**	15.25	0.13**		5562.65
	6.10.15	ND	14.44	ND		5563.37
	12.04.15	ND	14.97	ND		5562.84
	6.02.16	ND	14.61	ND		5563.20
	9.16.16	ND	15.29	ND	5577.47	5562.18
	12.19.16	ND	15.00	ND		5562.47
	6.27.17	ND	14.62	ND		5562.85
	1.09.18	ND	14.80	ND		5562.67
MW-9*	9.7.12	ND	17.55	ND	5582.48	5564.93
	12.20.12	ND	17.47	ND		5565.01
	3.20.13	ND	17.28	ND		5565.20
	6.19.13	ND	17.42	ND		5565.06
	9.17.13	ND	17.74	ND		5564.74
	12.16.13	ND	17.48	ND		5565.00
	3.14.14	ND	17.21	ND		5565.27
	9.9.14	ND	17.83	ND		5564.65
	6.10.15	ND	17.18	ND		5565.30
	12.04.15	ND	17.61	ND		5564.87
	6.02.16	ND	17.30	ND		5565.18
	9.16.16	ND	17.94	ND	5582.35	5564.41
	12.19.16	ND	17.60	ND		5564.75
	6.27.17	ND	17.34	ND		5565.01
	1.09.18	ND	17.40	ND		5564.95

APEX

TABLE 2
Trunk 6C Kutz Wash Pipeline Release
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-10*	12.16.13	ND	16.93	ND	5577.80	5560.87
	3.14.14	ND	14.63	ND		5563.17
	9.9.14	ND	15.34	ND		5562.46
	6.10.15	ND	14.58	ND		5563.22
	12.04.15	ND	15.10	ND		5562.70
	6.02.16	ND	14.74	ND		5563.06
	9.16.16	ND	15.49	ND	5578.10	5562.61
	12.19.16	ND	15.12	ND		5562.98
	6.27.17	ND	14.73	ND		5563.37
	1.09.18	ND	14.90	ND		5563.20
MW-11*	12.16.13	ND	15.15	ND	5578.65	5563.50
	3.14.14	ND	14.82	ND		5563.83
	9.9.14	ND	15.63	ND		5563.02
	6.10.15	ND	14.76	ND		5563.89
	12.04.15	ND	15.35	ND		5563.30
	6.02.16	ND	14.98	ND		5563.67
	9.16.16	ND	15.74	ND	5579.04	5563.30
	12.19.16	ND	15.35	ND		5563.69
	6.27.17	ND	15.00	ND		5564.04
	1.09.18	ND	15.11	ND		5563.93
MW-12*	12.16.13	ND	15.54	ND	5579.99	5564.45
	3.14.14	ND	15.27	ND		5564.72
	9.9.14	ND	15.96	ND		5564.03
	6.10.15	ND	15.22	ND		5564.77
	12.04.15	NG	NG	NG		NG
	6.02.16	NG	NG	NG		NG
	9.16.16	NG	NG	NG	5580.28	NG
	12.19.16	NG	NG	NG		NG
	6.27.17	NG	NG	NG		NG
	1.09.18	NG	NG	NG		NG
MW-13*	12.16.13	ND	19.88	ND	5583.03	5563.15
	3.14.14	ND	19.63	ND		5563.40
	9.9.14	ND	20.18	ND		5562.85
	6.10.15	ND	19.57	ND		5563.46
	12.04.15	ND	20.01	ND		5563.02
	6.02.16	ND	19.67	ND		5563.36
	9.16.16	ND	20.27	ND	5583.34	5563.07
	12.19.16	ND	20.03	ND		5563.31
	6.27.17	ND	19.74	ND		5563.60
	1.09.18	ND	19.85	ND		5563.49
MW-14	9.16.16	ND	14.48	ND	5576.39	5561.91
	12.19.16	ND	14.18	ND		5562.21
	6.27.17	ND	13.83	ND		5562.56
	1.09.18	ND	13.99	ND		5562.40

TABLE 2
Trunk 6C Kutz Wash Pipeline Release
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-15	9.16.16	ND	16.75	ND	5578.83	5562.08
	12.19.16	ND	16.48	ND		5562.35
	6.27.17	ND	16.12	ND		5562.71
	1.09.18	ND	16.30	ND		5562.53
MW-17	9.16.16	ND	16.02	ND	5579.86	5563.84
	12.19.16	ND	15.68	ND		5564.18
	6.27.17	ND	15.30	ND		5564.56
	1.09.18	ND	15.45	ND		5564.41

BTOC - below top of casing

AMSL - above mean sea level

TOC - top of casing

NG - Well not gauged, or Errant Gauge.

* - Monitoring wells resurveyed during September 2016

** - Field personnel recorded the presence of NAPL utilizing an interface probe, but the product was not visually verified.

NA - not applicable

APEX

APPENDIX C

Laboratory Data Sheets & Chain of Custody Documentation

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

July 14, 2017

Kyle Summers
APEX TITAN
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Trunk 6C OrderNo.: 1706G19

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 14 sample(s) on 6/29/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 13, 2017.

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. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1706G19**
Date Reported: **7/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6C
Lab Order: 1706G19

Lab ID: 1706G19-001 **Collection Date:** 6/27/2017 10:20:00 AM
Client Sample ID: MW-9 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 2:28:33 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 2:28:33 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 2:28:33 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 2:28:33 PM	B43994
Surr: 4-Bromofluorobenzene	127	72.5-140		%Rec	1	7/5/2017 2:28:33 PM	B43994

Lab ID: 1706G19-002 **Collection Date:** 6/27/2017 11:00:00 AM
Client Sample ID: MW-5 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 2:52:41 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 2:52:41 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 2:52:41 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 2:52:41 PM	B43994
Surr: 4-Bromofluorobenzene	128	72.5-140		%Rec	1	7/5/2017 2:52:41 PM	B43994

Lab ID: 1706G19-003 **Collection Date:** 6/27/2017 11:40:00 AM
Client Sample ID: MW-6 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 3:16:50 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 3:16:50 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 3:16:50 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 3:16:50 PM	B43994
Surr: 4-Bromofluorobenzene	132	72.5-140		%Rec	1	7/5/2017 3:16:50 PM	B43994

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6C
Lab Order: 1706G19

Lab ID: 1706G19-004 **Collection Date:** 6/27/2017 11:50:00 AM
Client Sample ID: MW-13 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 3:40:56 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 3:40:56 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 3:40:56 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 3:40:56 PM	B43994
Surr: 4-Bromofluorobenzene	127	72.5-140		%Rec	1	7/5/2017 3:40:56 PM	B43994

Lab ID: 1706G19-005 **Collection Date:** 6/27/2017 11:30:00 AM
Client Sample ID: MW-7 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 8:05:49 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 8:05:49 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 8:05:49 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 8:05:49 PM	B43994
Surr: 4-Bromofluorobenzene	131	72.5-140		%Rec	1	7/5/2017 8:05:49 PM	B43994

Lab ID: 1706G19-006 **Collection Date:** 6/27/2017 12:10:00 PM
Client Sample ID: MW-15 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	4.1	1.0		µg/L	1	7/5/2017 8:29:48 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 8:29:48 PM	B43994
Ethylbenzene	4.6	1.0		µg/L	1	7/5/2017 8:29:48 PM	B43994
Xylenes, Total	89	2.0		µg/L	1	7/5/2017 8:29:48 PM	B43994
Surr: 4-Bromofluorobenzene	153	72.5-140	S	%Rec	1	7/5/2017 8:29:48 PM	B43994

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6C
Lab Order: 1706G19

Lab ID: 1706G19-007 **Collection Date:** 6/27/2017 1:00:00 PM
Client Sample ID: MW-14 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 8:53:46 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 8:53:46 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 8:53:46 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 8:53:46 PM	B43994
Surr: 4-Bromofluorobenzene	131	72.5-140		%Rec	1	7/5/2017 8:53:46 PM	B43994

Lab ID: 1706G19-008 **Collection Date:** 6/27/2017 1:50:00 PM
Client Sample ID: MW-8 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 9:17:39 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 9:17:39 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 9:17:39 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 9:17:39 PM	B43994
Surr: 4-Bromofluorobenzene	131	72.5-140		%Rec	1	7/5/2017 9:17:39 PM	B43994

Lab ID: 1706G19-009 **Collection Date:** 6/27/2017 2:40:00 PM
Client Sample ID: MW-2 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 9:41:36 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 9:41:36 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 9:41:36 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 9:41:36 PM	B43994
Surr: 4-Bromofluorobenzene	130	72.5-140		%Rec	1	7/5/2017 9:41:36 PM	B43994

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6C
Lab Order: 1706G19

Lab ID: 1706G19-010 **Collection Date:** 6/27/2017 3:15:00 PM
Client Sample ID: MW-10 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	3.4	1.0		µg/L	1	7/5/2017 10:05:27 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 10:05:27 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 10:05:27 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 10:05:27 PM	B43994
Surr: 4-Bromofluorobenzene	129	72.5-140		%Rec	1	7/5/2017 10:05:27 PM	B43994

Lab ID: 1706G19-011 **Collection Date:** 6/28/2017 8:50:00 AM
Client Sample ID: MW-3 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 10:29:22 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 10:29:22 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 10:29:22 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 10:29:22 PM	B43994
Surr: 4-Bromofluorobenzene	130	72.5-140		%Rec	1	7/5/2017 10:29:22 PM	B43994

Lab ID: 1706G19-012 **Collection Date:** 6/28/2017 9:40:00 AM
Client Sample ID: MW-1 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	3500	50		µg/L	50	7/6/2017 9:27:11 AM	B44019
Toluene	4200	50		µg/L	50	7/6/2017 9:27:11 AM	B44019
Ethylbenzene	180	50		µg/L	50	7/6/2017 9:27:11 AM	B44019
Xylenes, Total	1800	100		µg/L	50	7/6/2017 9:27:11 AM	B44019
Surr: 4-Bromofluorobenzene	145	72.5-140	S	%Rec	50	7/6/2017 9:27:11 AM	B44019

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6C
Lab Order: 1706G19

Lab ID: 1706G19-013 **Collection Date:** 6/28/2017 10:20:00 AM
Client Sample ID: MW-17 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	130	5.0		µg/L	5	7/6/2017 11:02:56 AM	B44019
Toluene	ND	5.0		µg/L	5	7/6/2017 11:02:56 AM	B44019
Ethylbenzene	ND	5.0		µg/L	5	7/6/2017 11:02:56 AM	B44019
Xylenes, Total	950	10		µg/L	5	7/6/2017 11:02:56 AM	B44019
Surr: 4-Bromofluorobenzene	145	72.5-140	S	%Rec	5	7/6/2017 11:02:56 AM	B44019

Lab ID: 1706G19-014 **Collection Date:** 6/28/2017 11:00:00 AM
Client Sample ID: MW-04 **Matrix:**

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/5/2017 11:41:03 PM	B43994
Toluene	ND	1.0		µg/L	1	7/5/2017 11:41:03 PM	B43994
Ethylbenzene	ND	1.0		µg/L	1	7/5/2017 11:41:03 PM	B43994
Xylenes, Total	ND	2.0		µg/L	1	7/5/2017 11:41:03 PM	B43994
Surr: 4-Bromofluorobenzene	133	72.5-140		%Rec	1	7/5/2017 11:41:03 PM	B43994

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G19**

14-Jul-17

Client: APEX TITAN
Project: Trunk 6C

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B43994**	RunNo: **43994**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387447** 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	25		20.00		126	72.5	140			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B43994**	RunNo: **43994**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387448** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	71.7	126			
Toluene	21	1.0	20.00	0	107	73.3	119			
Ethylbenzene	21	1.0	20.00	0	106	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		122	72.5	140			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B44019**	RunNo: **44019**
Prep Date:	Analysis Date: **7/6/2017**	SeqNo: **1388748** 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	28		20.00		140	72.5	140			S

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B44019**	RunNo: **44019**
Prep Date:	Analysis Date: **7/6/2017**	SeqNo: **1388749** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	71.7	126			
Toluene	21	1.0	20.00	0	107	73.3	119			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	66	2.0	60.00	0	110	80	120			
Surr: 4-Bromofluorobenzene	29		20.00		145	72.5	140			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1706G19 RcptNo: 1

Received By: Anne Thorne 6/29/2017 7:30:00 AM Anne Thorne
Completed By: Sophia Campuzano 6/30/2017 11:19:13 AM Sophia Campuzano
Reviewed By: AJ 6/30/17

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 ☑	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
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 ☐	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	1.0	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec NM

Project Manager: K Summers

Laboratory: Hall Env

Address: Abq NM

Contact: A Freeman

Phone:

PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 1.0

1	2	3	4	5

Page 1 of 2

Sampler's Name: Chad D'Apont

Sampler's Signature:

Proj. No.

Project Name: Trunk 6C

ANALYSIS REQUESTED: BTEX 8021

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	6/27/17	1020			mw-9			3					1706G19-001
		1100			mw-5								-002
		1140			mw-6								-003
		1150			mw-13								-004
		1130			mw-7								-005
		1210			mw-15								-006
		1300			mw-14								-007
		1350			mw-8								-008
		1440			mw-2								-009
		1515			mw-10								-010

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	6/28/17	1306	Martha Walker	6/28/17	1300
Martha Walker	6/28/17	1850		06/29/17	0730
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Bill to APEX Corp Date

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

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

CHAIN OF CUSTODY RECORD

APEX

Office Location Aztec NM

Laboratory: Hall Env

Address: 4901 NM

Contact: A Fireman

Phone:

Project Manager K Summers

PO/SO #:

Sampler's Name Chad Powell

Sampler's Signature

Pro. No.

Project Name Funk GC

No/Type of Containers

ANALYSIS REQUESTED

Lab use only

Due Date:

Temp. of coolers when received (C°): 1.0

1 | 2 | 3 | 4 | 5

Page 2 of 2

Blank Sent

1706G19

Lab Sample ID (Lab Use Only)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L	250 ml	Glass Jar	P/O
W	6/28/17	8:50			MW-3			3				
W		9:40			MW-1			3				
W		10:30			MW-17 (DW 7441)			3				
W		11:20			MW-04			3				

X -011
X -012
X -013
X -014

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

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	6/28/17	1300		6/28/17	1300
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	6/28/17	1850		6/29/17	0730
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time

NOTES:

Bill to Aztec Office

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; AG - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

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

January 16, 2018

Kyle Summers
APEX TITAN
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Trunk 6 C OrderNo.: 1801582

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 15 sample(s) on 1/11/2018 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-001
Matrix: AQUEOUS
Client Sample ID: MW-5
Collection Date: 1/9/2018 9:35:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 10:56:49 AM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 10:56:49 AM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 10:56:49 AM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 10:56:49 AM	R48399
Surr: 4-Bromofluorobenzene	97.7	72.5-140		%Rec	1	1/12/2018 10:56:49 AM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-002
Matrix: AQUEOUS
Client Sample ID: MW-9
Collection Date: 1/9/2018 10:30:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 12:06:52 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 12:06:52 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 12:06:52 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 12:06:52 PM	R48399
Surr: 4-Bromofluorobenzene	92.2	72.5-140		%Rec	1	1/12/2018 12:06:52 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-003
Matrix: AQUEOUS
Client Sample ID: MW-4
Collection Date: 1/9/2018 11:25:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 12:30:22 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 12:30:22 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 12:30:22 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 12:30:22 PM	R48399
Surr: 4-Bromofluorobenzene	98.2	72.5-140		%Rec	1	1/12/2018 12:30:22 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-004
Matrix: AQUEOUS
Client Sample ID: MW-6
Collection Date: 1/9/2018 12:20:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 12:53:43 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 12:53:43 PM	R48399
Ethylbenzene	3.6	1.0		µg/L	1	1/12/2018 12:53:43 PM	R48399
Xylenes, Total	12	2.0		µg/L	1	1/12/2018 12:53:43 PM	R48399
Surr: 4-Bromofluorobenzene	101	72.5-140		%Rec	1	1/12/2018 12:53:43 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-7
Project: Trunk 6 C
Collection Date: 1/9/2018 1:10:00 PM
Lab ID: 1801582-005
Matrix: AQUEOUS
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 1:17:12 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 1:17:12 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 1:17:12 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 1:17:12 PM	R48399
Surr: 4-Bromofluorobenzene	92.5	72.5-140		%Rec	1	1/12/2018 1:17:12 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-006
Matrix: AQUEOUS
Client Sample ID: MW-3
Collection Date: 1/9/2018 2:00:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 1:40:24 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 1:40:24 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 1:40:24 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 1:40:24 PM	R48399
Surr: 4-Bromofluorobenzene	93.0	72.5-140		%Rec	1	1/12/2018 1:40:24 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-007
Matrix: AQUEOUS
Client Sample ID: MW-2
Collection Date: 1/9/2018 2:50:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 2:03:53 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 2:03:53 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 2:03:53 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 2:03:53 PM	R48399
Surr: 4-Bromofluorobenzene	90.6	72.5-140		%Rec	1	1/12/2018 2:03:53 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-008
Matrix: AQUEOUS
Client Sample ID: MW-8
Collection Date: 1/9/2018 3:40:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 2:27:25 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 2:27:25 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 2:27:25 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 2:27:25 PM	R48399
Surr: 4-Bromofluorobenzene	92.6	72.5-140		%Rec	1	1/12/2018 2:27:25 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-009
Matrix: AQUEOUS
Client Sample ID: MW-14
Collection Date: 1/10/2018 8:40:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 2:50:51 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 2:50:51 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 2:50:51 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 2:50:51 PM	R48399
Surr: 4-Bromofluorobenzene	90.9	72.5-140		%Rec	1	1/12/2018 2:50:51 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-010
Matrix: AQUEOUS
Client Sample ID: MW-15
Collection Date: 1/10/2018 9:40:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	4.7	1.0		µg/L	1	1/12/2018 3:14:19 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 3:14:19 PM	R48399
Ethylbenzene	2.8	1.0		µg/L	1	1/12/2018 3:14:19 PM	R48399
Xylenes, Total	33	2.0		µg/L	1	1/12/2018 3:14:19 PM	R48399
Surr: 4-Bromofluorobenzene	120	72.5-140		%Rec	1	1/12/2018 3:14:19 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-011
Matrix: AQUEOUS
Client Sample ID: MW-17
Collection Date: 1/10/2018 10:35:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	5.2	1.0		µg/L	1	1/15/2018 9:34:52 AM	W48451
Toluene	2.2	1.0		µg/L	1	1/15/2018 9:34:52 AM	W48451
Ethylbenzene	1.2	1.0		µg/L	1	1/15/2018 9:34:52 AM	W48451
Xylenes, Total	13	2.0		µg/L	1	1/15/2018 9:34:52 AM	W48451
Surr: 4-Bromofluorobenzene	112	72.5-140		%Rec	1	1/15/2018 9:34:52 AM	W48451

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-012
Matrix: AQUEOUS
Client Sample ID: MW-1
Collection Date: 1/10/2018 11:35:00 AM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	1300	50		µg/L	50	1/12/2018 5:57:58 PM	R48399
Toluene	710	50		µg/L	50	1/12/2018 5:57:58 PM	R48399
Ethylbenzene	59	50		µg/L	50	1/12/2018 5:57:58 PM	R48399
Xylenes, Total	350	100		µg/L	50	1/12/2018 5:57:58 PM	R48399
Surr: 4-Bromofluorobenzene	91.5	72.5-140		%Rec	50	1/12/2018 5:57:58 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-013 **Matrix:** AQUEOUS

Client Sample ID: MW-10
Collection Date: 1/10/2018 12:30:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 6:21:19 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 6:21:19 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 6:21:19 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 6:21:19 PM	R48399
Surr: 4-Bromofluorobenzene	91.9	72.5-140		%Rec	1	1/12/2018 6:21:19 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-014
Matrix: AQUEOUS
Client Sample ID: MW-13
Collection Date: 1/10/2018 2:00:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 6:44:41 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 6:44:41 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 6:44:41 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 6:44:41 PM	R48399
Surr: 4-Bromofluorobenzene	94.4	72.5-140		%Rec	1	1/12/2018 6:44:41 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Trunk 6 C
Lab ID: 1801582-015
Matrix: AQUEOUS
Client Sample ID: MW-11
Collection Date: 1/10/2018 2:40:00 PM
Received Date: 1/11/2018 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	1/12/2018 7:08:01 PM	R48399
Toluene	ND	1.0		µg/L	1	1/12/2018 7:08:01 PM	R48399
Ethylbenzene	ND	1.0		µg/L	1	1/12/2018 7:08:01 PM	R48399
Xylenes, Total	ND	2.0		µg/L	1	1/12/2018 7:08:01 PM	R48399
Surr: 4-Bromofluorobenzene	88.7	72.5-140		%Rec	1	1/12/2018 7:08:01 PM	R48399

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
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1801582**

16-Jan-18

Client: APEX TITAN
Project: Trunk 6 C

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R48399**	RunNo: **48399**
Prep Date:	Analysis Date: **1/12/2018**	SeqNo: **1556789** 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	19		20.00		96.7	72.5	140			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R48399**	RunNo: **48399**
Prep Date:	Analysis Date: **1/12/2018**	SeqNo: **1556790** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.5	73.9	120			
Toluene	19	1.0	20.00	0	95.0	77.3	117			
Ethylbenzene	19	1.0	20.00	0	93.8	78.8	119			
Xylenes, Total	57	2.0	60.00	0	95.6	76.9	121			
Surr: 4-Bromofluorobenzene	22		20.00		108	72.5	140			

Sample ID **1801582-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-5**	Batch ID: **R48399**	RunNo: **48399**
Prep Date:	Analysis Date: **1/12/2018**	SeqNo: **1556792** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.5	75	121			
Toluene	19	1.0	20.00	0	96.5	78.1	119			
Ethylbenzene	19	1.0	20.00	0	95.4	78.8	125			
Xylenes, Total	59	2.0	60.00	0	97.9	76.4	128			
Surr: 4-Bromofluorobenzene	20		20.00		99.8	72.5	140			

Sample ID **1801582-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-5**	Batch ID: **R48399**	RunNo: **48399**
Prep Date:	Analysis Date: **1/12/2018**	SeqNo: **1556793** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.3	75	121	2.32	20	
Toluene	19	1.0	20.00	0	94.8	78.1	119	1.70	20	
Ethylbenzene	19	1.0	20.00	0	93.2	78.8	125	2.32	20	
Xylenes, Total	58	2.0	60.00	0	96.0	76.4	128	1.98	20	
Surr: 4-Bromofluorobenzene	19		20.00		96.1	72.5	140	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1801582**

16-Jan-18

Client: APEX TITAN

Project: Trunk 6 C

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **W48451**	RunNo: **48451**
Prep Date:	Analysis Date: **1/15/2018**	SeqNo: **1557527** 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	22		20.00		109	72.5	140			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **W48451**	RunNo: **48451**
Prep Date:	Analysis Date: **1/15/2018**	SeqNo: **1557528** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.0	73.9	120			
Toluene	19	1.0	20.00	0	92.5	77.3	117			
Ethylbenzene	18	1.0	20.00	0	92.4	78.8	119			
Xylenes, Total	56	2.0	60.00	0	94.2	76.9	121			
Surr: 4-Bromofluorobenzene	23		20.00		113	72.5	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1801582 RcptNo: 1

Received By: Sophia Campuzano 1/11/2018 8:10:00 AM Sophia Campuzano
Completed By: Sophia Campuzano 1/11/2018 8:42:12 AM Sophia Campuzano
Reviewed By: DDS 1/11/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

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

15. 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: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location
606 S. Rio Grande Suite A
Aztec, NM 87410

Project Manager: K. Summers

Laboratory: Hall Environmental Analysis Laboratory
Address: 4901 Hawkins NE
Albuquerque, NM 87109
Contact: A. Freeman
Phone: 505-345-3975
PO/SO #: 725040112183

Sampler's Name: Ranee Deechilly
Sampler's Signature:

Proj. No.: 725040112183
Project Name: Trunk 6C

Lab use only
Due Date:

Temp. of coolers 0.9 - 0.8 (°C), when received (°C): = 0.1

1	2	3	4	5

Page 1 of 2

ANALYSIS REQUESTED: BTEX 8021

Matrix	Date	Time	Composite	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	1/9/18	935			MW-5			3					1801582-001
W	1/9/18	1030			MW-9			3					-002
W	1/9/18	1125			MW-4			3					-003
W	1/9/18	1220			MW-6			3					-004
W	1/9/18	1310			MW-7			3					-005
W	1/9/18	1400			MW-3			3					-006
W	1/9/18	1450			MW-2			3					-007
W	1/9/18	1540			MW-8			3					-008
W	1/10/18	840			MW-14			3					-009
W	1/10/18	940			MW-15			3					-010

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	1/10/18	1630		01/11/18	0810
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
Bill to Apex Corporate rate

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

CHAIN OF CUSTODY RECORD

APEX

Office Location
606 S. Rio Grande Suite A
Aztec, NM 87410

Project Manager K. Summers

Laboratory: Hall Environmental Analysis Laboratory
Address: 4901 Hawkins NE
Albuquerque, NM 87109
Contact: A. Freeman
Phone: 505-345-3975
PO/SO #: 725040112183

Sampler's Name: Ranee Diechilly
Sampler's Signature:

Proj. No: 725040112183
Project Name: Trunk GC

Lab use only
Due Date:

Temp. of coolers when received (C°): 0.9 - 8.0 (F) = C-1

Page 2 of 2

ANALYSIS REQUESTED: BTEX 8021

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 lt	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	1/10/18	1035			MW-17			3					1801582-0011
W	1/10/18	1135			MW-1			3					-0012
W	1/10/18	1230			MW-10			3					-0013
W	1/10/18	1400			MW-13			3					-0014
W	1/10/18	1440			MW-11			3					-0015

NS

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	1/10/18	1532		01/11/18	0810
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
Bill to Apex Corporate

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