District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID:**151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)*: **N/A**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

INCH
FGP0000000031

NMOCD
OCT 29 2018
DISTRICT III

Location of Release Source

Latitude **36.730998** Longitude **-107.956172** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Val Verde Plant**	Site Type **Natural Gas Treatment Facility**
Date Release Discovered: **1/28/2018 @ 7:30 p.m.**	Serial Number *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
A	**14**	**29N**	**11W**	**San Juan**

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* Enterprise Field Services, LLC)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls):	Volume Recovered (bbls):
☐ Natural Gas	Volume Released (Mcf):	Volume Recovered (Mcf):
☒ Other: **Water/Glycol Solution**	Volume/Weight Released (provide units): **5-7 BBLs**	Volume/Weight Recovered (provide units): **NONE**

Cause of Release: On January 28, 2018, a water/glycol solution was ejected from the Train 5 Glycol Reboiler onto the ground surface. An estimated 5-10 barrels of water/glycol solution was released. Remediation activities were completed on March 15, 2108. The contaminant mass was removed by mechanical excavation. The final excavation dimensions measured approximately 60 feet long by 50 feet wide by 0.5 feet deep. Approximately 32 cubic yards of hydrocarbon impacted soil were excavated and stockpile on a plastic liner with other hydrocarbon impacted material associated with other remediation projects at the facility. The excavated soil was transported to a New Mexico Oil Conservation Division approved land farm facility in September 2018. A third party investigation report is included with this "Final." C-141.

LP

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jon E. Fields Title: Director, Field Environmental

Signature: Jon E. Fields Date: 10/25/18

email: jefields@eprod.com Telephone: (713) 381-6684

NMOCD
OCT 29 2018
DISTRICT III

OCD Only

Received by: Vanessa Fields Date: 10/29/2018

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date: 11/9/2018

Printed Name: Vanessa Fields Title: Environmental Specialist

CORRECTIVE ACTION REPORT

Property:

Val Verde Plant Glycol Release (January 2018)
NE ¼, S14 T29N R11W
San Juan County, New Mexico

September 26, 2018
Apex Project No. 725040112393

Prepared for:

Enterprise Field Services, LLC
614 Reilly Avenue
Farmington, NM 87401
Attn: Mr. Thomas Long

Prepared by:

Ranee Deechilly
Project Scientist

Kyle Summers, CPG
Branch Manager / Senior Geologist

TABLE OF CONTENTS

LIST OF APPENDICES

CORRECTIVE ACTION REPORT

Val Verde Plant Glycol Release (January 2018)
NE ¼, S14 T29N R11W
San Juan County, New Mexico

Apex Project No. 725040112393

1.0 INTRODUCTION

1.1 Site Description & Background

The Val Verde Plant glycol release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) Val Verde Plant facility in the northeast (NE ¼) of Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico (36.730882N, 107.956083W). The Site is located on private land controlled by Enterprise. The surroundings are predominately characterized by petroleum gathering, processing, and sales facilities.

On January 25th and 28th, 2018, liquid releases from a glycol still stack resulted in the ejection of glycol to the area surrounding the glycol still. Apex TITAN, Inc. (Apex) implemented initial characterization activities on February 23, 2018, when three (3) composite samples (GC-1 through GC-3) were collected and analyzed for total benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbon (TPH) gasoline range organics (GRO) diesel range organics (DRO) and motor oil/lube oil range organics (MRO). Laboratory analytical results identified combined TPH GRO/DRO/MRO concentrations that exceeded applicable New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) *Remediation Action Levels* (*RALs*). During March 2018, Enterprise initiated corrective action activities to remediate impact that was confirmed by the preliminary sampling event (samples GC-1 through GC-3).

A **Topographic Map** depicting the location of the Site is included as **Figure 1**, and a **Site Vicinity Map** is included as **Figure 2** in **Appendix A**.

1.2 Project Objective

The primary objective of the corrective actions was to reduce constituent of concern (COC) concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs (which were applicable at the time of this release and corrective action) using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

2.0 SITE RANKING

In accordance with the New Mexico EMNRD OCD *Guidelines for Remediation of Leaks, Spills and Releases* (which were applicable at the time of this release and corrective action), Apex utilized the general site characteristics obtained during the completion of corrective action activities and information available from the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table.

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	**20**
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water source, or; <200 feet from private domestic water source.	Yes	20	**0**
	No	0	
Distance to Surface Water Body	<200 feet	20	**0**
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			**20**

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 20. The ranking is based on the following information:

- Numerous wells are identified within a mile radius of the Site on the OSE Water Right Reporting System (WRRS) database. The nearest water well (SJ 03164) with a recorded depth to water is located approximately 0.4 miles south of the Site, at a lower elevation, with a depth to water of 56 feet below grade surface (bgs). However, based on data from a groundwater monitoring network located approximately 1,400 feet west of the Site, the depth to groundwater in the vicinity of the Site may be less than 50 feet bgs, resulting in a ranking score of "20" for depth to groundwater.

- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".

- Hare Canyon Arroyo is located approximately 1,810 feet east of the Site. An irrigation ditch is located approximately 1,819 feet south of the Site and a small ephemeral wash, which is identified as a "blue line" on the United States Geological Survey topographic map, is located approximately 1,005 feet west of the Site. This information supports a distance to surface water ranking score of "0".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On March 14, 2018, Enterprise initiated corrective action activities to remediate impact that was confirmed by the preliminary sampling event (samples GC-1 through GC-3). During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Apex provided environmental support.

The impacted area was scraped/excavated, and three (3) five-aliquot composite soil samples (GC-4 through GC-6) were collected for laboratory analysis.

Enterprise coordinated with the New Mexico EMNRD OCD prior to initiation of field activities to determine appropriate laboratory analytical methods. The overall final excavation measured approximately 60 feet long by 50 feet wide at the maximum extents. The maximum depth of the excavation was approximately 0.5 feet bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of gravel and semi-consolidated silty sand.

A total of approximately 32 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. This C-138 also includes soils from nearby releases that occurred at the facility (addressed in separate reports). The excavation was backfilled with imported fill and resurfaced with gravel.

Figure 3 is a map with soil sample locations that depicts the approximate excavated area (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dexsil PetroFLAG® hydrocarbon analyzer system to guide excavation extents. It was determined during these activities that the PetroFLAG® was ineffective at evaluating the glycol concentrations.

Apex's soil sampling program included the collection of six (6) composite soil samples (GC-1 through GC-6) (consisting of five (5) aliquots each) for laboratory analysis. Samples GC-1 through GC-3 were characterization samples and samples GC-4 through GC-6 were confirmation samples.

The samples were collected and placed in laboratory prepared glassware, 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 of Albuquerque, New Mexico, under proper chain-of-custody procedures.

3.3 Soil Laboratory Analytical Methods

In accordance with New Mexico EMNRD OCD recommendations to Enterprise, the composite soil samples were analyzed for BTEX using Environmental Protection Agency (EPA) SW-846 Method #8021 and TPH GRO/DRO/MRO using EPA SW-846 Method #8015.

Laboratory analytical results are summarized in **Table 1**, included in **Appendix D**. The executed chain-of-custody form and laboratory data sheets are provided in **Appendix E**.

4.0 DATA EVALUATION

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

4.1 Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the composite soil samples (GC-4 through GC-6) to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "20". Soils associated with composite soil

samples GC-1 through GC-3 were excavated and transported to the Envirotech landfarm for disposal/treatment and are not included in the following discussion.

- The laboratory analyses of the composite soil samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD *RAL* of 10 milligrams per kilogram (mg/kg).

- The laboratory analyses of the composite soil samples from soils remaining in place do not indicate total BTEX concentrations above the PQLs, which are below the New Mexico EMNRD OCD *RAL* of 50 mg/kg.

- The laboratory analyses of the composite soil samples from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 94 mg/kg (GC-4), which are below the New Mexico EMNRD OCD *RAL* of 100 mg/kg.

Laboratory analytical results are summarized in **Table 1** in **Appendix D**.

5.0 FINDINGS AND RECOMMENDATIONS

The Val Verde Plant glycol release site is located within the Enterprise Val Verde Plant facility in the NE ¼ of Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico. The Site is located on private land controlled by Enterprise. The surroundings are predominately characterized by petroleum gathering, processing, and sales facilities.

On January 25th and 28th, 2018, liquid releases from a glycol still stack resulted in the ejection of glycol to the area surrounding the glycol still. Apex implemented initial characterization activities on February 23, 2018, when three (3) composite samples (GC-1 through GC-3) were collected and analyzed for total BTEX and TPH GRO/DRO/MRO. Laboratory analytical results identified combined TPH GRO/DRO/MRO concentrations that exceeded applicable New Mexico EMNRD OCD *RALs*. During March 2018, Enterprise initiated corrective action activities to remediate impact that was confirmed by the preliminary sampling event (samples GC-1 through GC-3).

- The primary objective of the corrective actions was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD *RALs* using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

- The lithology encountered during the completion of corrective action activities consisted primarily of gravel and semi-consolidated silty sand.

- The final excavation measured approximately 60 feet long by 50 feet wide at the maximum extents. The maximum depth of the excavation was approximately 0.5 feet bgs.

- Prior to backfilling, three (3) composite soil samples were collected for laboratory analyses to confirm remediation goals. Based on analytical results, soils remaining in place do not exhibit concentrations of COCs that are detectable by EPA SW-846 Method #8021 and EPA SW-846 Method #8015 above the New Mexico EMNRD OCD *RALs* for a site ranking of "20".

- A total of approximately 32 cubic yards of soil were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with imported fill and resurfaced with gravel.

6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

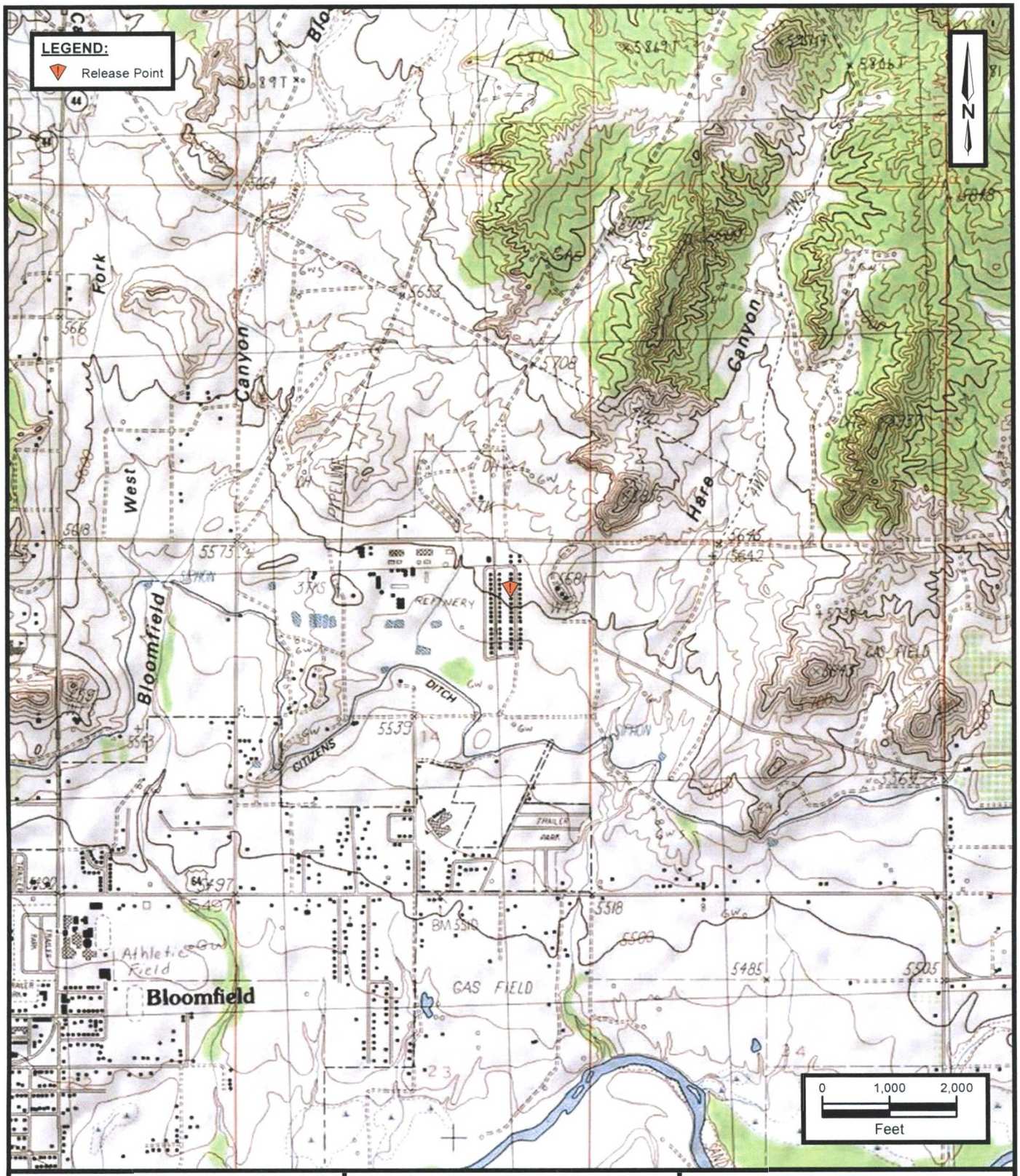
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed or described herein. Additionally, Apex does not warrant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



Val Verde Plant Glycol Release
NE 1/4, S14 T29N R11W
San Juan County, New Mexico
36.730882 N, 107.956083 W

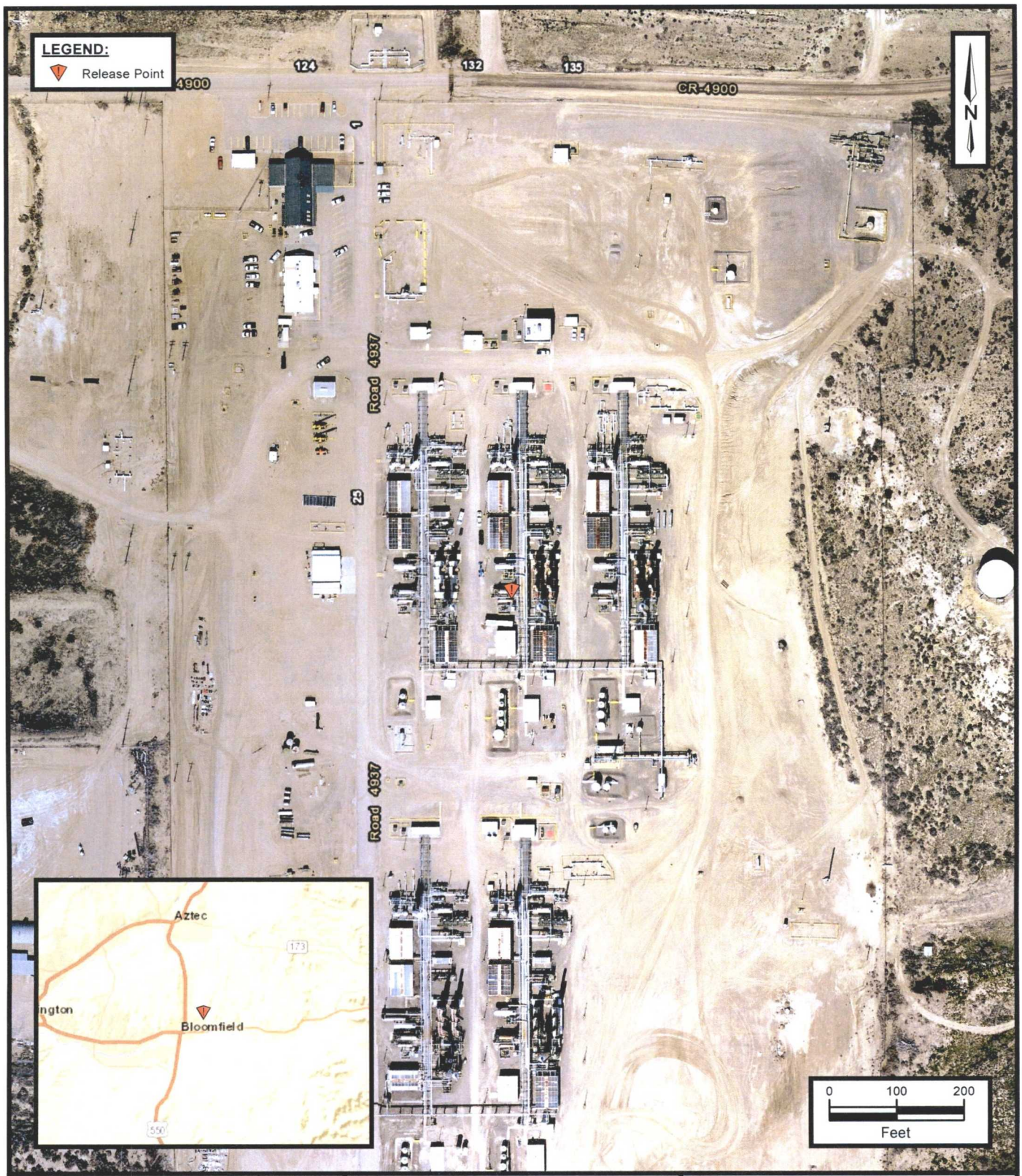
Project No. 725040112394

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

Z:\Dallas South\Drafting\2016\725040112394\Figure 1.mxd Modified 4/6/2018 by jsimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Val Verde Plant Glycol Release
NE 1/4, S14 T29N R11W
San Juan County, New Mexico
36.730882 N, 107.956083 W

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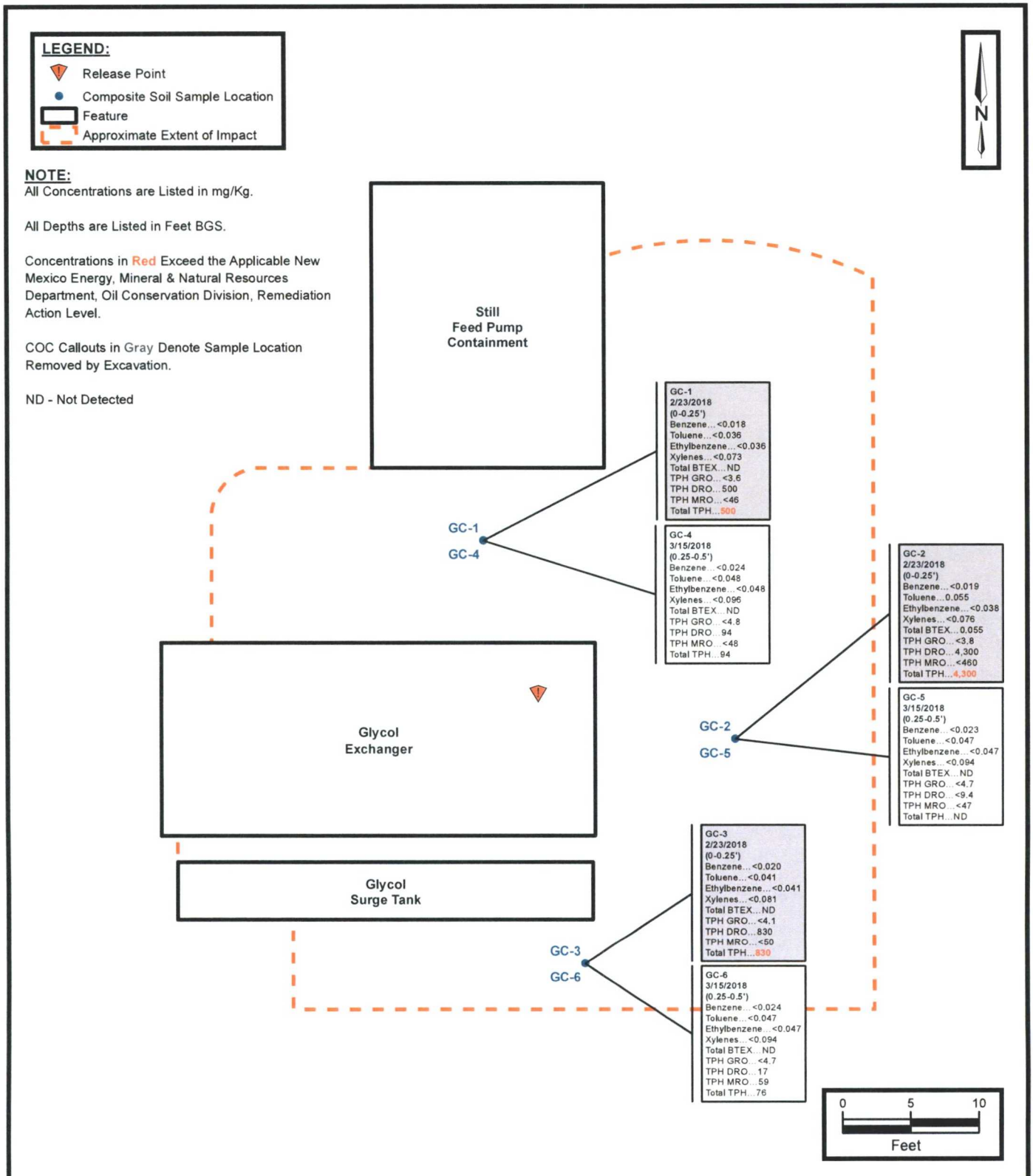
FIGURE 2

Site Vicinity Map

Z:\Dallas South\Drafting\2016\725040112394\Figure 2.mxd Modified 4/6/2018 by jsimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System



Val Verde Plant Glycol Release
NE 1/4, S14 T29N R11W
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36.730882 N, 107.956083 W

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FIGURE 3

Site Map with Soil Analytical Results

Z:\Dallas South\Drafting\2016\725040112394\Figure 3.mxd Modified 4/6/2018 by jsimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System

APPENDIX B

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

97057-0943

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:
Val Verde Plant

3. Location of Material (Street Address, City, State or ULSTR):
Unit B Sec 14 T 29N R 11W Sep. 2018

4. Source and Description of Waste:
Source: Hydrocarbon/Amine/Water impacted soil associated equipment failures.
Description: Hydrocarbon/Amine impacted soil associated with remediation activities from equipment failures.
Estimated Volume 30 (yd³) / bbls Known Volume (to be entered by the operator at the end of the haul) 360 (yd³) / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long (Thomas Long) , representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. ***Operator Use Only: Waste Acceptance Frequency*** ☐ ***Monthly*** ☐ ***Weekly*** ☐ ***Per Load***

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long (Thomas Long) 8-30-18, representative for Enterprise Products Operating authorize Envirotech, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, [signature], representative for Envirotech, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: ~~Nelson Revegetation~~, West States, HBL

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility * Permit #: NM01-0011**
Address of Facility: **Hill Top, NM**
Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree TITLE: Environmental Manager DATE: 9/10/18

SIGNATURE: [signature] TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

APPENDIX C

Photographic Documentation

Photograph 1

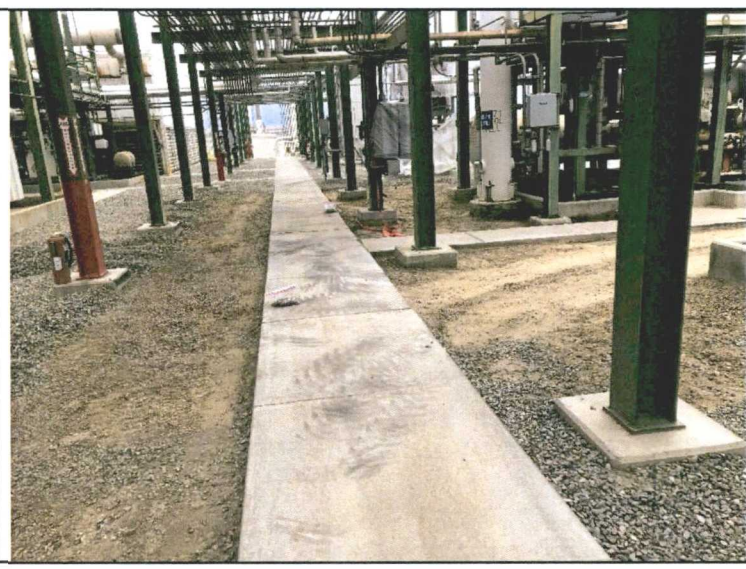
View of the release area, facing south-west.

Photograph 2

View of the release area, facing northwest.

Photograph 3

View of the excavated area, facing northeast.

Photograph 4 View of the excavated area, facing west.	
Photograph 5 View of the excavated area, facing south.	

APPENDIX D

Table

TABLE 1
Val Verde Plant Glycol Release
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level				**10**	**NE**	**NE**	**NE**	**50**				**100**
Composite Soil Samples Removed by Scraping/Excavation												
GC-1	02.23.18	C	0 to 0.25	<0.018	<0.036	<0.036	<0.073	ND	<3.6	500	<46	**500**
GC-2	02.23.18	C	0 to 0.25	<0.019	0.055	<0.038	<0.076	0.055	<3.8	4,300	<460	**4,300**
GC-3	02.23.18	C	0 to 0.25	<0.020	<0.041	<0.041	<0.081	ND	<4.1	830	<50	**830**
Composite Soil Samples												
GC-4	03.15.18	C	0.25 to 0.5	<0.024	<0.048	<0.048	<0.096	ND	<4.8	94	<48	94
GC-5	03.15.18	C	0.25 to 0.5	<0.023	<0.047	<0.047	<0.094	ND	<4.7	<9.4	<47	ND
GC-6	03.15.18	C	0.25 to 0.5	<0.024	<0.047	<0.047	<0.094	ND	<4.7	17	59	76

Note: Concentrations in **bold** and yellow exceed the applicable NM EMNRD OCD Remediation Action Level

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram

APPENDIX E

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

February 27, 2018

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

RE: Val Verde Plant - Glycol Release OrderNo.: 1802D32

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/24/2018 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
Client Sample ID: GC-1
Project: Val Verde Plant - Glycol Release
Collection Date: 2/23/2018 11:00:00 AM
Lab ID: 1802D32-001 **Matrix:** SOIL
Received Date: 2/24/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	2/26/2018 11:47:16 AM	G49376
Surr: BFB	121	70-130		%Rec	1	2/26/2018 11:47:16 AM	G49376
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	500	9.3		mg/Kg	1	2/26/2018 12:24:45 PM	36706
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/26/2018 12:24:45 PM	36706
Surr: DNOP	98.9	70-130		%Rec	1	2/26/2018 12:24:45 PM	36706
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.018		mg/Kg	1	2/26/2018 11:47:16 AM	R49376
Toluene	ND	0.036		mg/Kg	1	2/26/2018 11:47:16 AM	R49376
Ethylbenzene	ND	0.036		mg/Kg	1	2/26/2018 11:47:16 AM	R49376
Xylenes, Total	ND	0.073		mg/Kg	1	2/26/2018 11:47:16 AM	R49376
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	2/26/2018 11:47:16 AM	R49376
Surr: Toluene-d8	93.8	70-130		%Rec	1	2/26/2018 11:47:16 AM	R49376

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: GC-2
Project: Val Verde Plant - Glycol Release
Collection Date: 2/23/2018 11:10:00 AM
Lab ID: 1802D32-002 **Matrix:** SOIL
Received Date: 2/24/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	2/26/2018 12:10:16 PM	G49376
Surr: BFB	120	70-130		%Rec	1	2/26/2018 12:10:16 PM	G49376
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	4300	91		mg/Kg	10	2/26/2018 10:47:24 AM	36706
Motor Oil Range Organics (MRO)	ND	460		mg/Kg	10	2/26/2018 10:47:24 AM	36706
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 10:47:24 AM	36706
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.019		mg/Kg	1	2/26/2018 12:10:16 PM	R49376
Toluene	0.055	0.038		mg/Kg	1	2/26/2018 12:10:16 PM	R49376
Ethylbenzene	ND	0.038		mg/Kg	1	2/26/2018 12:10:16 PM	R49376
Xylenes, Total	ND	0.076		mg/Kg	1	2/26/2018 12:10:16 PM	R49376
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	2/26/2018 12:10:16 PM	R49376
Surr: Toluene-d8	95.1	70-130		%Rec	1	2/26/2018 12:10:16 PM	R49376

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: GC-3
Project: Val Verde Plant - Glycol Release
Collection Date: 2/23/2018 11:20:00 AM
Lab ID: 1802D32-003 **Matrix:** SOIL
Received Date: 2/24/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	2/26/2018 12:33:08 PM	G49376
Surr: BFB	122	70-130		%Rec	1	2/26/2018 12:33:08 PM	G49376
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	830	10		mg/Kg	1	2/26/2018 12:49:12 PM	36706
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/26/2018 12:49:12 PM	36706
Surr: DNOP	107	70-130		%Rec	1	2/26/2018 12:49:12 PM	36706
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.020		mg/Kg	1	2/26/2018 12:33:08 PM	R49376
Toluene	ND	0.041		mg/Kg	1	2/26/2018 12:33:08 PM	R49376
Ethylbenzene	ND	0.041		mg/Kg	1	2/26/2018 12:33:08 PM	R49376
Xylenes, Total	ND	0.081		mg/Kg	1	2/26/2018 12:33:08 PM	R49376
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	2/26/2018 12:33:08 PM	R49376
Surr: Toluene-d8	95.8	70-130		%Rec	1	2/26/2018 12:33:08 PM	R49376

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#: **1802D32**

27-Feb-18

Client: APEX TITAN

Project: Val Verde Plant - Glycol Release

Sample ID **LCS-36706**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **36706**	RunNo: **49373**
Prep Date: **2/26/2018**	Analysis Date: **2/26/2018**	SeqNo: **1594363** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	70	130			
Surr: DNOP	4.6		5.000		92.4	70	130			

Sample ID **MB-36706**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **36706**	RunNo: **49373**
Prep Date: **2/26/2018**	Analysis Date: **2/26/2018**	SeqNo: **1594364** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

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#: **1802D32**

27-Feb-18

Client: APEX TITAN

Project: Val Verde Plant - Glycol Release

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R49376**	RunNo: **49376**
Prep Date:	Analysis Date: **2/26/2018**	SeqNo: **1594398** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.8	80	120			
Toluene	0.94	0.050	1.000	0	94.4	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.9	80	120			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.2	70	130			
Surr: Toluene-d8	0.49		0.5000		97.1	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **R49376**	RunNo: **49376**
Prep Date:	Analysis Date: **2/26/2018**	SeqNo: **1594406** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.48		0.5000		95.2	70	130			

Sample ID **lcs-36666**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **36666**	RunNo: **49376**
Prep Date: **2/22/2018**	Analysis Date: **2/26/2018**	SeqNo: **1594812** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.1	70	130			
Surr: Toluene-d8	0.47		0.5000		93.4	70	130			

Sample ID **mb-36666**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **36666**	RunNo: **49376**
Prep Date: **2/22/2018**	Analysis Date: **2/26/2018**	SeqNo: **1594813** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.47		0.5000		93.4	70	130			

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#: **1802D32**

27-Feb-18

Client: APEX TITAN

Project: Val Verde Plant - Glycol Release

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G49376**	RunNo: **49376**
Prep Date:	Analysis Date: **2/26/2018**	SeqNo: **1594393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	114	70	130			
Surr: BFB	510		500.0		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **G49376**	RunNo: **49376**
Prep Date:	Analysis Date: **2/26/2018**	SeqNo: **1594394** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	550		500.0		110	70	130			

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

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: 1802D32 | RcptNo: 1

Received By: Isaiah Ortiz 2/24/2018 9:25:00 AM

Completed By: Anne Thorne 2/26/2018 7:36:15 AM

Reviewed By: 2/26/18

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:

CUSTODY SEALS INTACT ON SOIL JARS/at 2/26/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	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. Fresquez
Phone: 505-345-3975
PO/SO #: See notes

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

Proj. No.: 72540112294
Project Name: Val Verde plant - Glycol Release
No/Type of Containers

ANALYSIS REQUESTED: BTEX 8021, TPH 6PO/DRO/MRO, GRO/DRO

Lab use only
Due Date:
Temp. of coolers when received (C°): 0.4
1 2 3 4 5
Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	2/23/18	1100	X		GC-1						1		1802D32-001
S	2/23/18	1110	X		GC-2						1		-002
S	2/23/18	1120	X		GC-3						1		-003

NFS

Turn around time ☐ Normal ☐ 25% Rush ☐ 50% Rush ☒ 100% Rush SAME DAY

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/23/18	1405		2/23/18	1405
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/23/18	1810	Courier	2/24/18	925
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
PM - Tom Long
Pay Key - AQ 12598
Non AFE N34991
SAME DAY

COC Seal on jars

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

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

March 21, 2018

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

RE: Valverde Plant Glycol Release OrderNo.: 1803957

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/16/2018 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

Analytical Report
Lab Order **1803957**
Date Reported: **3/21/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: GC-4
Project: Valverde Plant Glycol Release
Collection Date: 3/15/2018 2:00:00 PM
Lab ID: 1803957-001
Matrix: SOIL
Received Date: 3/16/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	94	9.6		mg/Kg	1	3/20/2018 5:25:10 PM	37106
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/20/2018 5:25:10 PM	37106
Surr: DNOP	93.7	70-130		%Rec	1	3/20/2018 5:25:10 PM	37106
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/17/2018 10:14:43 PM	37075
Surr: BFB	88.6	15-316		%Rec	1	3/17/2018 10:14:43 PM	37075
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/17/2018 10:14:43 PM	37075
Toluene	ND	0.048		mg/Kg	1	3/17/2018 10:14:43 PM	37075
Ethylbenzene	ND	0.048		mg/Kg	1	3/17/2018 10:14:43 PM	37075
Xylenes, Total	ND	0.096		mg/Kg	1	3/17/2018 10:14:43 PM	37075
Surr: 4-Bromofluorobenzene	84.6	80-120		%Rec	1	3/17/2018 10:14:43 PM	37075

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: GC-5
Project: Valverde Plant Glycol Release
Collection Date: 3/15/2018 2:10:00 PM
Lab ID: 1803957-002 **Matrix:** SOIL **Received Date:** 3/16/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/20/2018 5:47:04 PM	37106
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/20/2018 5:47:04 PM	37106
Surr: DNOP	94.1	70-130		%Rec	1	3/20/2018 5:47:04 PM	37106
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2018 10:38:07 PM	37075
Surr: BFB	85.7	15-316		%Rec	1	3/17/2018 10:38:07 PM	37075
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	3/17/2018 10:38:07 PM	37075
Toluene	ND	0.047		mg/Kg	1	3/17/2018 10:38:07 PM	37075
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2018 10:38:07 PM	37075
Xylenes, Total	ND	0.094		mg/Kg	1	3/17/2018 10:38:07 PM	37075
Surr: 4-Bromofluorobenzene	81.9	80-120		%Rec	1	3/17/2018 10:38:07 PM	37075

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: GC-6
Project: Valverde Plant Glycol Release
Collection Date: 3/15/2018 2:20:00 PM
Lab ID: 1803957-003 **Matrix:** SOIL
Received Date: 3/16/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	17	9.6		mg/Kg	1	3/20/2018 6:09:07 PM	37106
Motor Oil Range Organics (MRO)	59	48		mg/Kg	1	3/20/2018 6:09:07 PM	37106
Surr: DNOP	92.3	70-130		%Rec	1	3/20/2018 6:09:07 PM	37106
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/17/2018 11:01:34 PM	37075
Surr: BFB	88.7	15-316		%Rec	1	3/17/2018 11:01:34 PM	37075
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/17/2018 11:01:34 PM	37075
Toluene	ND	0.047		mg/Kg	1	3/17/2018 11:01:34 PM	37075
Ethylbenzene	ND	0.047		mg/Kg	1	3/17/2018 11:01:34 PM	37075
Xylenes, Total	ND	0.094		mg/Kg	1	3/17/2018 11:01:34 PM	37075
Surr: 4-Bromofluorobenzene	84.4	80-120		%Rec	1	3/17/2018 11:01:34 PM	37075

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#: **1803957**

21-Mar-18

Client: APEX TITAN

Project: Valverde Plant Glycol Release

Sample ID **LCS-37118** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **37118** RunNo: **49917**

Prep Date: **3/20/2018** Analysis Date: **3/20/2018** SeqNo: **1615923** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		95.0	70	130			

Sample ID **MB-37118** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **37118** RunNo: **49917**

Prep Date: **3/20/2018** Analysis Date: **3/20/2018** SeqNo: **1615924** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	70	130			

Sample ID **LCS-37106** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **37106** RunNo: **49917**

Prep Date: **3/19/2018** Analysis Date: **3/20/2018** SeqNo: **1616595** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.1	70	130			
Surr: DNOP	4.3		5.000		86.5	70	130			

Sample ID **MB-37106** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **37106** RunNo: **49917**

Prep Date: **3/19/2018** Analysis Date: **3/20/2018** SeqNo: **1616596** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.6	70	130			

Sample ID **LCS-37105** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **37105** RunNo: **49917**

Prep Date: **3/19/2018** Analysis Date: **3/20/2018** SeqNo: **1616928** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		87.0	70	130			

Sample ID **MB-37105** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **37105** RunNo: **49917**

Prep Date: **3/19/2018** Analysis Date: **3/20/2018** SeqNo: **1616929** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	70	130			

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1803957**

21-Mar-18

Client: APEX TITAN

Project: Valverde Plant Glycol Release

Sample ID **MB-37071**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **37071**	RunNo: **49875**							
Prep Date: **3/16/2018**	Analysis Date: **3/17/2018**	SeqNo: **1614187**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		92.7	15	316			

Sample ID **LCS-37071**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **37071**	RunNo: **49875**							
Prep Date: **3/16/2018**	Analysis Date: **3/17/2018**	SeqNo: **1614188**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	15	316			

Sample ID **MB-37075**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **37075**	RunNo: **49875**							
Prep Date: **3/16/2018**	Analysis Date: **3/17/2018**	SeqNo: **1614201**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		89.0	15	316			

Sample ID **LCS-37075**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **37075**	RunNo: **49875**							
Prep Date: **3/16/2018**	Analysis Date: **3/17/2018**	SeqNo: **1614202**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	75.9	131			
Surr: BFB	1000		1000		104	15	316			

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#: **1803957**

21-Mar-18

Client: APEX TITAN

Project: Valverde Plant Glycol Release

Sample ID **MB-37071** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **37071** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614212** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.2	80	120			

Sample ID **LCS-37071** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **37071** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614213** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		90.6	80	120			

Sample ID **MB-37075** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **37075** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614226** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.84		1.000		83.6	80	120			

Sample ID **LCS-37075** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **37075** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614227** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.7	77.3	128			
Toluene	0.95	0.050	1.000	0	94.8	79.2	125			
Ethylbenzene	0.93	0.050	1.000	0	93.2	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	95.1	81.6	129			
Surr: 4-Bromofluorobenzene	0.86		1.000		86.3	80	120			

Sample ID **1803957-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **GC-4** Batch ID: **37075** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614229** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9606	0	107	68.5	133			
Toluene	1.0	0.048	0.9606	0	108	75	130			
Ethylbenzene	1.0	0.048	0.9606	0	108	79.4	128			
Xylenes, Total	3.2	0.096	2.882	0	110	77.3	131			

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#: **1803957**

21-Mar-18

Client: APEX TITAN

Project: Valverde Plant Glycol Release

Sample ID **1803957-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **GC-4** Batch ID: **37075** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614229** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.83		0.9606		86.2	80	120			

Sample ID **1803957-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **GC-4** Batch ID: **37075** RunNo: **49875**

Prep Date: **3/16/2018** Analysis Date: **3/17/2018** SeqNo: **1614230** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.023	0.9251	0	107	68.5	133	4.14	20	
Toluene	1.0	0.046	0.9251	0	109	75	130	3.59	20	
Ethylbenzene	0.99	0.046	0.9251	0	107	79.4	128	4.95	20	
Xylenes, Total	3.0	0.093	2.775	0	109	77.3	131	4.90	20	
Surr: 4-Bromofluorobenzene	0.79		0.9251		85.0	80	120	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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: APEX AZTEC Work Order Number: 1803957 RcptNo: 1

Received By: Erin Melendrez 3/16/2018 8:00:00 AM

Completed By: Erin Melendrez 3/16/2018 11:17:17 AM

Reviewed By: BRC 03/16/18

Labled By: MW 3/16/18

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 ☑

    # of preserved bottles checked for pH: ____ (<2 or >12 unless noted)

    Adjusted? ____

    Checked by: ____
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 ☐

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	1.2	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 #: See notes

Lab use only
Due Date:

Temp. of coolers when received (C°): 1.9 -0.7 (CF) = 1.2

1	2	3	4	5

Page 1 of 1

Sampler's Name: Ranee Deechilly

Sampler's Signature:

Proj. No.: 72514012294

Project Name: Val Verde Plant - Glycol Release

No/Type of Containers

ANALYSIS REQUESTED: BTEX 8021; TPH (GRO/DRO/MRO 8015

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt	250 ml	Glass Jar	P/O			Lab Sample ID (Lab Use Only)
S	3/15/18	1400	X		GC-4						1		X	X	1803957-001
S	3/15/18	1410	X		GC-5						1		X	X	-002
S	3/15/18	1420	X		GC-6						1		X	X	-003

NB

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	3/15/18	1457		3/15/18	1457
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	3/15/18	1840		3/16/18	0800
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
PM - Tom Long
Pay Key - TE25719
Non AFE N34991
COC Seal on Jar

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