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

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

OIL CONS. DIV DIST. 3
FEB 09 2016

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: **Lateral K-31 (Two Release Sites)**	Facility Type: **Natural Gas Gathering Line**

Surface Owner: **State**	Mineral Owner:**BLM**	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D/N	**16**	**25N**	**6W**					**Rio Arriba**

Latitude 36.40482 **Longitude** 107.478125
Latitude 36.39373 **Longitude** 107.47519

NATURE OF RELEASE

Type of Release: Natural Gas	Volume of Release: **58.38 MCF**	Volume Recovered: **None**
Source of Release: Internal corrosion	Date and Hour of Occurrence: **2/19/2015 @ 3:00 p.m.**	Date and Hour of Discovery: **2/19/2015 @ 5:00 p.m.**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.*.

Describe Cause of Problem and Remedial Action: On February 19, 2015, Enterprise discovered two leaks on the Lateral K-31 pipeline. The GPS locations for the leaks are 36.40482, -107.478125 and 36.39373, -107.47519. The pipeline was isolated, blown down, locked out and tagged out. No surface impacts were observed. Initial investigations were conducted prior to the replacement of approximately 5,200 feet of pipeline in October 2015.

Describe Area Affected and Cleanup Action Taken.*: A third party environmental contractor conducted an investigation during the original excavation activities and a subsequent investigation after both excavations were inadvertently backfilled during pipe replacement activities. The investigations indicated that the natural gas release caused no subsurface impacts. A third party investigation report is included with this "Final." C-141.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Jon Fields	OIL CONSERVATION DIVISION
Printed Name: Jon E. Fields	Approved by Environmental Specialist:
Title: Director, Environmental	Approval Date: 2/19/2016 Expiration Date:
E-mail Address:jefields@eprod.com	Conditions of Approval: — Attached ☐
Date: 2-4-2016 Phone: (713)381-6684	

* Attach Additional Sheets If Necessary

nCS1507252576

SUPPLEMENTAL SITE INVESTIGATION REPORT

Property:

Lateral K-31 February 2015 Pipeline Releases
NW ¼ and SW ¼, S16 T25N R6W
Rio Arriba County, New Mexico

January 19, 2016
Apex Project No. 7250415G017

Prepared for:

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

Prepared by:

Ranee Deechilly
Environmental Scientist

Kyle Summers CPG
Branch Manager/Senior Geologist

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LIST OF APPENDICES

APEX

SUPPLEMENTAL SITE INVESTIGATION REPORT

Lateral K-31 February 2015 Pipeline Releases
NW ¼ and SW ¼, S16 T25N R6W
Rio Arriba County, New Mexico

Apex Project No. 7250415017

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral K-31 (February 2015) Pipeline Release Sites are located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ and southwest (SW) ¼ of Section 16 in Township 25 North and Range 6 West in rural Rio Arriba County, New Mexico (North Release 36.40467N, 107.47813W; South Release 36.39413N, 107.47521W), referred to hereinafter as the "Site" or "Sites". The Sites are located on State land managed by the New Mexico State Land Office. The Sites are surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

During February 2015, two (2) natural gas releases were discovered on the Lateral K-31 pipeline. Enterprise exposed the pipeline to locate and evaluate the releases, but halted repair activities while discussions ensued regarding the replacement of the entire section (over 5,000 feet of pipeline) with new pipe. Between February 2015 and July 2015, Enterprise abandoned and replaced the existing Lateral K-31 pipeline section with new pipe. The release Sites were inadvertently backfilled during surface reclamation activities after the new pipeline installation. Stockpile samples had been collected prior to the Sites being backfilled, but delineation had not yet been performed. As a result, additional Site investigation was warranted to determine if hydrocarbon impacted soils remained.

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 supplemental site investigation was to evaluate the extent of constituents of concern (COCs), if present, in the soils at the Site.

2.0 SITE RANKING

In accordance with the New Mexico Energy, Minerals, and Natural Resources Department (ENMRD) Oil Conservation Division (OCD) *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the execution of corrective action activities and information available from the Office of 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:

North Site			
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	**20**
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			**40**

Based on Apex's evaluation of the scoring criteria, the North Site would have a maximum Total Ranking Score of "40".

South Site			
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 South Site would have a maximum Total Ranking Score of "20".

- Depth to groundwater, as measured in monitoring wells near the two Sites, ranges from approximately 8 to 20 feet below grade surface (bgs), resulting in a depth to groundwater ranking of "20".
- No water source wells (municipal/community wells) were identified within 1,000 feet of the two Sites. No private domestic water sources were identified within 200 feet of the Sites. The lack of water source proximities results in a wellhead protection area ranking of "0".
- The North release point is located adjacent to an ephemeral wash that is identified as a "blue line" on the United States Geological Society topographic map. This information supports a ranking of "20" for distance to surface water for the North Site. The South release point is located approximately 1,500 feet west of the Largo Wash, resulting in a distance to surface water ranking of "0" for the South Site.

3.0 SITE INVESTIGATION

3.1 Soil Borings/Stockpiles

During July 2015, four (4) composite soil samples were collected from the North Site stockpiled soils, and two (2) composite soil samples were collected from the South Site stockpiled soils, to determine the potential to reuse the soil as backfill material. The release Sites were inadvertently backfilled during reclamation activities on the new pipeline installation, prior to soil delineation activities for the releases.

During September and November 2015, Apex Titan, Inc. (Apex), advanced seven (7) hand auger soil borings at the North release and five (5) hand auger soil borings at the South release site. The soil borings were advanced as near as practicable to the former points of release and topographically upgradient and downgradient from the points of release. A photoionization detector (PID) was utilized to field-screen the soil cuttings for the presence of volatile organic compounds (VOCs). The resulting PID readings did not indicate the presence of hydrocarbon affected soils. Additionally, analytical samples were collected from the terminus of each borehole, which in each case was deeper than the depth of the pipeline at each Site.

Figure 3 is a site map that indicates the approximate location of the excavated area in relation to pertinent land features (Appendix A).

3.2 Soil Sampling Program

Apex screened head-space samples of Site soils with a PID fitted with a 10.6 eV lamp to evaluate the soils for volatile organic compounds (VOCs).

Apex's soil sampling program included a total collection of twelve (12) soil boring samples and six (6) stockpile samples from the North and South release Sites for laboratory analysis. Due to the absence of adverse PID readings, the soil boring samples were collected from the terminus of each borehole, which in each case was deeper than the depth of the pipeline at each Site. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the pipeline releases (Appendix A).

The soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for rush analysis.

3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015. Laboratory results are summarized in Table 1 and Table 2, included in Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

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

Analysis	Sample Matrix	No. of Samples	EPA Method
TPH GRO/DRO	Soil	18	SW-846 8015
BTEX	Soil	18	SW-846 8021

Soil laboratory results are summarized in Tables 1 and 2 (Appendix B), respectively. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish 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 reporting limits associated with the soil samples collected from the two Sites to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of greater than "20".

North Release

- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RALs.
- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RALs.
- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RALs for a Site ranking of "40".

South Release

- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RALs.
- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RALs.
- The laboratory analyses of the samples collected from soils remaining in place and the reused excavated soils did not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RALs for a Site ranking of "20".

Soil boring and soil stockpile sample results are provided in Table 1 and Table 2 in Appendix B.

5.0 FINDINGS AND RECOMMENDATIONS

The primary objective of the supplemental site investigation was to evaluate the extent of COCs, if present, in soils at the Site.

- Apex hand augured a total of twelve (12) soil borings at the Lateral K-31 (February 2015) North and South release Sites.
- During the completion of the sampling event, one (1) soil sample was collected from each soil boring. In addition, six (6) soil stockpile samples were collected to determine the potential to reuse unaffected soils as backfill material. Based on analytical results, soils remaining in place and the reused excavated soils do not exhibit COC concentrations above the OCD RALs for a Site ranking of greater than "20".

Based on the results of the supplemental site investigation, Apex has the following recommendations:

- **Report the supplemental site investigation results to the OCD; and**
- **Request that no further action be required in relation to this release at this time.**

6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

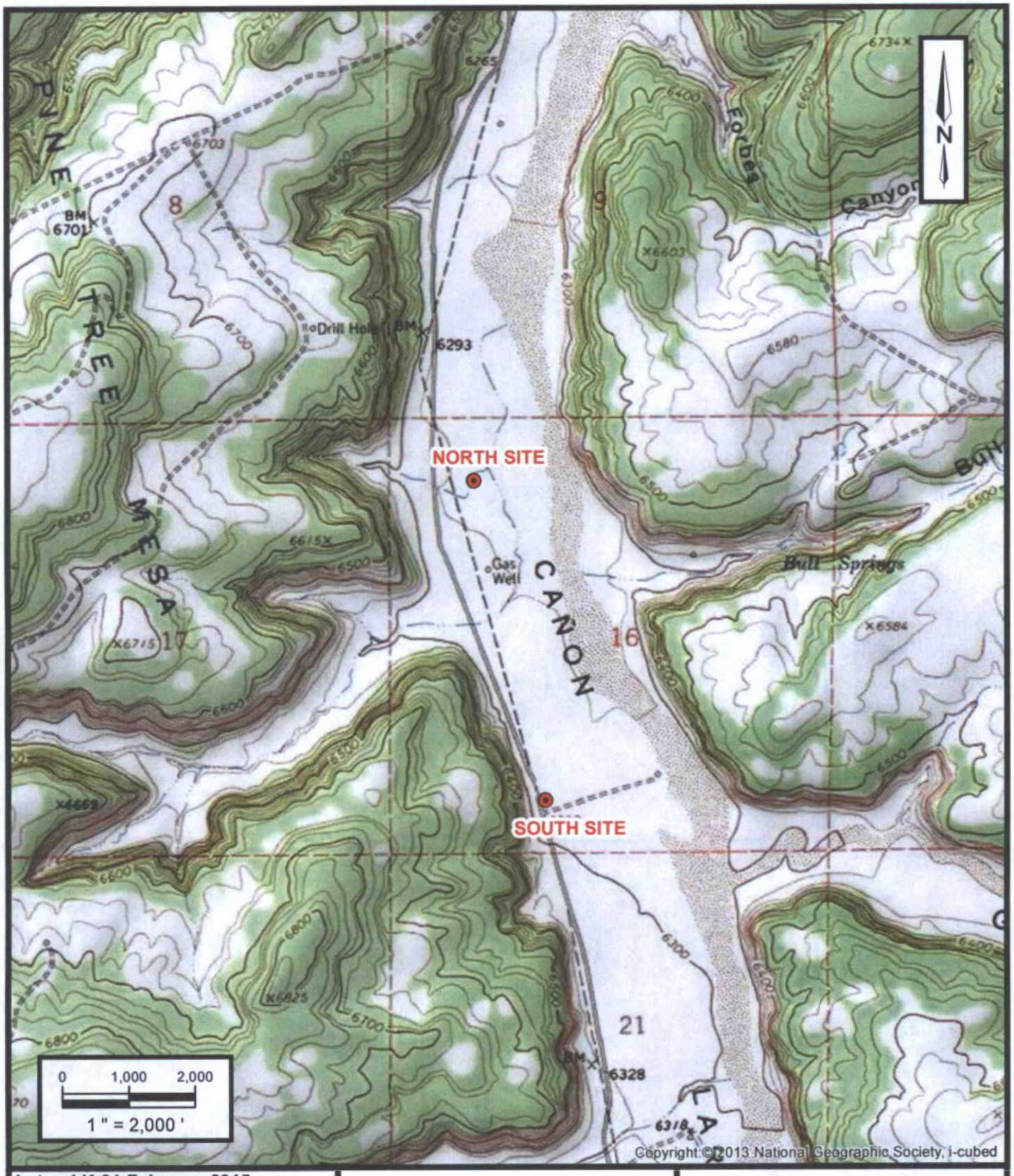
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work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



Lateral K-31 February 2015
Pipeline Release
NW1/4 Sec16 T25N R6W
SW1/4 Sec16 T25N R6W
Rio Arriba County, New Mexico
North Site - 36.40467N, 107.47813W
South Site - 36.39413N, 107.47521W

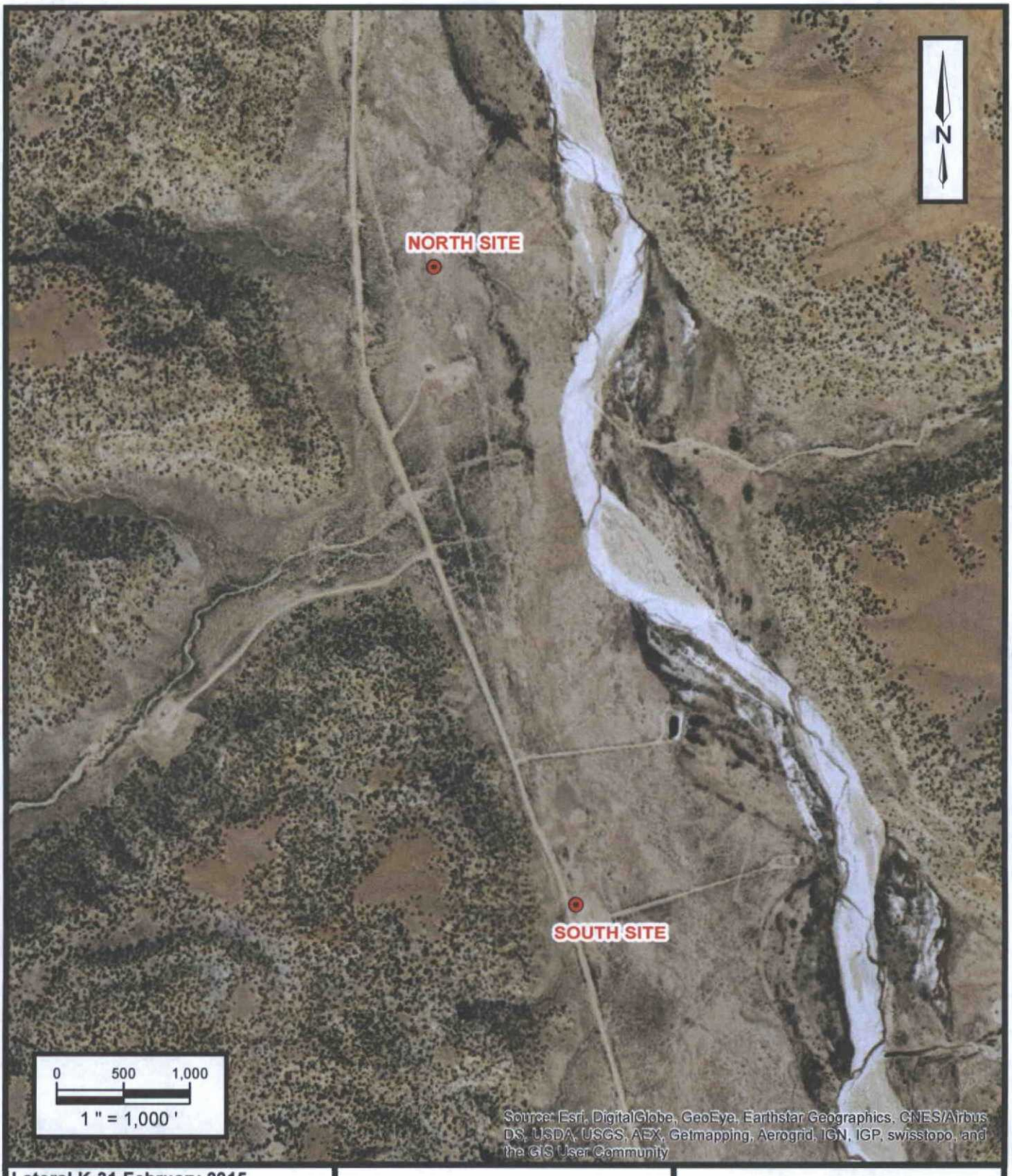
Project No. 7250415017

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

FIGURE 1

Topographic Map
Gonzales Mesa, NM Quadrangle
1963

Z:\Houston South\Drafting\New Mexico 04\2015\7250415017\Figure 1.mxd 1/14/2016 WGS 1984 Web Mercator Auxiliary Sphere Projected Coordinate System



Lateral K-31 February 2015
Pipeline Release
NW1/4 Sec16 T25N R6W
SW1/4 Sec16 T25N R6W
Rio Arriba County, New Mexico
North Site - 36.40467N, 107.47813W
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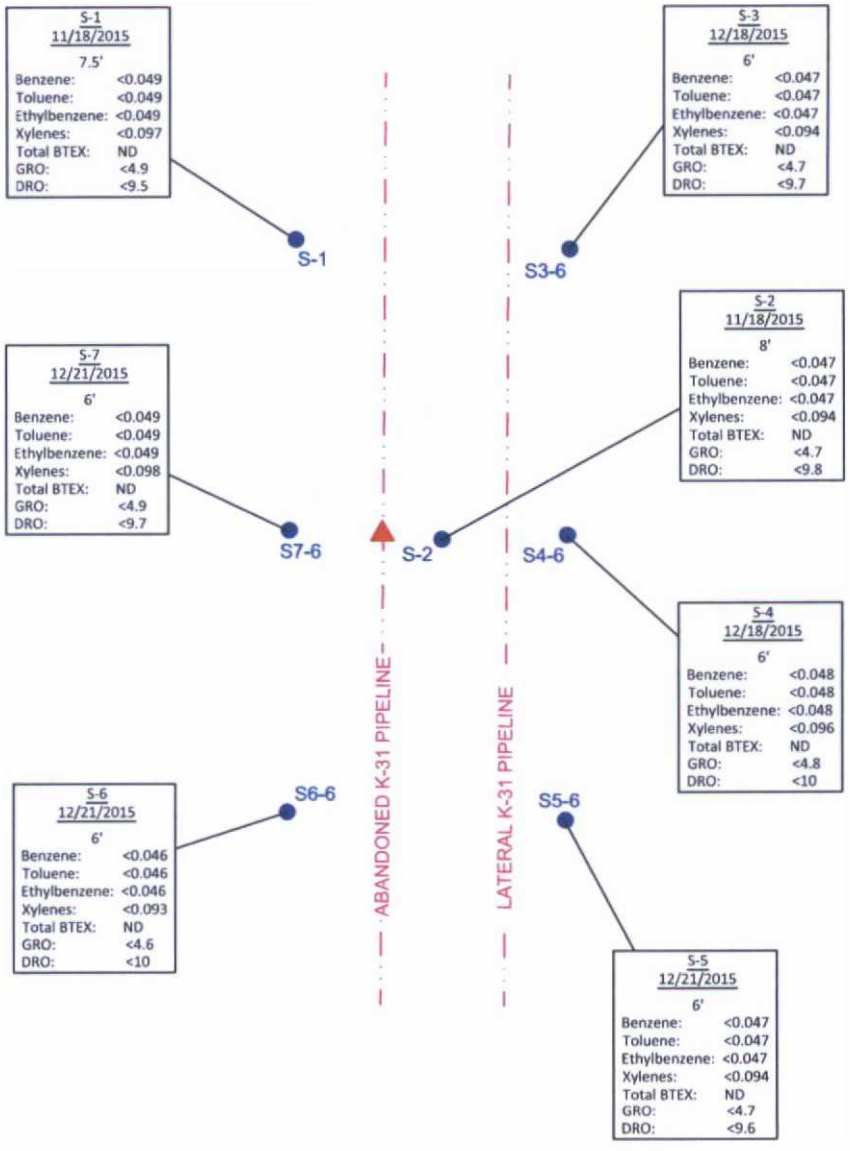
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 2

Site Vicinity Map

Z:\Houston South\Drafting\New Mexico 04\2015\7250415017\Figure 2.mxd 1/14/2016 WGS 1984 Web Mercator Auxiliary Sphere Projected Coordinate System



LEGEND:

- APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- APPROXIMATE RELEASE POINT LOCATION

NOTE: ALL VALUES ARE REPRESENTED IN mg/kg;
ND - NOT DETECTED

0 3 6

1 " = 6 '

Lateral K-31 February 2015 Pipeline Release
NW1/4 Sec16 T25N R6W
Rio Arriba County, New Mexico
North Site - 36.40467N, 107.47813W

Project No. 7250415017

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

FIGURE 3A

Site Map with Soil Analytical Results North Release

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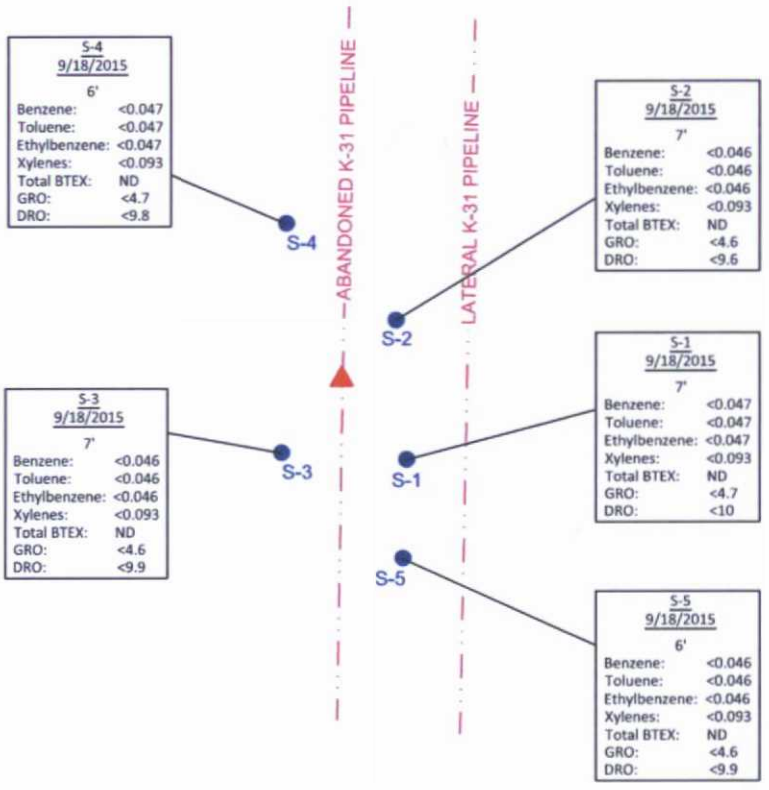

LEGEND:

- APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- APPROXIMATE RELEASE POINT LOCATION

NOTE: ALL VALUES ARE REPRESENTED IN mg/kg;
ND - NOT DETECTED

0 3 6

1 " = 6 '

Lateral K-31 February 2015 Pipeline Release
SW1/4 Sec16 T25N R6W
Rio Arriba County, New Mexico
South Site - 36.39413N, 107.47521W

Project No. 7250415017

Apex TITAN, Inc.
606 S. Rio Grande, Suite A
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FIGURE 3B

Site Map with Soil Analytical Results South Release

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APPENDIX B

Tables

TABLE 1
Lateral K-31 Pipeline Release
SOIL ANALYTICAL SUMMARY NORTH RELEASE

Sample I.D.	Date	Sample Depth (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)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100	
Stockpile Samples									
SP-1	7.8.15	Stockpile	<0.050	<0.050	<0.050	<0.099	ND	<5.0	<10
SP-2	7.8.15	Stockpile	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<9.6
SP-3	7.8.15	Stockpile	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<9.7
SP-4	7.8.15	Stockpile	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10
Soil Boring Samples									
S-1	11.18.15	7.5	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<9.5
S-2	11.18.15	8	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.8
S-3 (S3-6)	12.18.15	6	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.7
S-4 (S4-6)	12.18.15	6	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<10
S-5 (S5-6)	12.21.15	6	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.6
S-6 (S6-6)	12.21.15	6	<0.046	<0.046	<0.046	<0.093	ND	<4.6	<10
S-7 (S7-6)	12.21.15	6	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.7

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits

NA = Not analyzed

TABLE 2
Lateral K-31 Pipeline Release
SOIL ANALYTICAL SUMMARY SOUTH RELEASE

Sample I.D.	Date	Sample Depth (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)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100	
Stockpile Samples									
SP-1	7.8.15	Stockpile	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<10
SP-2	7.8.15	Stockpile	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<10
Soil Boring Samples									
S-1	9.18.15	7	<0.047	<0.047	<0.047	<0.093	ND	<4.7	<10
S-2	9.18.15	7	<0.046	<0.046	<0.046	<0.093	ND	<4.6	<9.6
S-3	9.18.15	7	<0.046	<0.046	<0.046	<0.093	ND	<4.6	<9.9
S-4	9.18.15	6	<0.047	<0.047	<0.047	<0.093	ND	<4.7	<9.8
S-5	9.18.15	6	<0.046	<0.046	<0.046	<0.093	ND	<4.6	<9.9

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits

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 13, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (505) 716-2787
FAX

RE: Lateral K-31 North OrderNo.: 1507344

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/9/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1507344**
Date Reported: **7/13/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: SP-1
Project: Lateral K-31 North
Collection Date: 7/8/2015 4:20:00 PM
Lab ID: 1507344-001
Matrix: SOIL
Received Date: 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2015 1:36:58 PM	20177
Surr: DNOP	108	57.9-140		%REC	1	7/10/2015 1:36:58 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/10/2015 11:54:31 AM	20173
Surr: BFB	90.3	75.4-113		%REC	1	7/10/2015 11:54:31 AM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	7/10/2015 11:54:31 AM	20173
Toluene	ND	0.050		mg/Kg	1	7/10/2015 11:54:31 AM	20173
Ethylbenzene	ND	0.050		mg/Kg	1	7/10/2015 11:54:31 AM	20173
Xylenes, Total	ND	0.099		mg/Kg	1	7/10/2015 11:54:31 AM	20173
Surr: 4-Bromofluorobenzene	95.0	80-120		%REC	1	7/10/2015 11:54:31 AM	20173

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: SP-2
Project: Lateral K-31 North
Collection Date: 7/8/2015 4:25:00 PM
Lab ID: 1507344-002
Matrix: SOIL
Received Date: 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/10/2015 1:58:34 PM	20177
Surr: DNOP	109	57.9-140		%REC	1	7/10/2015 1:58:34 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/10/2015 12:23:21 PM	20173
Surr: BFB	93.4	75.4-113		%REC	1	7/10/2015 12:23:21 PM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/10/2015 12:23:21 PM	20173
Toluene	ND	0.049		mg/Kg	1	7/10/2015 12:23:21 PM	20173
Ethylbenzene	ND	0.049		mg/Kg	1	7/10/2015 12:23:21 PM	20173
Xylenes, Total	ND	0.099		mg/Kg	1	7/10/2015 12:23:21 PM	20173
Surr: 4-Bromofluorobenzene	97.4	80-120		%REC	1	7/10/2015 12:23:21 PM	20173

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: SP-3
Project: Lateral K-31 North
Collection Date: 7/8/2015 4:30:00 PM
Lab ID: 1507344-003 **Matrix:** SOIL **Received Date:** 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/10/2015 2:20:07 PM	20177
Surr: DNOP	109	57.9-140		%REC	1	7/10/2015 2:20:07 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/10/2015 12:52:10 PM	20173
Surr: BFB	91.4	75.4-113		%REC	1	7/10/2015 12:52:10 PM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	7/10/2015 12:52:10 PM	20173
Toluene	ND	0.050		mg/Kg	1	7/10/2015 12:52:10 PM	20173
Ethylbenzene	ND	0.050		mg/Kg	1	7/10/2015 12:52:10 PM	20173
Xylenes, Total	ND	0.10		mg/Kg	1	7/10/2015 12:52:10 PM	20173
Surr: 4-Bromofluorobenzene	96.8	80-120		%REC	1	7/10/2015 12:52:10 PM	20173

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: SP-4
Project: Lateral K-31 North
Collection Date: 7/8/2015 4:35:00 PM
Lab ID: 1507344-004
Matrix: SOIL
Received Date: 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2015 5:37:24 PM	20177
Surr: DNOP	105	57.9-140		%REC	1	7/10/2015 5:37:24 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/10/2015 1:20:59 PM	20173
Surr: BFB	91.2	75.4-113		%REC	1	7/10/2015 1:20:59 PM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	7/10/2015 1:20:59 PM	20173
Toluene	ND	0.047		mg/Kg	1	7/10/2015 1:20:59 PM	20173
Ethylbenzene	ND	0.047		mg/Kg	1	7/10/2015 1:20:59 PM	20173
Xylenes, Total	ND	0.095		mg/Kg	1	7/10/2015 1:20:59 PM	20173
Surr: 4-Bromofluorobenzene	95.7	80-120		%REC	1	7/10/2015 1:20:59 PM	20173

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507344**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 North

Sample ID **MB-20177**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20177**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		112	57.9	140			

Sample ID **LCS-20177**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20177**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	57.4	139			
Surr: DNOP	4.6		5.000		92.2	57.9	140			

Sample ID **LCS-20189**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20189**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822697** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		113	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507344**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 North

Sample ID **MB-20173**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822735** 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		89.3	75.4	113			

Sample ID **LCS-20173**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822736** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.2	64	130			
Surr: BFB	960		1000		95.9	75.4	113			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507344**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 North

Sample ID **MB-20173**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822778** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID **LCS-20173**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822779** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	76.6	128			
Toluene	0.98	0.050	1.000	0	97.6	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	102	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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

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: 1507344 | RcptNo: 1

Received by/date: 07/09/15

Logged By: Lindsay Mangin 7/9/2015 7:00:00 AM

Completed By: Lindsay Mangin 7/9/2015 7:51:57 AM

Reviewed By: 07/09/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec, NM

Project Manager: HWOods

Laboratory: Hall Environmental

Address: Albuquerque, NM

Contact: Andy Freeman

Phone:

PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 3.3

1 | 2 | 3 | 4 | 5

Page 1 of 1

Sampler's Name: RaneeDeechilly

Sampler's Signature: RaneeDeechilly

Proj. No.

Project Name: Lateral X-31 ~~(HW)~~ North

No/Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Li.	250 ml	Glass Jar	P/O	8021 BTEX	8015 TPH GRO/DRO	Lab Sample ID (Lab Use Only)
S	7/8/15	1620			SP-1								X	X	1507344-001
S	7/8/15	1625			SP-2								X	X	-002
S	7/8/15	1630			SP-3								X	X	-003
S	7/8/15	1635			SP-4								X	X	-004

Turn around time: ☐ Normal ☐ 25% Rush ☒ 50% Rush ☐ 100% Rush Results by 7/13/15

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
RaneeDeechilly	7/8/15	1915	[signature]	7/8/15	1915
[signature]	7/8/15	2010	[signature]	7/8/15	2010
[signature]	7/8/15	2030	[signature]	07/8/15	0700
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
Bill to Enterprise
Attn: Tom Long / Johnny Sandoval

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

January 18, 2016

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

RE: Lateral K-31 North OrderNo.: 1511A09

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/21/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 01, 2015.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: S-1
Project: Lateral K-31 North
Collection Date: 11/18/2015 3:45:00 PM
Lab ID: 1511A09-001
Matrix: SOIL
Received Date: 11/21/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/25/2015 10:43:40 AM	22508
Surr: DNOP	93.4	70-130		%REC	1	11/25/2015 10:43:40 AM	22508
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/24/2015 1:55:59 PM	22473
Surr: BFB	82.8	66.2-112		%REC	1	11/24/2015 1:55:59 PM	22473
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	11/24/2015 1:55:59 PM	22473
Toluene	ND	0.049		mg/Kg	1	11/24/2015 1:55:59 PM	22473
Ethylbenzene	ND	0.049		mg/Kg	1	11/24/2015 1:55:59 PM	22473
Xylenes, Total	ND	0.097		mg/Kg	1	11/24/2015 1:55:59 PM	22473
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	11/24/2015 1:55:59 PM	22473

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: S-2
Project: Lateral K-31 North
Collection Date: 11/18/2015 4:00:00 PM
Lab ID: 1511A09-002
Matrix: SOIL
Received Date: 11/21/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/25/2015 11:48:47 AM	22508
Surr: DNOP	101	70-130		%REC	1	11/25/2015 11:48:47 AM	22508
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/24/2015 2:20:36 PM	22473
Surr: BFB	82.7	66.2-112		%REC	1	11/24/2015 2:20:36 PM	22473
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	11/24/2015 2:20:36 PM	22473
Toluene	ND	0.047		mg/Kg	1	11/24/2015 2:20:36 PM	22473
Ethylbenzene	ND	0.047		mg/Kg	1	11/24/2015 2:20:36 PM	22473
Xylenes, Total	ND	0.094		mg/Kg	1	11/24/2015 2:20:36 PM	22473
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	11/24/2015 2:20:36 PM	22473

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511A09**

18-Jan-16

Client: APEX TITAN

Project: Lateral K-31 North

Sample ID **MB-22508**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **22508**	RunNo: **30480**
Prep Date: **11/24/2015**	Analysis Date: **11/25/2015**	SeqNo: **930408** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		117	70	130			

Sample ID **LCS-22508**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **22508**	RunNo: **30480**
Prep Date: **11/24/2015**	Analysis Date: **11/25/2015**	SeqNo: **930409** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	57.4	139			
Surr: DNOP	5.6		5.000		112	70	130			

Sample ID **1511A09-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **22508**	RunNo: **30480**
Prep Date: **11/24/2015**	Analysis Date: **11/25/2015**	SeqNo: **930428** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	49.80	0	99.1	31.2	162			
Surr: DNOP	5.4		4.980		108	70	130			

Sample ID **1511A09-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **22508**	RunNo: **30480**
Prep Date: **11/24/2015**	Analysis Date: **11/25/2015**	SeqNo: **930663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.7	48.45	0	101	31.2	162	0.497	31.7	
Surr: DNOP	4.9		4.845		102	70	130	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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511A09**

18-Jan-16

Client: APEX TITAN
Project: Lateral K-31 North

Sample ID **MB-22473**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID: **PBS**	Batch ID: **22473**			RunNo: **30448**					
Prep Date: **11/23/2015**	Analysis Date: **11/24/2015**			SeqNo: **929762**		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		88.8	66.2	112			

Sample ID **LCS-22473**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID: **LCSS**	Batch ID: **22473**			RunNo: **30448**					
Prep Date: **11/23/2015**	Analysis Date: **11/24/2015**			SeqNo: **929763**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	79.6	122			
Surr: BFB	1000		1000		104	66.2	112			

Sample ID **5ML RB**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID: **PBS**	Batch ID: **A30448**			RunNo: **30448**					
Prep Date:	Analysis Date: **11/24/2015**			SeqNo: **929783**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	760		1000		76.4	66.2	112			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID: **LCSS**	Batch ID: **A30448**			RunNo: **30448**					
Prep Date:	Analysis Date: **11/24/2015**			SeqNo: **929784**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	66.2	112			

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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511A09**

18-Jan-16

Client: APEX TITAN
Project: Lateral K-31 North

Sample ID **MB-22473**	SampType: **MBLK**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID: **PBS**	Batch ID: **22473**			RunNo: **30448**					
Prep Date: **11/23/2015**	Analysis Date: **11/24/2015**			SeqNo: **929804**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		117	80	120			

Sample ID **LCS-22473**	SampType: **LCS**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID: **LCSS**	Batch ID: **22473**			RunNo: **30448**					
Prep Date: **11/23/2015**	Analysis Date: **11/24/2015**			SeqNo: **929816**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.2	80	120			
Toluene	0.93	0.050	1.000	0	93.1	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.0	80	120			
Surr: 4-Bromofluorobenzene	1.4		1.000		137	80	120			S

Sample ID **5ML RB**	SampType: **MBLK**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID: **PBS**	Batch ID: **B30448**			RunNo: **30448**					
Prep Date:	Analysis Date: **11/24/2015**			SeqNo: **929827**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**			TestCode: **EPA Method 8021B: Volatiles**					
Client ID: **LCSS**	Batch ID: **B30448**			RunNo: **30448**					
Prep Date:	Analysis Date: **11/24/2015**			SeqNo: **929828**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

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: 1511A09 | RcptNo: 1

Received by/date: KM 11/21/15

Logged By: Ashley Gallegos 11/21/2015 8:30:00 AM AG

Completed By: Ashley Gallegos 11/23/2015 12:03:13 PM AG

Reviewed By: CS 11/23/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec, NM

Project Manager: K. Summers

Laboratory: Hall Environmental

Address: Albuquerque, NM

Contact: A. Freeman

Phone:

PO/SO #: 725041501 7

Sampler's Name: Ranse Deechilly

Sampler's Signature: Ranse Deechilly

Proj. No.: 725041501 7

Project Name: Lateral K-31 North ~~(Jan 2015)~~ mod/18

No/Type of Containers

ANALYSIS REQUESTED: 8021 BTEX; 8015 TPH GRO/DRO

Lab use only
Due Date:

Temp. of coolers when received (C°): 1, 2

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 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	11/18/15	1545			S-1						1		X X 1511A09-001
S	11/18/15	1600			S-2						1		X X -002

NFS

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ranse Deechilly	11/20/15	1548	Mista Walker	11/20/15	1548
Mista Walker	11/20/15	1747		11/21/15	0830

NOTES:

Bill to Tom Long
Non AFE N20590

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

December 30, 2015

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

RE: Lateral K-31 (2015) OrderNo.: 1512A12

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/22/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 30, 2015.

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 **1512A12**
Date Reported: **12/30/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: S3-6
Project: Lateral K-31 (2015)
Collection Date: 12/18/2015 12:10:00 PM
Lab ID: 1512A12-001
Matrix: SOIL
Received Date: 12/22/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/28/2015 2:07:28 PM	22934
Surr: DNOP	87.0	70-130		%REC	1	12/28/2015 2:07:28 PM	22934
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/24/2015 11:33:17 AM	22945
Surr: BFB	82.7	66.2-112		%REC	1	12/24/2015 11:33:17 AM	22945
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/24/2015 11:33:17 AM	22945
Toluene	ND	0.047		mg/Kg	1	12/24/2015 11:33:17 AM	22945
Ethylbenzene	ND	0.047		mg/Kg	1	12/24/2015 11:33:17 AM	22945
Xylenes, Total	ND	0.094		mg/Kg	1	12/24/2015 11:33:17 AM	22945
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	12/24/2015 11:33:17 AM	22945

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31 (2015)
Lab ID: 1512A12-002 **Matrix:** SOIL

Client Sample ID: S4-6
Collection Date: 12/18/2015 1:45:00 PM
Received Date: 12/22/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/28/2015 2:29:15 PM	22934
Surr: DNOP	92.5	70-130		%REC	1	12/28/2015 2:29:15 PM	22934
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/24/2015 12:46:47 PM	22945
Surr: BFB	81.9	66.2-112		%REC	1	12/24/2015 12:46:47 PM	22945
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	12/24/2015 12:46:47 PM	22945
Toluene	ND	0.048		mg/Kg	1	12/24/2015 12:46:47 PM	22945
Ethylbenzene	ND	0.048		mg/Kg	1	12/24/2015 12:46:47 PM	22945
Xylenes, Total	ND	0.096		mg/Kg	1	12/24/2015 12:46:47 PM	22945
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	12/24/2015 12:46:47 PM	22945

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31 (2015)
Lab ID: 1512A12-003 **Matrix:** SOIL

Client Sample ID: S5-6
Collection Date: 12/21/2015 10:35:00 AM
Received Date: 12/22/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/28/2015 2:51:02 PM	22934
Surr: DNOP	88.3	70-130		%REC	1	12/28/2015 2:51:02 PM	22934
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/24/2015 2:00:26 PM	22945
Surr: BFB	70.6	66.2-112		%REC	1	12/24/2015 2:00:26 PM	22945
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/24/2015 2:00:26 PM	22945
Toluene	ND	0.047		mg/Kg	1	12/24/2015 2:00:26 PM	22945
Ethylbenzene	ND	0.047		mg/Kg	1	12/24/2015 2:00:26 PM	22945
Xylenes, Total	ND	0.094		mg/Kg	1	12/24/2015 2:00:26 PM	22945
Surr: 4-Bromofluorobenzene	86.4	80-120		%REC	1	12/24/2015 2:00:26 PM	22945

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31 (2015)
Lab ID: 1512A12-004 **Matrix:** SOIL

Client Sample ID: S6-6
Collection Date: 12/21/2015 11:30:00 AM
Received Date: 12/22/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/28/2015 3:12:39 PM	22934
Surr: DNOP	88.6	70-130		%REC	1	12/28/2015 3:12:39 PM	22934
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/24/2015 2:24:57 PM	22945
Surr: BFB	83.4	66.2-112		%REC	1	12/24/2015 2:24:57 PM	22945
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	12/24/2015 2:24:57 PM	22945
Toluene	ND	0.046		mg/Kg	1	12/24/2015 2:24:57 PM	22945
Ethylbenzene	ND	0.046		mg/Kg	1	12/24/2015 2:24:57 PM	22945
Xylenes, Total	ND	0.093		mg/Kg	1	12/24/2015 2:24:57 PM	22945
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	12/24/2015 2:24:57 PM	22945

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: S7-6
Project: Lateral K-31 (2015)
Collection Date: 12/21/2015 12:25:00 PM
Lab ID: 1512A12-005 **Matrix:** SOIL **Received Date:** 12/22/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/28/2015 3:34:19 PM	22934
Surr: DNOP	93.8	70-130		%REC	1	12/28/2015 3:34:19 PM	22934
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/24/2015 2:49:24 PM	22945
Surr: BFB	84.6	66.2-112		%REC	1	12/24/2015 2:49:24 PM	22945
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/24/2015 2:49:24 PM	22945
Toluene	ND	0.049		mg/Kg	1	12/24/2015 2:49:24 PM	22945
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2015 2:49:24 PM	22945
Xylenes, Total	ND	0.098		mg/Kg	1	12/24/2015 2:49:24 PM	22945
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	12/24/2015 2:49:24 PM	22945

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A12**

31-Dec-15

Client: APEX TITAN

Project: Lateral K-31 (2015)

Sample ID **MB-22934**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **22934**			RunNo: **31075**					
Prep Date: **12/23/2015**	Analysis Date: **12/28/2015**			SeqNo: **950854**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.7		10.00		87.0	70	130			

Sample ID **LCS-22934**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **22934**			RunNo: **31075**					
Prep Date: **12/23/2015**	Analysis Date: **12/28/2015**			SeqNo: **950855**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.2	65.8	136			
Surr: DNOP	5.0		5.000		99.6	70	130			

Sample ID **LCS-22933**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **22933**			RunNo: **31069**					
Prep Date: **12/23/2015**	Analysis Date: **12/28/2015**			SeqNo: **950983**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		5.000		104	70	130			

Sample ID **MB-22969**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **22969**			RunNo: **31107**					
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**			SeqNo: **951981**		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-22969**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **22969**			RunNo: **31107**					
Prep Date: **12/28/2015**	Analysis Date: **12/29/2015**			SeqNo: **951987**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.1	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A12**

31-Dec-15

Client: APEX TITAN

Project: Lateral K-31 (2015)

Sample ID **MB-22945**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950266** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	820		1000		81.7	66.2	112			

Sample ID **LCS-22945**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	79.6	122			
Surr: BFB	910		1000		90.7	66.2	112			

Sample ID **1512A12-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S4-6**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950270** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.18	0	114	62.5	151			
Surr: BFB	940		967.1		97.2	66.2	112			

Sample ID **1512A12-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S4-6**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950271** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	24.08	0	119	62.5	151	4.15	22.1	
Surr: BFB	960		963.4		99.2	66.2	112	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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A12**

31-Dec-15

Client: APEX TITAN

Project: Lateral K-31 (2015)

Sample ID **MB-22945**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950286** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID **LCS-22945**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950305** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S

Sample ID **1512A12-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S3-6**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.047	0.9381	0	105	69.6	136			
Toluene	1.1	0.047	0.9381	0	113	76.2	134			
Ethylbenzene	1.1	0.047	0.9381	0	116	75.8	137			
Xylenes, Total	3.3	0.094	2.814	0	119	78.9	133			
Surr: 4-Bromofluorobenzene	1.2		0.9381		123	80	120			S

Sample ID **1512A12-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S3-6**	Batch ID: **22945**	RunNo: **31062**
Prep Date: **12/23/2015**	Analysis Date: **12/24/2015**	SeqNo: **950312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.047	0.9390	0	101	69.6	136	3.44	20	
Toluene	1.0	0.047	0.9390	0	110	76.2	134	2.32	20	
Ethylbenzene	1.1	0.047	0.9390	0	113	75.8	137	2.87	20	
Xylenes, Total	3.2	0.094	2.817	0	115	78.9	133	3.08	20	
Surr: 4-Bromofluorobenzene	1.1		0.9390		120	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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A12**

31-Dec-15

Client: APEX TITAN

Project: Lateral K-31 (2015)

Sample ID	**MB-22951**	SampType:	**MBLK**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**PBS**	Batch ID:	**22951**		RunNo:	**31062**				
Prep Date:	**12/23/2015**	Analysis Date:	**12/24/2015**		SeqNo:	**950330**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	**LCS-22951**	SampType:	**LCS**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**LCSS**	Batch ID:	**22951**		RunNo:	**31062**				
Prep Date:	**12/23/2015**	Analysis Date:	**12/24/2015**		SeqNo:	**950331**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		119	80	120			

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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

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: 1512A12 RcptNo: 1

Received by/date: CM 12/22/15

Logged By: Anne Thorne 12/22/2015 7:45:00 AM

Completed By: Anne Thorne 12/22/2015

Reviewed By: MJ 12/22/15

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ 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	1.2	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec, NM

Project Manager: K. Summers

Laboratory: Hall Environmental

Address: Albuquerque, N.M

Contact: Andy Freeman

Phone:

PO/SO #: ~~2504150~~

Sampler's Name: Chad D'Apponti

Sampler's Signature:

Proj. No.: 25041507

Project Name: Lateral K-31 (2015)

No/Type of Containers

ANALYSIS REQUESTED: BTEX 8021 / TPH GRO / DRO 8015

Lab use only
Due Date:

Temp. of coolers when received (C°): 1, 2

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 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	12-18-15	12:10			S3-6						1		1512A12 001
S	12-18-15	13:45			S4-6						1		002
S	12-2-15	10:35			S5-6						1		003
S	12-2-15	11:30			S6-6						1		004
S	12-2-15	12:25			S7-6						1		005

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	12-2-15	15:38		12/2/15	1535
	12/2/15	1814		12/2/15	0724

NOTES:
Bill to Enterprise
TOM Long
Non-AFE # N20590

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

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 13, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (505) 716-2787
FAX

RE: Lateral K-31 South

OrderNo.: 1507343

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/9/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1507343**
Date Reported: **7/13/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31 South
Lab ID: 1507343-001 **Matrix:** SOIL

Client Sample ID: SP-1
Collection Date: 7/8/2015 2:20:00 PM
Received Date: 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2015 12:54:00 PM	20177
Surr: DNOP	109	57.9-140		%REC	1	7/10/2015 12:54:00 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/10/2015 10:57:07 AM	20173
Surr: BFB	91.0	75.4-113		%REC	1	7/10/2015 10:57:07 AM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	7/10/2015 10:57:07 AM	20173
Toluene	ND	0.047		mg/Kg	1	7/10/2015 10:57:07 AM	20173
Ethylbenzene	ND	0.047		mg/Kg	1	7/10/2015 10:57:07 AM	20173
Xylenes, Total	ND	0.094		mg/Kg	1	7/10/2015 10:57:07 AM	20173
Surr: 4-Bromofluorobenzene	97.9	80-120		%REC	1	7/10/2015 10:57:07 AM	20173

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: SP-2
Project: Lateral K-31 South
Collection Date: 7/8/2015 2:25:00 PM
Lab ID: 1507343-002
Matrix: SOIL
Received Date: 7/9/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2015 1:15:32 PM	20177
Surr: DNOP	106	57.9-140		%REC	1	7/10/2015 1:15:32 PM	20177
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/10/2015 11:25:49 AM	20173
Surr: BFB	90.6	75.4-113		%REC	1	7/10/2015 11:25:49 AM	20173
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	7/10/2015 11:25:49 AM	20173
Toluene	ND	0.049		mg/Kg	1	7/10/2015 11:25:49 AM	20173
Ethylbenzene	ND	0.049		mg/Kg	1	7/10/2015 11:25:49 AM	20173
Xylenes, Total	ND	0.097		mg/Kg	1	7/10/2015 11:25:49 AM	20173
Surr: 4-Bromofluorobenzene	95.9	80-120		%REC	1	7/10/2015 11:25:49 AM	20173

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507343**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 South

Sample ID **MB-20177**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **20177**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		112	57.9	140			

Sample ID **LCS-20177**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20177**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	57.4	139			
Surr: DNOP	4.6		5.000		92.2	57.9	140			

Sample ID **LCS-20189**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **20189**	RunNo: **27406**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822697** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		113	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507343**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 South

Sample ID **MB-20173**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822735** 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		89.3	75.4	113			

Sample ID **LCS-20173**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822736** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.2	64	130			
Surr: BFB	960		1000		95.9	75.4	113			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507343**

13-Jul-15

Client: APEX TITAN

Project: Lateral K-31 South

Sample ID **MB-20173**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822778** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID **LCS-20173**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **20173**	RunNo: **27422**
Prep Date: **7/9/2015**	Analysis Date: **7/10/2015**	SeqNo: **822779** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	76.6	128			
Toluene	0.98	0.050	1.000	0	97.6	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	102	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: APEX AZTEC | Work Order Number: 1507343 | RcptNo: 1

Received by/date: 07/09/15

Logged By: Lindsay Mangin 7/9/2015 7:00:00 AM

Completed By: Lindsay Mangin 7/9/2015 7:48:47 AM

Reviewed By: 07/09/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec, NM

Project Manager: H. Woods

Laboratory: Hall Environmental

Address: Albuquerque, NM

Contact: Andy Freeman

Phone:

PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 3, 3

1	2	3	4	5

Page 1 of 1

Sampler's Name: Ranae Deechilly

Sampler's Signature: Ranae Deechilly

Proj. No.

Project Name: HW Lateral K-31 [redacted] South

No/Type of Containers

ANALYSIS REQUESTED: 8021 BTEX; 8015 TPH GRO/DRO

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L.	250 ml	Glass Jar	P/O											Lab Sample ID (Lab Use Only)
S	7/8/15	1420			SP-1								X	X									1507343-001
S	7/8/15	1425			SP-2								X	X									-002

Turn around time: ☐ Normal ☐ 25% Rush ☒ 50% Rush ☐ 100% Rush Results by 7/13/15

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ranae Deechilly	7/8/15	1915	Heather Woods	7/8/15	1915
Heather M. Woods	7/8/15	2010	Misty Wells	7/8/15	2010
Mint Jaet	7/8/15	2030	[redacted]	07/09/15	0700
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:

Bill to Enterprise
Attn: Tom Long / Johnny Sandoval

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

October 07, 2015

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

RE: Lateral K-31 OrderNo.: 1509C38

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/25/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31
Lab ID: 1509C38-001 **Matrix:** SOIL

Client Sample ID: S-1@7'
Collection Date: 9/18/2015 12:00:00 PM
Received Date: 9/25/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/30/2015 10:36:18 PM	21554
Surr: DNOP	110	57.9-140		%REC	1	9/30/2015 10:36:18 PM	21554
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/30/2015 12:04:24 PM	21562
Surr: BFB	87.1	75.4-113		%REC	1	9/30/2015 12:04:24 PM	21562
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	9/30/2015 12:04:24 PM	21562
Toluene	ND	0.047		mg/Kg	1	9/30/2015 12:04:24 PM	21562
Ethylbenzene	ND	0.047		mg/Kg	1	9/30/2015 12:04:24 PM	21562
Xylenes, Total	ND	0.093		mg/Kg	1	9/30/2015 12:04:24 PM	21562
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/30/2015 12:04:24 PM	21562

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31
Lab ID: 1509C38-002 **Matrix:** SOIL

Client Sample ID: S-2@7'
Collection Date: 9/18/2015 12:05:00 PM
Received Date: 9/25/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/30/2015 10:58:01 PM	21554
Surr: DNOP	107	57.9-140		%REC	1	9/30/2015 10:58:01 PM	21554
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/30/2015 1:13:55 PM	21562
Surr: BFB	86.7	75.4-113		%REC	1	9/30/2015 1:13:55 PM	21562
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	9/30/2015 1:13:55 PM	21562
Toluene	ND	0.046		mg/Kg	1	9/30/2015 1:13:55 PM	21562
Ethylbenzene	ND	0.046		mg/Kg	1	9/30/2015 1:13:55 PM	21562
Xylenes, Total	ND	0.093		mg/Kg	1	9/30/2015 1:13:55 PM	21562
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/30/2015 1:13:55 PM	21562

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31
Lab ID: 1509C38-003 **Matrix:** SOIL

Client Sample ID: S-3@7'
Collection Date: 9/18/2015 12:10:00 PM
Received Date: 9/25/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/30/2015 11:19:44 PM	21554
Surr: DNOP	108	57.9-140		%REC	1	9/30/2015 11:19:44 PM	21554
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/30/2015 2:23:38 PM	21562
Surr: BFB	86.7	75.4-113		%REC	1	9/30/2015 2:23:38 PM	21562
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	9/30/2015 2:23:38 PM	21562
Toluene	ND	0.046		mg/Kg	1	9/30/2015 2:23:38 PM	21562
Ethylbenzene	ND	0.046		mg/Kg	1	9/30/2015 2:23:38 PM	21562
Xylenes, Total	ND	0.093		mg/Kg	1	9/30/2015 2:23:38 PM	21562
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/30/2015 2:23:38 PM	21562

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31
Lab ID: 1509C38-004
Matrix: SOIL
Client Sample ID: S-4@6'
Collection Date: 9/18/2015 12:15:00 PM
Received Date: 9/25/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/30/2015 11:41:34 PM	21554
Surr: DNOP	107	57.9-140		%REC	1	9/30/2015 11:41:34 PM	21554
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/30/2015 2:46:51 PM	21562
Surr: BFB	85.8	75.4-113		%REC	1	9/30/2015 2:46:51 PM	21562
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	9/30/2015 2:46:51 PM	21562
Toluene	ND	0.047		mg/Kg	1	9/30/2015 2:46:51 PM	21562
Ethylbenzene	ND	0.047		mg/Kg	1	9/30/2015 2:46:51 PM	21562
Xylenes, Total	ND	0.093		mg/Kg	1	9/30/2015 2:46:51 PM	21562
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	9/30/2015 2:46:51 PM	21562

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Lateral K-31
Lab ID: 1509C38-005 **Matrix:** SOIL

Client Sample ID: S-5@6'
Collection Date: 9/18/2015 12:20:00 PM
Received Date: 9/25/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/1/2015 12:03:16 AM	21554
Surr: DNOP	110	57.9-140		%REC	1	10/1/2015 12:03:16 AM	21554
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/30/2015 3:10:05 PM	21562
Surr: BFB	86.5	75.4-113		%REC	1	9/30/2015 3:10:05 PM	21562
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.046		mg/Kg	1	9/30/2015 3:10:05 PM	21562
Toluene	ND	0.046		mg/Kg	1	9/30/2015 3:10:05 PM	21562
Ethylbenzene	ND	0.046		mg/Kg	1	9/30/2015 3:10:05 PM	21562
Xylenes, Total	ND	0.093		mg/Kg	1	9/30/2015 3:10:05 PM	21562
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/30/2015 3:10:05 PM	21562

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1509C38**

07-Oct-15

Client: APEX TITAN

Project: Lateral K-31

Sample ID **MB-21554**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **21554**	RunNo: **29205**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887145** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.6		10.00		95.8	57.9	140			

Sample ID **LCS-21554**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **21554**	RunNo: **29205**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887161** 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	91.7	57.4	139			
Surr: DNOP	5.0		5.000		99.4	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1509C38**

07-Oct-15

Client: APEX TITAN
Project: Lateral K-31

Sample ID **MB-21562**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887525** 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	850		1000		85.5	75.4	113			

Sample ID **LCS-21562**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887526** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.1	79.6	122			
Surr: BFB	920		1000		92.4	75.4	113			

Sample ID **1509C38-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-1@7'**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887529** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.26	0	119	62.5	151			
Surr: BFB	890		930.2		95.4	75.4	113			

Sample ID **1509C38-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-1@7'**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887530** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.28	0	115	62.5	151	2.78	22.1	
Surr: BFB	890		931.1		95.5	75.4	113	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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1509C38**

07-Oct-15

Client: APEX TITAN
Project: Lateral K-31

Sample ID **MB-21562**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **LCS-21562**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	0.98	0.050	1.000	0	97.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID **1509C38-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-2@7'**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887604** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.046	0.9285	0	96.6	69.6	136			
Toluene	0.91	0.046	0.9285	0	98.1	76.2	134			
Ethylbenzene	0.95	0.046	0.9285	0	103	75.8	137			
Xylenes, Total	2.9	0.093	2.786	0	103	78.9	133			
Surr: 4-Bromofluorobenzene	1.0		0.9285		110	80	120			

Sample ID **1509C38-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-2@7'**	Batch ID: **21562**	RunNo: **29220**
Prep Date: **9/29/2015**	Analysis Date: **9/30/2015**	SeqNo: **887605** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.046	0.9294	0	106	69.6	136	9.80	20	
Toluene	1.0	0.046	0.9294	0	108	76.2	134	9.23	20	
Ethylbenzene	1.0	0.046	0.9294	0	110	75.8	137	7.40	20	
Xylenes, Total	3.1	0.093	2.788	0	111	78.9	133	7.64	20	
Surr: 4-Bromofluorobenzene	1.0		0.9294		110	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
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

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: 1509C38 | RcptNo: 1

Received by/date: LM 09/25/15

Logged By: Celina Sessa 9/25/2015 7:30:00 AM Celina Sessa

Completed By: Celina Sessa 9/25/2015 12:55:46 PM Celina Sessa

Reviewed By: 09/29/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location: Aztec, NM

Project Manager: K. Summers

Laboratory: Hall Environmental

Address: Albuquerque, NM

Contact: Andy Freeman

Phone:

PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 3.8-1.0 = 2.8

1 | 2 | 3 | 4 | 5

Page 1 of 1

Sampler's Name: Rance Deechilly

Sampler's Signature: Rance Deechilly

Proj. No.

Project Name: Lateral K-31

No/Type of Containers

ANALYSIS REQUESTED: 8021 BTEX; 8015 TPH GRO/DRO

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	9/18/15	1200			S-1 @ 7'						1		1509C38-001
S	9/18/15	1205			S-2 @ 7'						1		-002
S		1210			S-3 @ 7'						1		-003
S		1215			S-4 @ 6'						1		-004
S	↓	1220			S-5 @ 6'						1		-005

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Rance Deechilly	9/23	0730		9/23/15	0730
	9/24/15	745	Mistie Wolz	9/24/15	745
Mistie Wolz	9/24/15	2047		9/25/15	0730

NOTES:

Bill to Tom Long
Non AFE # N22228

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