From:	andrew@rthicksconsult.com
То:	Yu, Olivia, EMNRD; stucker@blm.gov; "Mann, Ryan"
Cc:	Hernandez, Christina, EMNRD; "David Harwell"; r@rthicksconsult.com
Subject:	[EXT] RE: status of Advance Energy releases
Date:	Thursday, November 8, 2018 3:54:56 PM
Attachments:	Nov 8 2018 Excavation Update Compiled.pdf

Ms. Yu:

Attached is a summary of activities at Advance Energy with the exception of the Coop State location. We are currently cleaning up the excavations and getting ready to line and backfill over the next few days. Mr. Harwell is in communication with the surface owners (Merchant) and will provide you an agreement from the Merchant's.

At the Coops State location we began excavation of a 30x30x1.d foot area. I will resume characterization on Monday. I believe another ½ foot depth will remove visible hydrocarbon impairment. I will vertically delineate with a backhoe to the extent practicable without having to mobilize a drill rig. Pending analytical results, we will determine if further vertical characterization will be necessary.

Andrew Parker R.T. Hicks Consultants Durango Field Office Cell: (970) 570-9535

From: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Sent: Thursday, November 8, 2018 2:34 PM
To: 'Andrew Parker' <andrew@rthicksconsult.com>; stucker@blm.gov; Mann, Ryan
<rmann@slo.state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>
Subject: status of Advance Energy releases

Mr. Parker:

On Friday afternoon, November 2, 2018, we discussed on the phone about the statuses of Advance Energy projects. In order for everyone to be on the same page with the properly communicated information, please provide a written summary for the below projects as you had mentioned:

1RP-4821 Coop State 1RP-4778 Tomahawk 1RP-4953 Merchant Dagger frac line.

During the phone conversation, you had mentioned that the East of Battle 34 area of 1RP-4953 has been delineated and that a liner at 4 ft. bgs will be proposed as part of the remedial activities. Correct? Hicks Consultants will inform Advanced Energy that any liner requirement for impacted soil that is below 19.15.29 NMAC remediation levels for closure must be discussed with Mr. Blevins. Thanks,

Olivia Yu Environmental Specialist NMOCD, District I <u>Olivia.yu@state.nm.us</u> 575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

# R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996 Artesia ▲ Carlsbad ▲ Durango ▲ Midland

November 8, 2018

Mr. David Harwell ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd. STE 950 Houston, TX 77077 Via Email

RE: Excavation Results and Path Forward Advance Energy – Merchant Containment/Merchant State 503H Release(s) **1RP-4953** Battle 34 East of Battle 34 Latitude 32 26 50 West of Merchant **1RP-4778** Tomahawk SWD

Dear Mr. Harwell:

From October 26 through Nov 8, 2018, RT Hicks Consultants worked with Storm Construction to finalize excavation extents for the above referenced sites. Figure 1 shows the sites relative to each other.

Horizontal extents were determined by field chloride titrations and laboratory confirmation. Horizontal extent was considered complete when the upper 4-feet of the soil column showed less than 600 mg/kg chloride verified by laboratory confirmation. One area requires additional laboratory confirmation prior to final backfilling. The areas is the north wall at E. of Battle 34, southeast excavation. Today, the north wall of the southeast excavation was extended to the top of the earth berm along the northern caliche lease road. Samples will be collected from the northern wall for laboratory confirmation.

Vertical extent was determined by backhoe bucket refusal due to the underlying very hard caliche. The back bucket was able to penetrate the caliche only about 3-inches before complete refusal. Refusal was typically 4 to 4.5 feet below ground surface.

According to the recently revised spill rule (NMAC 19.15.29) for areas "in-use" chloride concentration can be 20,000 mg/kg at any depth where groundwater is greater than 100 feet below the release. Groundwater at the site is greater than 100 feet. For areas "no longer in-use", the upper 4-feet must contain 600 mg/kg chloride or less.

Below is a summary of excavation delineation results followed by laboratory Certificate of Analysis of recent sampling. Please refer to past reports for full analytical and past trench and soil boring locations.

A complete closure report showing all sampling locations and results will be submitted to NMOCD upon completion of backfilling.

# Battle 34 & East of Battle 34

Figure 2 is a map showing excavation extents. Below is a table showing chloride concentrations.

Location		Depth (ft)	Chloride	Chloride	Delineated
			Titration	Lab	
Battle 34					
Excavation					Yes - all
	North	0-4.5		208	
	South	0-4.5		48	
	East	0-4.5		32	
	West	0-4.5		240	
	Base	4.5		240	
Marathon Road	2-foot depth				Yes - "in use"
	Wall (0-100)	0-2		688	
	Base (0-100)	2	2938	3800	Liner
	Wall (100-200)	0-2		608	
	Base (100-200)	2	2594	3320	Liner
	Wall (200-270)	0-2		800	
	Base (200-270)	2	1655	1680	Liner
	S. Wall	0-2		432	+300ft
	N. Wall	0-2		272	Yes
Boring	T2	3.5		432	Yes
Boring	T2	4.5		496	Yes
E. of Battle 34					
SW Excavation					Yes - all
	North	0-4		64	
	South	0-4		32	
	East	0-4		48	
	West	0-4		<16	
	Base	4		32	
SE Excavation					See below
	North	0-4		Pending	Excavated to berm on road
	South	0-4		400	Yes
	East	0-4		80	Yes
	West	0-4		208	Yes
	Base	4		1157	Liner

## Battle 34

Battle 34 excavation is delineated. Remaining soil will be removed and backfilled with clean fill. The Marathon road defined as "in-use" meets closure limits of NMAC 19.15.29. Surface owner agreements may require placing a liner at the base of the road excavation. Placing a liner at the base of the excavation would reduce vertical migration of chlorides. Borehole data near the south end showed chloride below 600 mg/kg at 3.5 and 4.5 feet depth (see previous reports).

## East of Battle 34

The southwest excavation delineation is complete. The northern extent is excavated to the top of the berm associated with the East-West lease road. Laboratory confirmation of chloride concentrations are pending.

Vertical extent refusal was encountered at 4-feet at the interface of the underlying caliche. Chloride is greater than 600 mg/kg, therefore, a liner is recommended at the base to prevent vertical migration of chloride.

# Latitude 32 26 50

Figure 3 is a map showing the excavation extent. The layflat was rerouted and the north and south excavations have been merged into one continuous excavation. The northern extent was extended to the top of the berm associated with the East-West lease. Surface owner agreements may require placing a liner at the base of the excavation. Hard caliche was encountered at 4 to 5 feet below ground surface.

Location		Depth (ft)	Chloride	Chloride	Delineated
			Titration	Lab	
Latitude 32					
South of Layflat					See below
	South	0-4.5		400	Yes
	East	0-4.5		32	Yes
	West	0-4.5		48	Yes
	Base	5	2750	2872	Liner
North of Layflat					See below
	North	0-4	541	480	Road
	East	0-4.5	135	32	Yes
	West	0-4.5		80	Yes
	Base	4-5	874	1180	Liner

# West of Merchant

Figure 4 shows the extent of the north (west) and south (east) excavations. Both excavations are delineated. Remaining soil will be removed and backfilled with clean fill. Hard caliche was encountered at 4 and 4.5 feet below surface.

Location		Depth (ft)	Chloride	Delineated	Exca	avation	(ft)
					L (E-W)	W (N-S)	Depth
W. of Merchant							
North Excav				Yes - all	16	30	4.5
	North	0-4.5	<30				
	South	0-4.5	<30				
	East	0-4.5	81				
	West	0-4.5	<30				
	Base	4.5	<30				
South Excav				Yes - all	20	45	4
	North	0-4	80				
	South	0-4	45				
	East	0-4	120				
	West	0-4	35				
	Base	4	64				

## Tomahawk SWD

Figure 5 shows the excavation extent. Chloride concentrations in the upper 4 feet wall samples and below 4-feet base sample meet NMAC 19.15.29 closure limits. Hard caliche was encountered at 4.5 foot depth. Surface owner agreement may require a liner at the base of the excavation prior to backfilling with clean fill dirt.

Location		Depth (ft)	Chlorid e	Delineated	Exc	avation	ion (ft)	
					L (E-	W (N-	Dept	
					W)	S)	h	
Tomahawk								
Trench 1				Yes - ALL	50	25	4.5	
	North	0-4.5	160					
	South	0-4.5	64					
	East	0-4.5	208					
	West	0-4.5	32					
	Base	4.5	672	Liner				
Boring	12/5/2017	5	6,100					
Boring	8/8/2018	7	3,480					
Boring	8/8/2018	10	3,400					
Boring	12/5/2017	13	5,700					
Boring	8/8/2018	16	10,100					
Boring	8/8/2018	20	13,700					
Boring	8/8/2018	25	3,840					

Please contact me at 970-570-9535 with any questions.

Sincerely, R.T. Hicks Consultants, Ltd.

Andrew Parker Project Scientist

### M:\Advance Energy\PW Frac Releases\pitruleTemplate\Excavation Nov 2018\Figure 1 Overview.mxd



1RP-4953 & 1RP-4778

2018

### M:\Advance Energy\PW Frac Releases\pitruleTemplate\Excavation Nov 2018\Figure 2 Battle 34.mxd



### M:\Advance Energy\PW Frac Releases\pitruleTemplate\Excavation Nov 2018\Figure 3 Latitude.mxd



M:\Advance Energy\PW Frac Releases\pitruleTemplate\Excavation Nov 2018\Figure 4 W of Merchant.mxd



### M:\Advance Energy\PW Frac Releases\pitruleTemplate\Excavation Nov 2018\Figure 5 Tomahawk.mxd





<u>R.T. Hicks Consultants, Ltd</u> 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004

Excavation Extent Tomahawk SWD	Figure 5
Advanced Energy Partners Hat Mesa, LLC	November
1RP-4953 & 1RP-4778	2018



November 02, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 16:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	11/01/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SE EAST WALL (H803141-01)

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: SE EAST BASE (H803141-02)

Chloride, SM4500Cl-B	mg/kg		Analyze						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: SE WEST WALL (H803141-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: SE WEST BASE (H803141-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	11/02/2018	ND	432	108	400	0.00	

### **Cardinal Laboratories**

\*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

### Cardinal Laboratories

### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# 101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476



2.80

HA-

YO

\* Sample IDS Start w/ SE asper Andrews 11/2/18 Cle

Sampler - UPS - Bus - Other:



November 02, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 10/31/18 7:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SW BASE @ 3.5' (H803104-01)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 \$	69.8-14	2						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	91.2	% 41-142							
Surrogate: 1-Chlorooctadecane	95.4	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SW S. WALL (H803104-02)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.8	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	90.7	% 41-142	,						
Surrogate: 1-Chlorooctadecane	94.4	% 37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SW W. WALL (H803104-03)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	89.6	% 41-142	,						
Surrogate: 1-Chlorooctadecane	94.4	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SW E. WALL (H803104-04)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.7	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/31/2018	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	83.2	% 41-142	,						
Surrogate: 1-Chlorooctadecane	87.3	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SW N. WALL @ 0-4' (H803104-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/31/2018	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	88.8	% 41-142	,						
Surrogate: 1-Chlorooctadecane	92.8	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Sludge
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	EAST OF BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: SE BASE @ 3' (H803104-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	10/31/2018	ND	416	104	400	3.92	

### Sample ID: SE N. WALL (H803104-07)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	10/31/2018	ND	416	104	400	3.92	

### Sample ID: SE S. WALL (H803104-08)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	10/31/2018	ND	416	104	400	3.92	

### Sample ID: SE E. WALL (H803104-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	10/31/2018	ND	416	104	400	3.92	

### Sample ID: SE W. WALL (H803104-10)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	10/31/2018	ND	416	104	400	3.92	

### **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keene

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

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		iss of use, or loss of profits incurred by based upon any of the above stated re	struce. In the vents state calculate to include the trade of including without initiation, business interruptions, loss of use, or loss of ponts included by client, its subsidance, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, repardess of whether such claim is based upon any of the above stated reasons or otherwise.	ance of services hereunder by Car	affiliates or successors arising out of or related to the performance of	affiliates or successors aris
	id by the client for the er completion of the applicable	or tort, shall be limited to the amount pa received by Cardinal within 30 days after	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal writing and received by the cause whatsoever shall be deemed waived unless made in writing and received by Cardinal writing and received by the cause of the applicable deemed waived unless and the cause of the applicable deemed waived unless and the applicable d	d client's exclusive remedy for any ther cause whatsoever shall be de	nd Damages. Cardinal's liability an ng those for negligence and any of	PLEASE NOTE: Liability a analyses. All claims includi
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ANALYSIS REQUEST	A set of a first of the set of	BILL TO		Hicks Censultents	RT	Company Name:

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November 02, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	LATITUDE NORTH	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: N FLOWLINE WALL (H803140-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: N FLOWLINE BASE (H803140-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: EAST #2 WALL (H803140-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: WEST WALL (H803140-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/02/2018	ND	432	108	400	0.00	

### **Cardinal Laboratories**

\*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

### Cardinal Laboratories

### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Relinquished By:	Relinquished By	analyses. All claims including service. In no event shall Can affiliates or successors arising	PLEASE NOTE: Liability and			4	(1)	C	-	Lab I.D. 14803 140	FOR LAB USE ONLY	Sampler Name:	Project Location:	Project Name: /	Project #:	Phone #:	City:	Address: on	Project Manager:	Company Name:
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ndition CHECKED BY: ct (Initials) Yes 700	MANNAN	Relinquished By: I Date: I D	analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applical service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the				li-j	10-31	15-01	SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER : DATE	PRESERV. SAMPLING	Fax #:	Phone #:	State: Zip:	City:	Address:	Attn: Andrew Pe	Company: 2T Hicks	P.O. #:	BILL TO
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November 02, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	11/01/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	LATITUDE SOUTH	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

### Sample ID: WEST WALL (H803139-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/02/2018	ND	432	108	400	0.00	

### Sample ID: WEST BASE (H803139-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/02/2018	ND	432	108	400	0.00	

### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

### Cardinal Laboratories

### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name: RT	Hacks		BILL TO		ANALYSIS REQUEST
Project Manager:	Indrew Parker		P.O. #:		
Address: on-file			Company: LT Hal		
City:	State:	Zip:	Attn: Andrew Parke	E	
Phone #:	Fax #:		Address:		
Project #:	Project Owner:	a	City:		
Project Name: Advance	ce Encry		State: Zip:		
Project Location:	S		Phone #:		
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PLEASE NOTE: Liability and Damages analyses, All claims including those for service. In no event shall Cardinal be lia affiliates or successors arising out of or r	PLEASE NOTE: Liability and Damages, Cardina's liability and clients exclusive femely for any diam ansing whener cased in contract or tort, shall be limited to the amount plan by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal whith 30 days after completion of the esplica service. In no event shall Cardinal be liable for indicential or consequential diamages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, aftitates or successors aristing out of or related to the performance of services hereunder by Cardinal, repartdeess of whether such claim is based upon any of the above stated reasons or otherwise.	any claim ansing whether based in contract e deemed waived unless made in writing and ng without limitation, business interruptions, Cardinal, regardless of whether such claim	or tort, snall be limited to the amount pair received by Cardinal within 30 days after loss of use, or loss of profits incurred by c is based upon any of the above stated rea- is based upon any of the above stated rea-	royme cuent for the applicable fient, its subsidiaries, sons or atherwise.	
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November 02, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 10/31/18 7:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager


**R T HICKS CONSULTANTS** ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BATTLE 34 ROAD 0-100 WALL (H803103-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	10/31/2018	ND	432	108	400	3.64	

# Sample ID: BATTLE 34 ROAD 0-100 BASE (H803103-02)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3800	16.0	10/31/2018	ND	432	108	400	3.64	

### Sample ID: BATTLE 34 ROAD 100 - 200 WALL (H803103-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	10/31/2018	ND	432	108	400	3.64	

.

# Sample ID: BATTLE 34 ROAD 100 - 200 BASE (H803103-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3320	16.0	10/31/2018	ND	432	108	400	3.64	

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keene

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BATTLE 34 ROAD 200 - 270 WALL (H803103-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	10/31/2018	ND	432	108	400	3.64	

# Sample ID: BATTLE 34 ROAD 200 - 270 BASE (H803103-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	10/31/2018	ND	432	108	400	3.64	

# Sample ID: BATTLE 34 ROAD NORTH WALL (H803103-07)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	10/31/2018	ND	432	108	400	3.64	

# Sample ID: BATTLE 34 ROAD SOUTH WALL (H803103-08)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	10/31/2018	ND	432	108	400	3.64	

# **Cardinal Laboratories**

\*=Accredited Analyte

Celez D. Keene

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BATTLE 34 SOUTH WALL (H803103-09)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	83.9	% 41-142	2						
Surrogate: 1-Chlorooctadecane	87.4	% 37.6-14	7						

# Cardinal Laboratories

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BATTLE 34 EAST WALL (H803103-10)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	85.9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	89.0	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	10/31/2018	Sampling Date:	10/30/2018
Reported:	11/02/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	BATTLE 34	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BATTLE 34 NORTH WALL (H803103-11)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2018	ND	2.04	102	2.00	0.533	
Toluene*	<0.050	0.050	11/01/2018	ND	1.87	93.6	2.00	0.393	
Ethylbenzene*	<0.050	0.050	11/01/2018	ND	1.78	88.9	2.00	0.535	
Total Xylenes*	<0.150	0.150	11/01/2018	ND	5.24	87.4	6.00	1.07	
Total BTEX	<0.300	0.300	11/01/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/31/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2018	ND	196	98.2	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/01/2018	ND	210	105	200	0.833	
EXT DRO >C28-C36	<10.0	10.0	11/01/2018	ND					
Surrogate: 1-Chlorooctane	92.4	% 41-142	2						
Surrogate: 1-Chlorooctadecane	95.3	% 37.6-14	7						

# Cardinal Laboratories

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

# **Cardinal Laboratories**

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(575) 393-2326 FAX (575) 393-2476 101 East Marland, Hobbs, NM 88240

Project Manager: And rew	Consultants		BILL TO		ANALYSIS R	REQUEST
Andrew	0 1.			and a second sec		
	Land		P.O. #:			
Address: on-file			Company: ET Hicks			
City:	State: 2	Zip:	Attn: And new Panto	٩		
Phone #:	Fax #:		Address: on-file			
Project #:	Project Owner:		City:			
Project Name: Advance Energy	rdv.		State: Zip:			
Project Location: (Saff)e 34	· ·		Phone #:			
Sampler Name: Andrew Po	Parter		Fax #:			
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	G		
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PLEASE NOTE: Liability and Damages. Cardinal's lability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the analyzes. All claims including those for negligence and any other cause whatsoewer shall be deemed waived unless made in writing and received by Cantinal within 30 days after completion of the applicable analyzes. All claims including those for incidental or consequential damages, shall be deemed waived unless made in writing and received by Cantinal within 30 days after completion of the applicable assurce. In on event shall Cardinal be liable for incidental or consequential damages, including whether, the subless interruptions, bas of use, or loss of profits incurred by client, its subadiaries, atfisiate or successor arising on all or related to the nontrimense of severities heaved heaves of whether early client, the subcadiaries, atfisiate or successful and and for related to many end the severe and analyzes of unless or interruptions.	y and client's exclusive remedy for any y other cause whatsoever shall be de- or consequential damages, including wo omance of seedices because for the com- ormance of seedices because the com- ormance of seedices the com- ormance of seedices because the com- ormance of seedices because the com- ormance of seedices the com-	nt's exclusive remedy for any claim arising whether based in contract or fort, shall be finited to the amount p ause whatsoewer shall be deemed waived unless made in writing and received by Candinal within 30 days a juendia damages, including though writing for the senses interruptions, tess of use, or loss of profits incurred of sectorse hearonche by Candin covaridaes of valuations or the fairs is based uncon one or the above stated	r fort, shall be limited to the amount peid received by Cardinal within 30 days after ess of use, or loss of profits incurred by G based upon onco of the above stated mer	id by the client for the er completion of the applicable client, its subsidiaries, arone or oftensie	-	-
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Rush

970-570-9535

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Page 8 of 9



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# 101 East Marland, Hobbs, NM 88240



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November 01, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/01/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	LATITUDE SOUTH TRENCH	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: NORTH WALL (H803127-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	11/01/2018	ND	416	104	400	3.77	

# Sample ID: SOUTH WALL (H803127-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	11/01/2018	ND	416	104	400	3.77	

### Sample ID: WEST WALL (H803127-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	11/01/2018	ND	416	104	400	3.77	

# Sample ID: EAST WALL (H803127-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/01/2018	ND	416	104	400	3.77	

# **Cardinal Laboratories**

\*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/01/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	LATITUDE SOUTH TRENCH	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BASE @ 4.5' (H803127-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	11/01/2018	ND	416	104	400	3.77	

# **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 5 Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Add'l Phone #: Add'l Fax #:
Test Results to
970-570-9535
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November 01, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/01/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	WEST OF MERCHANT	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: NORTH WALL (H803126-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/01/2018	ND	416	104	400	3.77	

# Sample ID: BASE @ 4' (H803126-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/01/2018	ND	416	104	400	3.77	

# **Cardinal Laboratories**

\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

# \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name:	RT Hicks	Consultants		BILL TO			ANALYSIS R	REQUEST
Project Manager:	Andrew Po	1		P.O. #:				
Address: o	on-file			Company: 27	Hicks			
City:		State:	Zip:	in	Parker			
Phone #:		Fax #:		Address:				
Project #:		Project Owner:	er.	City:				
Project Name: West of	vest of Merchant	4		State: Zip:				
Project Location:	Advanc	ry l		#:				
Sampler Name:	2	r		Fax #:				
FOR LAB USE ONLY			MATRIX	ESERV.	SAMPLING	<i>v</i> )		
Lab I.D.	Sample I.D.		NE OR (C)OMP NTAINERS JNDWATER TEWATER	er : Base: Cool		1 (450		
H863126			# CON GROU	OTHE ACID/ ICE / 0 OTHE	DATE TIME	C		
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7	~		-		11-16	×		
PLEASE NOTE: Liability and	Damages, Cardinal's liability and client's	exclusive remedy fo	PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim ansing whether based in contract or tort, shall be limited to the amount paid by the client for the	ct or tort, shall be limited to the a	mount paid by the client for the			
service. In no event shall Can affiliates or successors arising Relinguished By:	final be liable for incidental or consequer out of or related to the performance of st	ental damages, includi services hereunder by Date:	service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of or so of position incurred by client, is subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, repardless of whether such claim is based upon any of the above stated reasons or otherwise.          Relinquished By:       Date:       Received By:       Phone Result:       For the successors arising out of the above stated reasons or otherwise.	, loss of use, or loss of profits in h is based upon any of the above	stated reasons or otherwise.	t: TYPE	Add'I Phone #	
autas	F	Time: 08:00		Udr.Ku	Fax Result: REMARKS:		Add'l Fax #:	
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Sampler - UPS - Bus - Other:		4.0c	Han Pres Pres				May Hoen	

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September 18, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

RE: BATTLE 34 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 09/13/18 14:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	09/13/2018	Sampling Date:	09/13/2018
Reported:	09/18/2018	Sampling Type:	Soil
Project Name:	BATTLE 34 RELEASE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ADVANCE ENERGY - LEA CO NM		

# Sample ID: W WALL COMP (H802595-01)

BTEX 8021B	mg/	′kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2018	ND	2.22	111	2.00	0.102	
Toluene*	<0.050	0.050	09/14/2018	ND	2.09	105	2.00	0.0941	
Ethylbenzene*	<0.050	0.050	09/14/2018	ND	2.08	104	2.00	0.398	
Total Xylenes*	<0.150	0.150	09/14/2018	ND	6.27	105	6.00	0.456	
Total BTEX	<0.300	0.300	09/14/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.3	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/14/2018	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2018	ND	194	96.8	200	2.79	
DRO >C10-C28*	<10.0	10.0	09/14/2018	ND	190	95.0	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/14/2018	ND					
Surrogate: 1-Chlorooctane	119 9	% 41-142							
Surrogate: 1-Chlorooctadecane	118 9	% 37.6-14	7						

# Cardinal Laboratories

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	09/13/2018	Sampling Date:	09/13/2018
Reported:	09/18/2018	Sampling Type:	Soil
Project Name:	BATTLE 34 RELEASE	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	ADVANCE ENERGY - LEA CO NM		

# Sample ID: FLOOR COMP @ 4.25' - 5.0' BGS (H802595-02)

BTEX 8021B	mg/kg		Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2018	ND	2.22	111	2.00	0.102	
Toluene*	<0.050	0.050	09/14/2018	ND	2.09	105	2.00	0.0941	
Ethylbenzene*	<0.050	0.050	09/14/2018	ND	2.08	104	2.00	0.398	
Total Xylenes*	<0.150	0.150	09/14/2018	ND	6.27	105	6.00	0.456	
Total BTEX	<0.300	0.300	09/14/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.3	% 69.8-14	2						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/14/2018	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2018	ND	194	96.8	200	2.79	
DRO >C10-C28*	<10.0	10.0	09/14/2018	ND	190	95.0	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	09/14/2018	ND					
Surrogate: 1-Chlorooctane	106	% 41-142	,						
Surrogate: 1-Chlorooctadecane	99.4	% 37.6-14	7						

# **Cardinal Laboratories**

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

ANALYSIS REQUEST
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Page 5 of 5

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

September 25, 2018

Andrew Parker R.T. Hicks Consultants, LTD 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, NM 87104 TEL: (505) 266-5004 FAX (505) 266-0745

RE: W of Merchant Release W of rd

OrderNo.: 1809976

Dear Andrew Parker:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/14/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1809976 Date Reported: 9/25/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD Client Sample ID: W Wall Comp **Project:** W of Merchant Release W of rd Collection Date: 9/11/2018 12:30:00 PM Lab ID: 1809976-001 Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM - -- -. . \_ -----DE D . --

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>smb</b>
Chloride	ND	30	mg/Kg	20	9/23/2018 2:51:08 PM	40520
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/20/2018 11:13:49 AM	40460
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/20/2018 11:13:49 AM	40460
Surr: DNOP	112	50.6-138	%Rec	1	9/20/2018 11:13:49 AM	40460
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/20/2018 4:08:59 PM	40453
Surr: BFB	93.1	15-316	%Rec	1	9/20/2018 4:08:59 PM	40453
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.024	mg/Kg	1	9/20/2018 4:08:59 PM	40453
Toluene	ND	0.048	mg/Kg	1	9/20/2018 4:08:59 PM	40453
Ethylbenzene	ND	0.048	mg/Kg	1	9/20/2018 4:08:59 PM	40453
Xylenes, Total	ND	0.096	mg/Kg	1	9/20/2018 4:08:59 PM	40453
Surr: 4-Bromofluorobenzene	94.9	80-120	%Rec	1	9/20/2018 4:08:59 PM	40453

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

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
- PQL Practical Quanitative Limit
- 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 Page 1 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**Analytical Report** Lab Order 1809976 Date Reported: 9/25/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD Client Sample ID: N Wall Comp W of Merchant Release W of rd Collection Date: 9/11/2018 12:48:00 PM Matrix: SOIL 1809976-002 Received Date: 9/14/2018 8:55:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	ND	30	mg/Kg	20	9/23/2018 3:28:21 PM	40520
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst	: ТОМ
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/20/2018 12:20:29 PM	40460
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/20/2018 12:20:29 PM	40460
Surr: DNOP	117	50.6-138	%Rec	1	9/20/2018 12:20:29 PM	40460
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/20/2018 5:18:50 PM	40453
Surr: BFB	92.3	15-316	%Rec	1	9/20/2018 5:18:50 PM	40453
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/20/2018 5:18:50 PM	40453
Toluene	ND	0.048	mg/Kg	1	9/20/2018 5:18:50 PM	40453
Ethylbenzene	ND	0.048	mg/Kg	1	9/20/2018 5:18:50 PM	40453
Xylenes, Total	ND	0.096	mg/Kg	1	9/20/2018 5:18:50 PM	40453
Surr: 4-Bromofluorobenzene	95.8	80-120	%Rec	1	9/20/2018 5:18:50 PM	40453

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

**Oualifiers:** 

**Project:** 

Lab ID:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 10 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Analytical Report Lab Order 1809976

Date Reported: 9/25/2018

# Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 R.T. Hicks Consultants, LTD
 Client Sample ID: Wall Comp

 Project:
 W of Merchant Release W of rd
 Collection Date: 9/11/2018 1:08:00 PM

 Lab ID:
 1809976-003
 Matrix: SOIL
 Received Date: 9/14/2018 8:55:00 AM

 Analyses
 Result
 PQL Qual Units
 DF Date Analyzed

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	81	30	mg/Kg	20	9/23/2018 3:40:46 PM	40520
EPA METHOD 8015M/D: DIESEL RANGE ORG	GANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	9/20/2018 12:42:33 PN	40460
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/20/2018 12:42:33 PM	40460
Surr: DNOP	133	50.6-138	%Rec	1	9/20/2018 12:42:33 PM	40460
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/20/2018 6:28:43 PM	40453
Surr: BFB	90.3	15-316	%Rec	1	9/20/2018 6:28:43 PM	40453
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/20/2018 6:28:43 PM	40453
Toluene	ND	0.049	mg/Kg	1	9/20/2018 6:28:43 PM	40453
Ethylbenzene	ND	0.049	mg/Kg	1	9/20/2018 6:28:43 PM	40453
Xylenes, Total	ND	0.097	mg/Kg	1	9/20/2018 6:28:43 PM	40453
Surr: 4-Bromofluorobenzene	90.4	80-120	%Rec	1	9/20/2018 6:28:43 PM	40453

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

- \* 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
- PQL Practical Quanitative Limit
- 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 Page 3 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1809976

Date Reported: 9/25/2018

# Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 R.T. Hicks Consultants, LTD
 Client Sample ID: Wall Comp

 Project:
 W of Merchant Release W of rd
 Collection Date: 9/11/2018 1:19:00 PM

 Lab ID:
 1809976-004
 Matrix:
 SOIL
 Received Date: 9/14/2018 8:55:00 AM

 Analyses
 Result
 POL
 Qual Units
 DE
 Date Analyzed

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	ND	30	mg/Kg	20	9/23/2018 3:53:11 PM	40520
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst	ТОМ
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2018 1:04:35 PM	40460
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/20/2018 1:04:35 PM	40460
Surr: DNOP	126	50.6-138	%Rec	1	9/20/2018 1:04:35 PM	40460
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/20/2018 11:54:58 PM	40453
Surr: BFB	91.1	15-316	%Rec	1	9/20/2018 11:54:58 PM	40453
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/20/2018 11:54:58 PM	40453
Toluene	ND	0.048	mg/Kg	1	9/20/2018 11:54:58 PM	40453
Ethylbenzene	ND	0.048	mg/Kg	1	9/20/2018 11:54:58 PM	40453
Xylenes, Total	ND	0.096	mg/Kg	1	9/20/2018 11:54:58 PM	40453
Surr: 4-Bromofluorobenzene	93.2	80-120	%Rec	1	9/20/2018 11:54:58 PM	40453

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

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
- PQL Practical Quanitative Limit
- 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 Page 4 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1809976 Date Reported: 9/25/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD

1809976-005

W of Merchant Release W of rd

**Project:** 

Lab ID:

Client Sample ID: Floor Comp @ 5' BGS Collection Date: 9/11/2018 1:33:00 PM Received Date: 9/14/2018 8:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	: smb
Chloride	ND	30		mg/Kg	20	9/23/2018 4:30:25 PM	40520
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS					Analyst	: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2018 1:26:36 PM	40460
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2018 1:26:36 PM	40460
Surr: DNOP	88.7	50.6-138		%Rec	1	9/20/2018 1:26:36 PM	40460
EPA METHOD 8015D: GASOLINE RANGE						Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/21/2018 12:18:18 AN	40453
Surr: BFB	91.5	15-316		%Rec	1	9/21/2018 12:18:18 AM	40453
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.023		mg/Kg	1	9/21/2018 12:18:18 AN	40453
Toluene	ND	0.047		mg/Kg	1	9/21/2018 12:18:18 AN	40453
Ethylbenzene	ND	0.047		mg/Kg	1	9/21/2018 12:18:18 AM	40453
Xylenes, Total	ND	0.094		mg/Kg	1	9/21/2018 12:18:18 AM	40453
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	9/21/2018 12:18:18 AN	40453

Matrix: SOIL

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

Qualifiers:

\*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

Value exceeds Maximum Contaminant Level.

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

WO#:	1809976
	25-Sep-18

	icks Consultants, LTD ⁄Ierchant Release W of rd				
Sample ID MB-40520	SampType: mblk	TestCode: EPA Method	l 300.0: Anions		
Client ID: PBS	Batch ID: 40520	RunNo: 54364			
Prep Date: 9/22/2018	Analysis Date: 9/23/2018	SeqNo: 1800846	Units: <b>mg/Kg</b>		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride	ND 1.5				
Sample ID LCS-40520	SampType: Ics	TestCode: EPA Method	l 300.0: Anions		
Client ID: LCSS	Batch ID: 40520	RunNo: 54364			
Prep Date: 9/22/2018	Analysis Date: 9/23/2018	SeqNo: 1800847	Units: <b>mg/Kg</b>		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride	14 1.5 15.00	0 95.0 90	110		

# **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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

# Page 6 of 10

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1809976
	<b>AF G 10</b>

Client: Project:		s Consultants, chant Release								
Sample ID 1	809976-001AMS	SampType:	MS	Tes	tCode: EPA	Method	8015M/D: Die	sel Range	e Organics	
Client ID: V	V Wall Comp	Batch ID:	40460	F	RunNo: <b>542</b>	75				
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	5	SeqNo: 179	7637	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC L	_owLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	ganics (DRO)		9.9 49.70	0	117	53.5	126			
Surr: DNOP		5.5	4.970		111	50.6	138			
Sample ID 1	1809976-001AMSE	SampType:	MSD	Tes	tCode: EPA	Method	8015M/D: Die	sel Range	e Organics	
Client ID: V	V Wall Comp	Batch ID:	40460	F	RunNo: <b>542</b>	75				
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	S	SeqNo: 179	7638	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC L	_owLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	ganics (DRO)	58 9	9.9 49.41	0	118	53.5	126	0.181	21.7	
Surr: DNOP		5.6	4.941		113	50.6	138	0	0	
Sample ID	_CS-40460	SampType:	LCS	Tes	tCode: EPA	Method	8015M/D: Die	sel Range	e Organics	
Client ID: L	_CSS	Batch ID:	40460	F	RunNo: <b>542</b>	75				
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	S	SeqNo: 179	7655	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC L	_owLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	ganics (DRO)	-	10 50.00	0	101	70	130			
Surr: DNOP		4.4	5.000		87.3	50.6	138			
Sample ID	MB-40460	SampType:	MBLK	Tes	tCode: EPA	Method	8015M/D: Die	sel Range	e Organics	
Client ID: F	PBS	Batch ID:	40460	F	RunNo: <b>542</b>	75				
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	5	SeqNo: <b>179</b>	7656	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC L	_owLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	-		10							
Motor Oil Range Surr: DNOP	Organics (MRO)	ND 10	50 10.00		101	50.6	138			
		10	10.00		101	50.0	150			
Sample ID L		SampType:					8015M/D: Die	sel Range	e Organics	
Client ID: L	LCSS	Batch ID:	40485	F	RunNo: <b>543</b>	22				
Prep Date:	9/20/2018	Analysis Date:	9/21/2018	S	SeqNo: 179	8291	Units: %Rec	;		
Analyte			L SPK value	SPK Ref Val		_owLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		5.0	5.000		100	50.6	138			
Sample ID	MB-40485	SampType:	MBLK	Tes	tCode: EPA	Method	8015M/D: Die	sel Range	e Organics	
Client ID: F	PBS	Batch ID:	40485	F	RunNo: 543	22				
Prep Date:	9/20/2018	Analysis Date:	9/21/2018	S	SeqNo: 179	8292	Units: %Rec	;		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC L	_owLimit	HighLimit	%RPD	RPDLimit	Qual
· · · ·							-			

# **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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified
- Page 7 of 10

WO#:	1809976
	25-Sep-18

Client:	R.T. Hicks Consultants, LTD										
Project:	W of	Merchant Rele	ease W	of rd							
Sample ID	MB-40485	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 40	485	R	RunNo: 5	4322				
Prep Date:	9/20/2018	Analysis D	ate: 9	/21/2018	S	SeqNo: 1	798292	Units: %Re	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		11		10.00		108	50.6	138			

# **Qualifiers:**

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Page 8 of 10

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1809976

25-Sep-18

Client: Project:		ks Consulta rchant Rele	,								
Sample ID	MB-40453	SampT	ype: M	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	PBS	Batch	n ID: 40	453	F	anNo: 54	4282				
Prep Date:	9/19/2018	Analysis D	ate: 9/	/20/2018	S	SeqNo: 1	796709	Units: <b>mg/ł</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Ranç Surr: BFB	ge Organics (GRO)	ND 910	5.0	1000		91.4	15	316			
Sample ID	LCS-40453	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	n ID: 40	453	F	anNo: 54	4282				
Prep Date:	9/19/2018	Analysis D	ate: 9/	/20/2018	S	SeqNo: 1	796710	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	ge Organics (GRO)	24	5.0	25.00	0	96.8	75.9	131			
Surr: BFB		1100		1000		107	15	316			
Sample ID	1809976-001AMS	SampT	ype: MS	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	W Wall Comp	Batch	n ID: 40	453	RunNo: <b>54282</b>						
Prep Date:	9/19/2018	Analysis D	ate: 9/	/20/2018	5	SeqNo: 1	796712	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	29	4.7	23.58	0	122	77.8	128			
Surr: BFB		1000		943.4		109	15	316			
Sample ID	1809976-001AMS	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	W Wall Comp	Batch	n ID: 40	453	F	unNo: 54	4282				
Prep Date:	9/19/2018	Analysis D	ate: 9/	/20/2018	S	SeqNo: 1	796713	Units: <b>mg/k</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	ge Organics (GRO)	30	4.8	24.18	0	123	77.8	128	2.84	20	
Surr: BFB		1100		967.1		109	15	316	0	0	

# **Qualifiers:**

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- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 9 of 10

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1809976
	25-Sep-18

Client:	R.T. Hic	ks Consult	ants, LT	D							
Project:	W of Me	erchant Rel	ease W	of rd							
Sample ID	MB-40453	Samp	Гуре: МВ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 40	453	F	RunNo: 5	4282				
Prep Date:	9/19/2018	Analysis E	Date: 9/	20/2018	S	SeqNo: 1	796749	Units: <b>mg/k</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	ofluorobenzene	0.92		1.000		91.5	80	120			
Sample ID	LCS-40453	Samp	Гуре: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 40	453	F	RunNo: 5	4282				
Prep Date:	9/19/2018	Analysis E	Date: 9/	20/2018	S	SeqNo: 1	796750	Units: mg/k	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.94	0.025	1.000	0	93.8	77.3	128			
Toluene		0.98	0.050	1.000	0	98.0	79.2	125			
Ethylbenzene		0.96	0.050	1.000	0	96.4	80.7	127			
Xylenes, Total		2.9	0.10	3.000	0	97.0	81.6	129			
<b>,</b>	ofluorobenzene	0.99		1.000		99.4	80	120			
Sample ID	ID 1809976-002AMS SampType: MS				Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	N Wall Comp	Batc	h ID: 40	453	F	RunNo: 5	4282				
Prep Date:	9/19/2018	Analysis E	Date: 9/	20/2018	S	SeqNo: 1	796753	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.94	0.024	0.9737	0	97.0	68.5	133			
Toluene		0.98	0.049	0.9737	0.01580	99.5	75	130			
Ethylbenzene		0.98	0.049	0.9737	0	101	79.4	128			
Xylenes, Total		2.9	0.097	2.921	0.01580	100	77.3	131			
Surr: 4-Brom	ofluorobenzene	0.97		0.9737		99.4	80	120			
Sample ID	1809976-002AMS	D Samp	Гуре: М	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	N Wall Comp	Batc	h ID: 40	453	F	RunNo: 5	4282				
Prep Date:	9/19/2018	Analysis [	Date: 9/	20/2018	SeqNo: 1796754 Units: mg/Kg						
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.91	0.024	0.9524	0	96.1	68.5	133	3.19	20	
Toluene		0.97	0.048	0.9524	0.01580	100	75	130	1.65	20	
Ethylbenzene		0.95	0.048	0.9524	0	100	79.4	128	2.63	20	
Xylenes, Total		2.9	0.095	2.857	0.01580	99.5	77.3	131	2.68	20	

# **Qualifiers:**

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 10 of 10

HALL ENVIRONME ANALYSIS LABORATOI		TEL: 505-34	umental Analysis Labora 4901 Hawkins Albuquerque, NM 87 5-3975 FAX: 505-345-4 www.hallenvironmental.	NE 105 <b>San</b> 107	ample Log-In Check List			
Client Name: RT HI	CKS	Work Order N	umber: <b>1809976</b>		RcptNo: 1			
Received By: Jazz	mine Burkhead	9/14/2018 8:55:(	00 AM	heren Backhal				
Completed By: Ashle	ey Gallegos	9/17/2018 4:39:0	D1 PM	AJ				
Reviewed By:	ð	9/19/40	Labeled	64:	moglig	118		
Chain_of Custody					0			
1. Is Chain of Custody of	complete?		Yes 🗹	No 🗌	Not Present			
2. How was the sample	delivered?		Courier					
<b>Log In</b> 3. Was an attempt mad	e to cool the samp	bles?	Yes 🗹	No 🗌				
4. Were all samples rec	eived at a tempera	ature of >0° C to 6.0°C	Yes 🔽	No 🗌				
. Sample(s) in proper o	container(s)?		Yes 🗹	No 🗆				
Sufficient sample volu	ime for indicated t	est(s)?	Yes 🗹	No 🗌				
7. Are samples (except )	VOA and ONG) pr	operly preserved?	Yes 🗹	No 🗌		r		
<ol> <li>Was preservative add</li> </ol>	ed to bottles?		Yes	No 🗹	NA 🗌	moil		
). VOA vials have zero ł	eadspace?		Yes 🗌	No 🗆	No VOA Vials 🗹	m		
0. Were any sample cor	ntainers received t	oroken?	Yes	No 🗹 🏾	# of preserved bottles checked			
1. Does paperwork mate (Note discrepancies o		<i>ı</i> )	Yes 🗹	No 🗆	for pH:	2 unless noted)		
2 Are matrices correctly			Yes 🔽	No 🗌	Adjusted?			
3. Is it clear what analys	es were requested	1?	Yes 🗹	No 🗆		•		
<ol> <li>Were all holding times (If no, notify customer</li> </ol>		)	Yes 🗹	No	Checked by:			
pecial Handling (if	applicable)			·				
5. Was client notified of		with this order?	Yes	No 🗌	NA 🗹			
Person Notified By Whom: Regarding: Client Instructio			ate a: eMail Pr	none 📋 Fax				
16. Additional remarks:					······			
7. <u>Cooler Information</u> Cooler No Tem		Seal Intact Seal N	Seal Date	Signed By	l			

1 4.2 Good Not Present

\_\_\_\_

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Page 1 of 1

	Shain	-of-CI	<b>Chain-of-Custody Record</b>		Turn-Around Time:	Time:														
Client:	RT #	licks	RT Hicks Consultants		K Standard	□ Rush	E				AALL ENVIKONMENTAL ANALYSIS LABOPATOPY	l a	Z Į	ENVIKONMENT	<u>0</u>	Ž			20	
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Mailinç	Mailing Address:	Sinho			W of 11/2 (W of	rchant	Kelease		4901	Haw	4901 Hawkins NE	, i	Albug	Albuquerque, NM 87109	Z	M 87	60			
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Phone #:	#: 0(5	06)2	1e #: 0(500) 266 - 500 4									Ar	alysi	Analysis Request	uest					
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A Stai	Standard		Level 4 (Full Validation)	fation)	H. Par	ker			_	ע ע		WIS	D9.							
Accreditati	Accreditation	□ Other	ler		Sampler: 🖌 On Ice	ristín ta	bpe V 🗆 No					0728	ON®			()				<u> </u>
	🗆 EDD (Type)		, 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997		Sample Temperature	oerature: V	<u> </u>								()	/O/				~ ~/
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/	1308		Nall Con	10,	/	/	200-	X	$\sim$				X				<u> </u>			
	1319		Nall Par	10,	(	)	- 00-	X	$\square$				X							L
_	1333		Floor Comp. (2)	15-BES	/	(	-000	$\mathbf{X}$	$\cap$				X		<u> </u>					[ ]
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- l l	ff necessary.	samples sub	In the possibility. Any sub-contracted data will be clearly notated on the accredited laboration of this serves as police of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	ay be subcor	ntrapted to ther ac	credited laboratori	ዋ. This serves as notice of this	possibili	ty. Any	sub-co	Itracted	data wi	l be cle	rły notal	ed on t	the ana	lytical re	eport.		



November 01, 2018

ANDREW PARKER R T HICKS CONSULTANTS 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE, NM 87104

**RE: ADVANCE ENERGY** 

Enclosed are the results of analyses for samples received by the laboratory on 11/01/18 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/01/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	TOMAHAWK TRENCH 1	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: EAST WALL (H803128-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	11/01/2018	ND	416	104	400	3.77	

# Sample ID: WEST WALL (H803128-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/01/2018	ND	416	104	400	3.77	

### Sample ID: NORTH WALL (H803128-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/01/2018	ND	416	104	400	3.77	

# Sample ID: SOUTH WALL (H803128-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/01/2018	ND	416	104	400	3.77	

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



R T HICKS CONSULTANTS ANDREW PARKER 901 RIO GRANDE BLVD SUITE F-142 ALBUQUERQUE NM, 87104 Fax To: NONE

Received:	11/01/2018	Sampling Date:	10/31/2018
Reported:	11/01/2018	Sampling Type:	Soil
Project Name:	ADVANCE ENERGY	Sampling Condition:	Cool & Intact
Project Number:	TOMAHAWK TRENCH 1	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

# Sample ID: BASE @ 4.5' (H803128-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	11/01/2018	ND	416	104	400	3.77	

# **Cardinal Laboratories**

# \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clent's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, whother bits ubsidiaries, affiliates or successor arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

   RPD
   Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

# \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 5 Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

andorw@rthictscensult.cem	anderwo	(Initials)	20	4.0° #	Sampler - UPS - Bus - Other:	Sampler - UPS
	1	CHECKED BY:	Sample Condition		Delivered By: (Circle One)	Delivered By
- Rush	24 hour	1	Received By:	Date:	y:	Relinquished By:
	□ Yes	Water	Jamara L	Time: 08 w	and	and
□ No Add'I Phone #:	ult: 🗆 Yes	1.1.	Received By:	Date:	¥:	Relinquished By
	client, its subsidiaries, aasons or otherwise.	use, or loss of profits incurred by d upon any of the above stated re	service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, toss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	onsequental damages, including ance of services hereunder by Ca	ardinal be liable for incidental or c ing out of or related to the perform	service. In no event shall C affiliates or successors arisi
	aid by the client for the er completion of the applicable	, shall be limited to the amount pa ved by Cardinal within 30 days aft	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable	Id client's exclusive remedy for an ther cause whatsoever shall be d	nd Damages. Cardinal's liability ar ng those for negligence and any o	PLEASE NOTE: Liability a analyses. All claims includi
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		1	-	anter	Andrew P	Sampler Name:
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		y:	City:	Project Owner:		Project #:
		Address:	Ad	Fax #:		Phone #:
	Parker-	Attn: Andrew Par	Zip: Att	State:		City:
	LES .	Company: LT Hicks	Co		on- File	Address:
		P.O. #:	P.(	Parker	And	Project Manager:
ANALYSIS REQUEST	All and a second sec	BILL TO		Hecks Consultants	PT	Company Name:

+ Cardinal rannot arrent verbal rhannee Dleace fav written rhannee to 15751 202.0208