

**From:** [andrew@rthicksconsult.com](mailto:andrew@rthicksconsult.com)  
**To:** [Yu, Olivia, EMNRD](#); [stucker@blm.gov](mailto:stucker@blm.gov); "Mann, Ryan"  
**Cc:** [Hernandez, Christina, EMNRD](#); "David Harwell"; [r@rthicksconsult.com](mailto: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](mailto:Olivia.Yu@state.nm.us)>  
**Sent:** Thursday, November 8, 2018 2:34 PM  
**To:** 'Andrew Parker' <[andrew@rthicksconsult.com](mailto:andrew@rthicksconsult.com)>; [stucker@blm.gov](mailto:stucker@blm.gov); Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>  
**Cc:** Hernandez, Christina, EMNRD <[Christina.Hernandez@state.nm.us](mailto: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  
[Olivia.yu@state.nm.us](mailto:Olivia.yu@state.nm.us)  
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 area 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.

November 8, 2018

Page 7

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 Titration	Chloride Lab	Delineated
<b>Battle 34</b>					
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
<b>E. of Battle 34</b>					
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 Titration	Chloride Lab	Delineated
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	Excavation (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

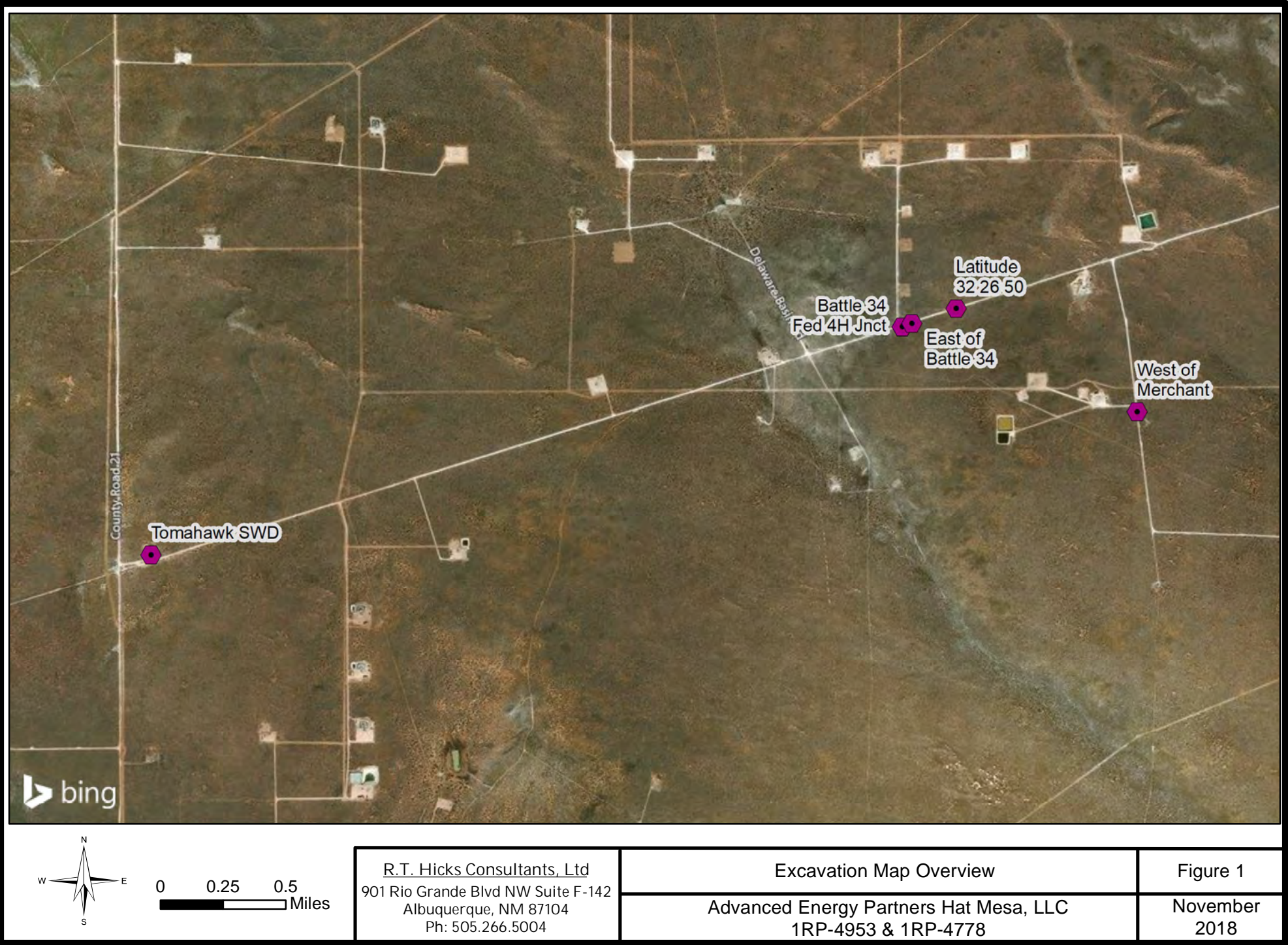
Figure 5 shows the excavation extent. Chloride concentrations in the upper 4 feet wall samples and below 4-foot base sample meet NMAC 19.15.29 closure limits. Hard caliche was encountered at 4.5 foot depth. Surface owner agreement may require a liner at the base of the excavation prior to backfilling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

Location		Depth (ft)	Chloride	Delineated	Excavation (ft)		
					L (E-W)	W (N-S)	Depth
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				

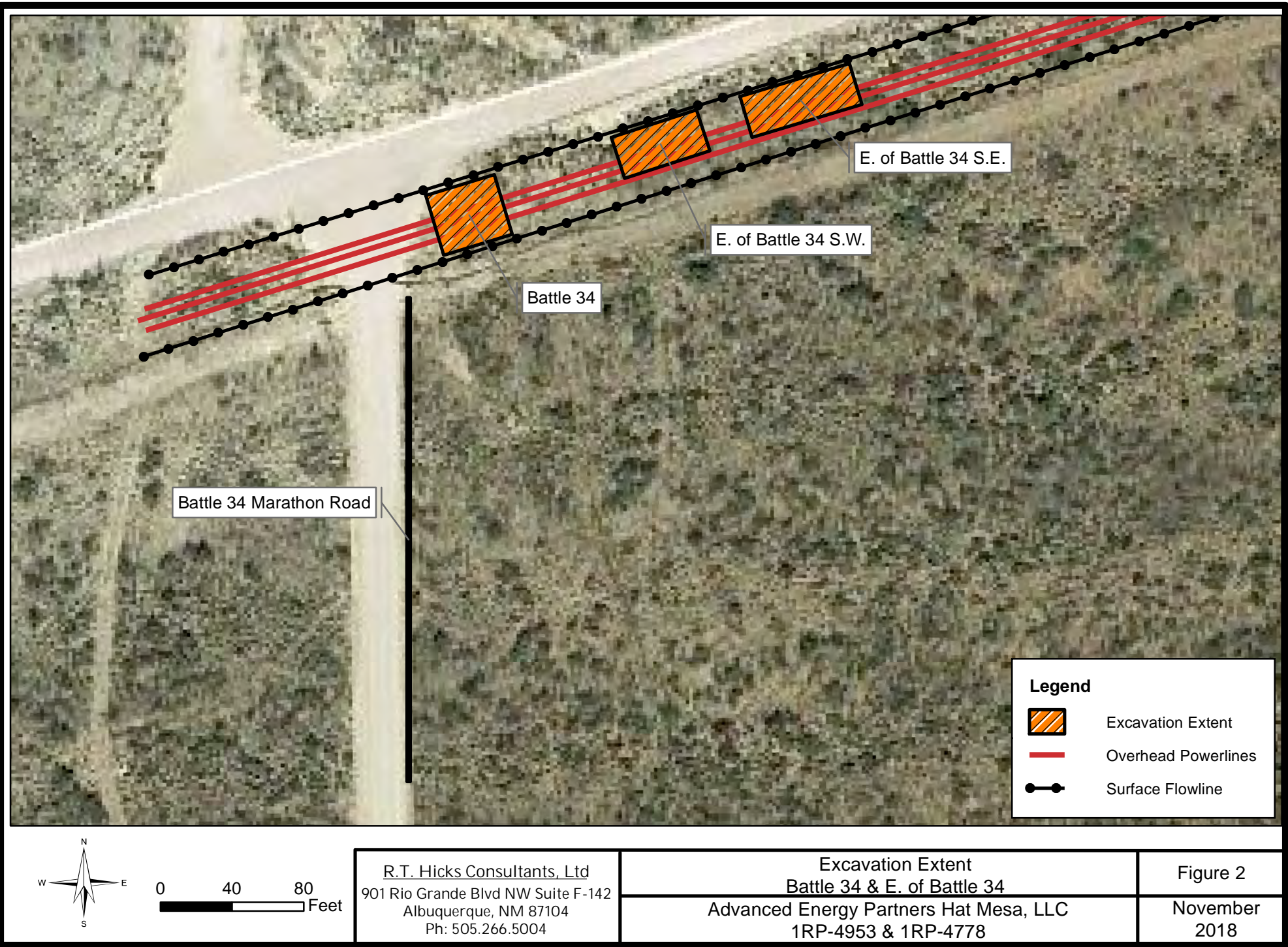
Please contact me at 970-570-9535 with any questions.

Sincerely,  
R.T. Hicks Consultants, Ltd.

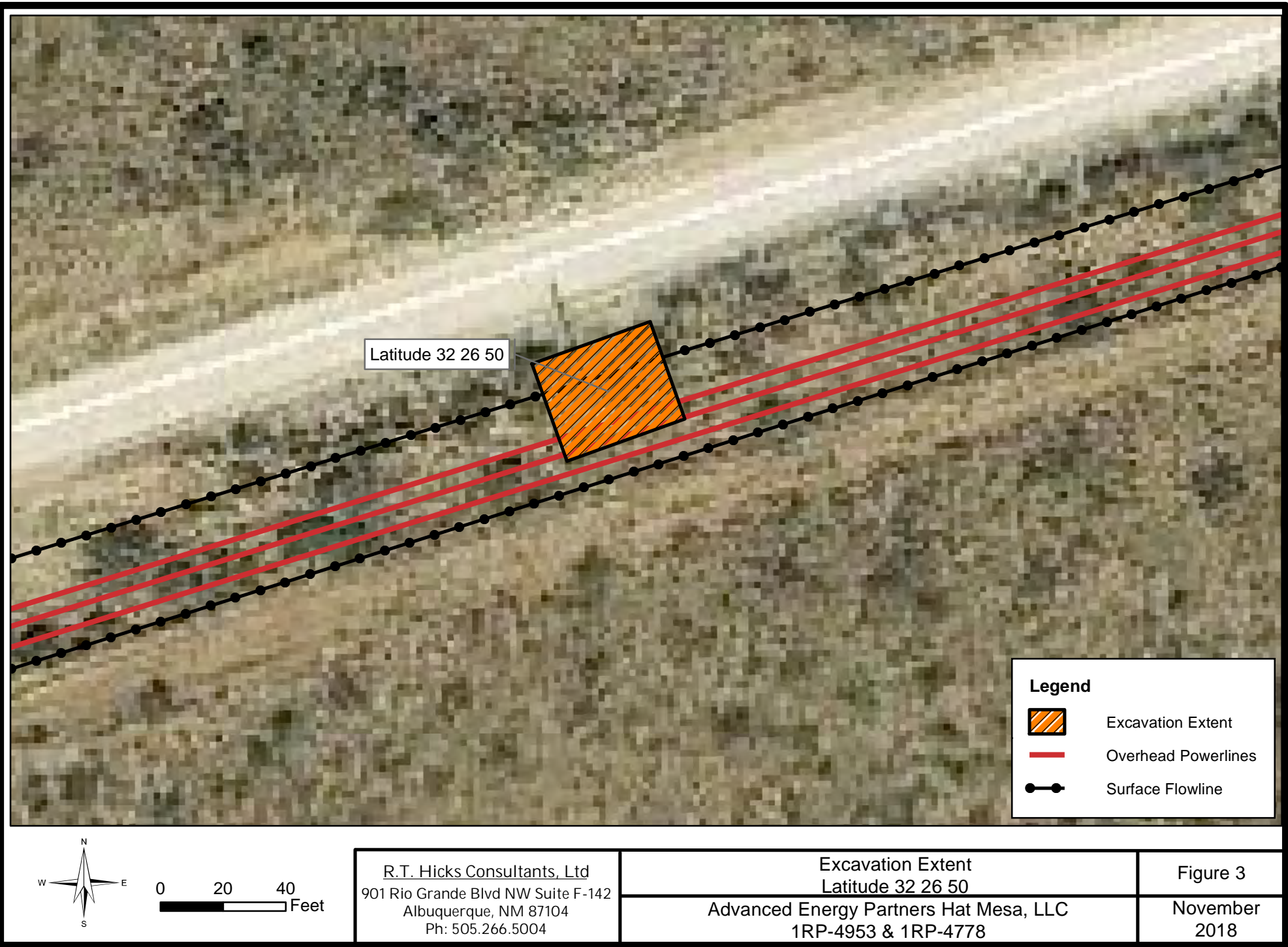
Andrew Parker  
Project Scientist



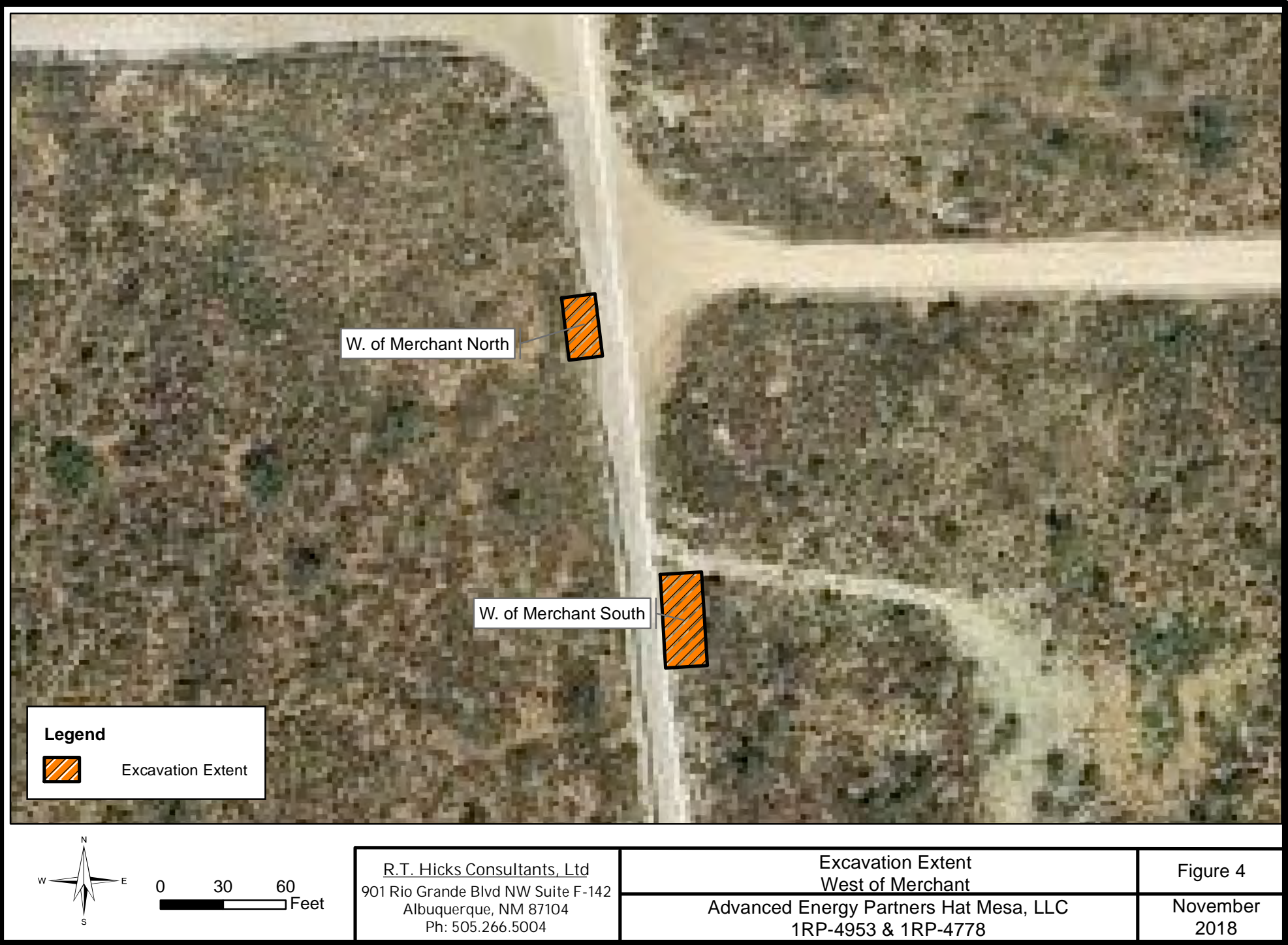




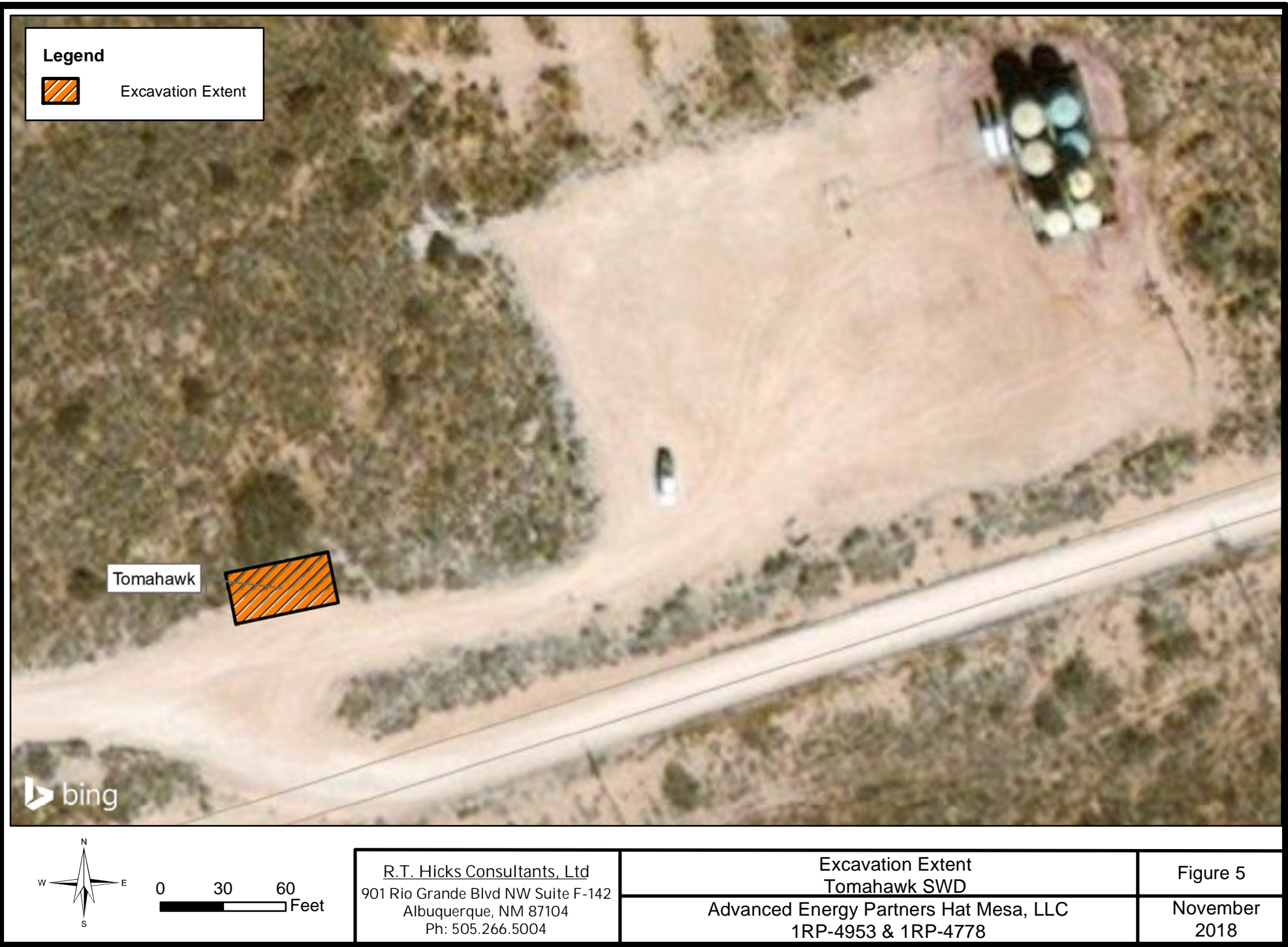












November 02, 2018

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/01/2018  
 Reported: 11/02/2018  
 Project Name: ADVANCE ENERGY  
 Project Number: EAST OF BATTLE 34  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

Chloride, SM4500CI-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, SM4500CI-B		mg/kg		Analyzed 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 WALL (H803141-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

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

<b>Company Name:</b> <u>RT Hicks consultants</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
<b>Project Manager:</b> <u>Andrew Parker</u>				<b>P.O. #:</b>															
<b>Address:</b> <u>on file</u>				<b>Company:</b> <u>RT Hicks</u>															
<b>City:</b>				<b>Attn:</b> <u>Andrew Parker</u>															
<b>State:</b>				<b>Address:</b>															
<b>Phone #:</b>				<b>City:</b>															
<b>Fax #:</b>				<b>State:</b>															
<b>Project #:</b>				<b>Zip:</b>															
<b>Project Name:</b> <u>East of Battle 34</u>				<b>Phone #:</b>															
<b>Project Location:</b> <u>Advance Energy</u>				<b>Fax #:</b>															
<b>Sampler Name:</b> <u>Andrew Parker</u>																			

FOR LAB USE ONLY		LAB I.D.		DATE		TIME		ANALYSIS	
<b>Lab I.D.</b> <u>*Sample I.D.</u>		<b>DATE</b> <u>11-1</u>		<b>TIME</b> <u>14:00</u>		<b>ANALYSIS</b> <u>4500</u>			
<b>Matrix</b> <input checked="" type="checkbox"/> GRAB OR (C)OMP. <input type="checkbox"/> # CONTAINERS <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER :		<b>DATE</b> <u>11-1</u>		<b>TIME</b> <u>14:05</u>		<b>ANALYSIS</b> <u>4500</u>			
<b>Matrix</b> <input type="checkbox"/> EAST WALL <input type="checkbox"/> WEST WALL <input type="checkbox"/> EAST BASE <input type="checkbox"/> WEST BASE		<b>DATE</b> <u>11-1</u>		<b>TIME</b> <u>14:15</u>		<b>ANALYSIS</b> <u>4500</u>			
<b>Matrix</b> <input type="checkbox"/> EAST WALL <input type="checkbox"/> WEST WALL <input type="checkbox"/> EAST BASE <input type="checkbox"/> WEST BASE		<b>DATE</b> <u>11-1</u>		<b>TIME</b> <u>14:30</u>		<b>ANALYSIS</b> <u>4500</u>			
<b>Matrix</b> <input type="checkbox"/> EAST WALL <input type="checkbox"/> WEST WALL <input type="checkbox"/> EAST BASE <input type="checkbox"/> WEST BASE		<b>DATE</b> <u>11-1</u>		<b>TIME</b> <u>14:45</u>		<b>ANALYSIS</b> <u>4500</u>			

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 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 services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

<b>Relinquished By:</b> <u>Andrew Parker</u>		<b>Received By:</b> <u>Andrew Parker</u>	
<b>Date:</b> <u>11-1</u>	<b>Time:</b> <u>10:25</u>	<b>Date:</b> <u>11-1</u>	<b>Time:</b> <u>14:00</u>

<b>Relinquished By:</b> <u>Andrew Parker</u>		<b>Received By:</b> <u>Andrew Parker</u>	
<b>Date:</b> <u>11-1</u>	<b>Time:</b> <u>10:25</u>	<b>Date:</b> <u>11-1</u>	<b>Time:</b> <u>14:00</u>

<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other: <u>2.8c</u>		<b>Sample Condition</b> Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		<b>CHECKED BY:</b> <u>Andrew Parker</u>	
<b>Remarks:</b> <u>* Sample IDs start w/ SE as per Andrew's 11/2/18 cde</u>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Add'l Phone #:</b>	
<b>Remarks:</b> <u>* Sample IDs start w/ SE as per Andrew's 11/2/18 cde</u>		<b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Add'l Fax #:</b>	

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: EAST OF BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Sludge  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTEX 8021B			mg/kg		Analyzed 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 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: EAST OF BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Sludge  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: EAST OF BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Sludge  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: EAST OF BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Sludge  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/31/2018  
 Reported: 11/02/2018  
 Project Name: ADVANCE ENERGY  
 Project Number: EAST OF BATTLE 34  
 Project Location: NOT GIVEN

 Sampling Date: 10/30/2018  
 Sampling Type: Sludge  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 10/31/2018  
 Reported: 11/02/2018  
 Project Name: ADVANCE ENERGY  
 Project Number: EAST OF BATTLE 34  
 Project Location: NOT GIVEN

 Sampling Date: 10/30/2018  
 Sampling Type: Sludge  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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		Analyzed 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		Analyzed 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		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager

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

**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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Delivered By: (Circle One)	Time:	
Sampler - UPS - Bus - Other:	Sample Condition Cool    Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (Initials)

4.9c #97

SD

PAGE 11

970-570-9535

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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		Analyzed 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		Analyzed 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		Analyzed 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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

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

Company Name: <b>RT Hicks Consulting</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																						
Project Manager: <b>Andrew Parker</b>		P.O. #:																								
Address: <b>on file</b>		Company: <b>RT Hicks</b>																								
City: <b>State: Zip:</b>		Attn: <b>Andrew Parker</b>																								
Phone #: <b>Fax #:</b>		Address:																								
Project #: <b>Project Owner:</b>		City:																								
Project Name: <b>Advance Energy</b>		State: Zip:																								
Project Location: <b>Lathrop North</b>		Phone #:																								
Sampler Name: <b>Andrew Parker</b>		Fax #:																								
FOR LAB USE ONLY																										
Lab I.D.	Sample I.D.	(C)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING															
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			ACID/BASE:	ICE / COOL	OTHER :												
<b>H803140</b>	1 N. Flowline wall	C1	C1	X								10:31	10:30	✓												
	2 N. Flowline Base	C1	C1	X								10:31	10:45	✓												
	3 East #2 wall											11:1	11:00	✓												
	4 East West wall											11:1	11:15	✓												
	<b>N. Base</b>																									

**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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <b>Andrew Parker</b>	Date: <b>10-31</b>	Received By: <b>Juanita Rodriguez</b>	Date: <b>10-31</b>
Relinquished By: <b>Time:</b>	<b>16:05</b>	Received By: <b>Time:</b>	

Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other: <b>2.8c #97</b>	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>TQ.</b>

REMARKS:

**RUSH**

**ASAP**

**Text to Results**

**970-570-9535**



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

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		Analyzed 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		Analyzed 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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

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

Company Name: <b>RT Hicks Consultants</b>		P.O. #:		<b>BILL TO</b>														
Project Manager: <b>Andrew Parker</b>		Company: <b>RT Hicks</b>		<b>ANALYSIS REQUEST</b>														
Address: <b>00-file</b>		Attn: <b>Andrew Parker</b>																
City: _____ State: _____ Zip: _____		Address: _____																
Phone #: _____ Fax #: _____		City: _____																
Project #: _____ Project Owner: _____		State: _____ Zip: _____																
Project Name: <b>Advance Energy</b>		Phone #: _____																
Project Location: <b>Lathrop South</b>		Fax #: _____																
Sample Name: <b>Andrew Parker</b>																		
FOR LAB USE ONLY																		
Lab I.D.  <b>Sample I.D.</b>	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX	PRESERV	SAMPLING	DATE	TIME												
Relinquished By: _____		Received By: _____																
Date: <b>11-1</b>		Time: <b>10:00</b>																
Relinquished By: _____		Received By: _____																
Date: _____		Time: _____																
Delivered By: (Circle One)		Sample Condition																
Sampler - UPS - Bus - Other: <b>9.88 #99</b>		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>																
		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>																
		CHECKED BY: _____																
		(Initials)																
		REMARKS:																
		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:																
		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #:																

Rust  
ASAP

Text Results to  
970-570-9535

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

Chloride, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 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		Analyzed 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, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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

Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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)**

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 10/31/2018  
Reported: 11/02/2018  
Project Name: ADVANCE ENERGY  
Project Number: BATTLE 34  
Project Location: NOT GIVEN

Sampling Date: 10/30/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	11/01/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

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

<b>Company Name:</b> RT Hicks Consultants <b>Project Manager:</b> Andrew Parker <b>Address:</b> on-file <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____ <b>Project #:</b> _____ <b>Project Owner:</b> _____ <b>Project Name:</b> Advance Energy <b>Project Location:</b> Battle 34 <b>Sampler Name:</b> Andrew Parker				<b>BILL TO</b> <b>P.O. #:</b> _____ <b>Company:</b> RT Hicks <b>Attn:</b> Andrew Parker <b>Address:</b> on-file <b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____ <b>Phone #:</b> _____ <b>Fax #:</b> _____					
<b>FOR LAB USE ONLY</b>				<b>ANALYSIS REQUEST</b>					
<b>Lab I.D.</b> HS03103		<b>Sample I.D.</b> (G)RAB OR (C)OMP # CONTAINERS		<b>MATRIX</b> GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : _____ ACID/BASE : _____ ICE / COOL : _____ OTHER : _____		<b>PRESERV.</b> DATE TIME		<b>SAMPLING</b>	
1 Battle 34 Road 0-100 W. VALLEY C 1 2 Battle 34 Road 0-100 BASS C 1 3 Battle 34 Road 100-200 W. VALLEY C 1 4 Battle 34 Road 100-200 BASS C 1 5 Battle 34 Road 200-270 W. VALLEY C 1 6 Battle 34 Road 200-270 BASS C 1 7 Battle 34 Road N. VALLEY C 1 8 BATTLE 34 Road S. VALLEY C 1		X X X X X X X X		10:30 10:30 10:30 10:30 10:30 10:30 10:30 10:30		10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00		X X X X X X X X	

PLEASE NOTE: Liability and Damages. Cardinal's liability and clients' exclusive remedy for any claim arising from this contract or work shall be limited to the amount paid by the client for the analysis. 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

<b>Relinquished By:</b> <i>Andrew Parker</i> <b>Date:</b> 10-31-14 <b>Time:</b> 7:55 <b>Relinquished By:</b> _____		<b>Received By:</b> <i>Janara Oldaker</i> <b>Date:</b> _____ <b>Time:</b> _____ <b>Received By:</b> _____	
<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other: <i>4.92 #97</i>		<b>Sample Condition</b> Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Checked By:</b> <i>RT</i> <b>REMARKS:</b> <i>andrew@rhicksconsult.com</i> <i>Text when emailed results</i> <i>RUSH !!!</i>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b> _____ <b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Fax #:</b> _____	



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

<b>Company Name:</b> <u>R.T. Hicks Consultants</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>			
<b>Project Manager:</b>				<b>P.O. #:</b>							
<b>Address:</b>				<b>Company:</b>							
<b>City:</b>				<b>Attn:</b>							
<b>State:</b>				<b>Address:</b>							
<b>Phone #:</b>				<b>City:</b>							
<b>Fax #:</b>				<b>State:</b>							
<b>Project #:</b>				<b>Zip:</b>							
<b>Project Name:</b> <u>Advance Energy</u>				<b>Phone #:</b>							
<b>Project Location:</b> <u>Battle 34</u>				<b>Fax #:</b>							
<b>Sample Name:</b>											

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	SAMPLING	ANALYSIS	REMARKS	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:						ICE / COOL
14803103																
9	Battle 34 S. WAIL															
10	Battle 34 E. WAIL															
11	BATTLE 34 N. WAIL															

<b>Relinquished By:</b> <u>Chris Hansen</u>		<b>Date:</b> <u>10-31-18</u>		<b>Received By:</b> <u>Monica Blakely</u>		<b>Date:</b> <u>10-31-18</u>	
<b>Relinquished By:</b>		<b>Date:</b>		<b>Received By:</b>		<b>Date:</b>	

<b>Delivered By: (Circle One)</b>		<b>Sample Condition</b>		<b>CHECKED BY:</b>	
<b>Sampler - UPS - Bus - Other:</b> <u>Hand</u>		<input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact		(Initials) <u>JD.</u>	

<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Add'l Phone #:</b>
<b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Add'l Fax #:</b>
<b>REMARKS:</b>	

PAGE 2 of 2  
RUSH  
see page 1

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 11/01/2018  
Reported: 11/01/2018  
Project Name: ADVANCE ENERGY  
Project Number: LATITUDE SOUTH TRENCH  
Project Location: NOT GIVEN

Sampling Date: 10/31/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager

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

+ Cardinal cannot accept verbal changes Please for written changes to (EZE) 303 2326

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 11/01/2018  
Reported: 11/01/2018  
Project Name: ADVANCE ENERGY  
Project Number: WEST OF MERCHANT  
Project Location: NOT GIVEN

Sampling Date: 10/31/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: NORTH WALL (H803126-01)**

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	11/01/2018	ND	416	104	400	3.77	

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager



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

+ Cardinal cannot accept verbal change. Please fax written change to (575) 202-2326



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

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)**

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	09/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 41-142

Surrogate: 1-Chlorooctadecane 118 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 09/13/2018  
Reported: 09/18/2018  
Project Name: BATTLE 34 RELEASE  
Project Number: NONE GIVEN  
Project Location: ADVANCE ENERGY - LEA CO NM

Sampling Date: 09/13/2018  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

BTEX 8021B		mg/kg		Analyzed 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 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 37.6-147

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager

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

**PLEASE NOTE:** Liability and 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

+ Cardinal cannot account verbal changes. Place for written changes to (EZE) 202 2222



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

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1809976**

Date Reported: **9/25/2018**

**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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	ND	30		mg/Kg	20	9/23/2018 2:51:08 PM	40520
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
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
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
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
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
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.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1809976**

Date Reported: **9/25/2018**

**CLIENT:** R.T. Hicks Consultants, LTD

**Client Sample ID:** N Wall Comp

**Project:** W of Merchant Release W of rd

**Collection Date:** 9/11/2018 12:48:00 PM

**Lab ID:** 1809976-002

**Matrix:** SOIL

**Received Date:** 9/14/2018 8:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	ND	30		mg/Kg	20	9/23/2018 3:28:21 PM	40520
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
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
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
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
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
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.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1809976**

Date Reported: **9/25/2018**

**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	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	81	30		mg/Kg	20	9/23/2018 3:40:46 PM	40520
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/20/2018 12:42:33 PM	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
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
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
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
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.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1809976**

Date Reported: **9/25/2018**

**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	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	ND	30		mg/Kg	20	9/23/2018 3:53:11 PM	40520
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
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
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
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
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
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.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1809976**

Date Reported: **9/25/2018**

**CLIENT:** R.T. Hicks Consultants, LTD

**Client Sample ID:** Floor Comp @ 5' BGS

**Project:** W of Merchant Release W of rd

**Collection Date:** 9/11/2018 1:33:00 PM

**Lab ID:** 1809976-005

**Matrix:** SOIL

**Received Date:** 9/14/2018 8:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	ND	30		mg/Kg	20	9/23/2018 4:30:25 PM	40520
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
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
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/21/2018 12:18:18 AM	40453
Surr: BFB	91.5	15-316		%Rec	1	9/21/2018 12:18:18 AM	40453
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	9/21/2018 12:18:18 AM	40453
Toluene	ND	0.047		mg/Kg	1	9/21/2018 12:18:18 AM	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 AM	40453

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1809976

25-Sep-18

**Client:** R.T. Hicks Consultants, LTD  
**Project:** W of Merchant Release W of rd

Sample ID	MB-40520		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 40520		RunNo: 54364					
Prep Date:	9/22/2018		Analysis Date: 9/23/2018		SeqNo: 1800846		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-40520		SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	40520		RunNo:	54364				
Prep Date:	9/22/2018		Analysis Date:	9/23/2018		SeqNo:	1800847		Units:	mg/Kg	
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.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1809976

25-Sep-18

**Client:** R.T. Hicks Consultants, LTD  
**Project:** W of Merchant Release W of rd

Sample ID	1809976-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	W Wall Comp	Batch ID:	40460	RunNo:	54275					
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	SeqNo:	1797637	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	9.9	49.70	0	117	53.5	126			
Surr: DNOP	5.5		4.970		111	50.6	138			

Sample ID	1809976-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	W Wall Comp	Batch ID:	40460	RunNo:	54275					
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	SeqNo:	1797638	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	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	LCS-40460	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	40460	RunNo:	54275					
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	SeqNo:	1797655	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	70	130			
Surr: DNOP	4.4		5.000		87.3	50.6	138			

Sample ID	MB-40460	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	40460	RunNo:	54275					
Prep Date:	9/19/2018	Analysis Date:	9/20/2018	SeqNo:	1797656	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	50.6	138			

Sample ID	LCS-40485	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	40485	RunNo:	54322					
Prep Date:	9/20/2018	Analysis Date:	9/21/2018	SeqNo:	1798291	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	50.6	138			

Sample ID	MB-40485	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	40485	RunNo:	54322					
Prep Date:	9/20/2018	Analysis Date:	9/21/2018	SeqNo:	1798292	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1809976

25-Sep-18

Client: R.T. Hicks Consultants, LTD

Project: W of Merchant Release W of rd

Sample ID	MB-40485		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 40485		RunNo: 54322					
Prep Date:	9/20/2018		Analysis Date: 9/21/2018		SeqNo: 1798292		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	50.6	138			

### 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 Quantitative 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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1809976

25-Sep-18

**Client:** R.T. Hicks Consultants, LTD  
**Project:** W of Merchant Release W of rd

Sample ID	MB-40453		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 40453		RunNo: 54282					
Prep Date:	9/19/2018		Analysis Date: 9/20/2018		SeqNo: 1796709		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.4	15	316			

Sample ID	LCS-40453		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 40453		RunNo: 54282					
Prep Date:	9/19/2018		Analysis Date: 9/20/2018		SeqNo: 1796710		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.8	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Sample ID	1809976-001AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	W Wall Comp		Batch ID: 40453		RunNo: 54282					
Prep Date:	9/19/2018		Analysis Date: 9/20/2018		SeqNo: 1796712		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.58	0	122	77.8	128			
Surr: BFB	1000		943.4		109	15	316			

Sample ID	1809976-001AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	W Wall Comp		Batch ID: 40453		RunNo: 54282					
Prep Date:	9/19/2018		Analysis Date: 9/20/2018		SeqNo: 1796713		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range 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:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1809976

25-Sep-18

Client: R.T. Hicks Consultants, LTD

Project: W of Merchant Release W of rd

Sample ID	<b>MB-40453</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>PBS</b>		Batch ID:	<b>40453</b>		RunNo:	<b>54282</b>			
Prep Date:	<b>9/19/2018</b>		Analysis Date:	<b>9/20/2018</b>		SeqNo:	<b>1796749</b>		Units: <b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.5	80	120			

Sample ID	<b>LCS-40453</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>LCSS</b>		Batch ID:	<b>40453</b>		RunNo:	<b>54282</b>			
Prep Date:	<b>9/19/2018</b>		Analysis Date:	<b>9/20/2018</b>		SeqNo:	<b>1796750</b>		Units: <b>mg/Kg</b>	
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			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.4	80	120			

Sample ID	<b>1809976-002AMS</b>		SampType:	<b>MS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>N Wall Comp</b>		Batch ID:	<b>40453</b>		RunNo:	<b>54282</b>			
Prep Date:	<b>9/19/2018</b>		Analysis Date:	<b>9/20/2018</b>		SeqNo:	<b>1796753</b>		Units: <b>mg/Kg</b>	
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-Bromofluorobenzene	0.97		0.9737		99.4	80	120			

Sample ID	<b>1809976-002AMSD</b>		SampType:	<b>MSD</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>N Wall Comp</b>		Batch ID:	<b>40453</b>		RunNo:	<b>54282</b>			
Prep Date:	<b>9/19/2018</b>		Analysis Date:	<b>9/20/2018</b>		SeqNo:	<b>1796754</b>		Units: <b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	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	
Surr: 4-Bromofluorobenzene	0.94		0.9524		98.2	80	120	0	0	

### Qualifiers:

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

## Sample Log-In Check List

Client Name: RT HICKS

Work Order Number: 1809976

RcptNo: 1

Received By: Jazzmine Burkhead 9/14/2018 8:55:00 AM

Completed By: Ashley Gallegos 9/17/2018 4:39:01 PM

Reviewed By: JO

9/19/18

Labeled by:

mg 09/19/18

### Chain of Custody

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

### Log In

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

# of preserved bottles checked for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Not Present			

[illegible]

Turn-Around Time:		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	
Project Name:		W of Merchant Release (W of rd.)	
Project #:			
Project Manager:		A. Packer	
Sampler:		Kristin Pope	
On Ice:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Temperature:		4.2	
Container Type and #	Preservative Type	HEAL No.	
1 glass	ice	-001	1809976
		-002	
		-003	
		-004	
		-005	
Received by:		Date	Time
Douglas Pope		9/13/18	0800
Received by:		Date	Time
[Signature]		9/13/18	1400

4901 Hawkins NE - Albuquerque, NM 87109  
Tel. 505-345-3975 Fax 505-345-4107  
www.hallenvironmental.com

## Analysis Request

[illegible]

marks: \_\_\_\_\_

mail to andrew@rthicksconsult.com,  
R@... ,  
kristin@... ,

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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, SM4500CI-B		mg/kg		Analyzed 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

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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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 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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager

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

[illegible]

**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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>Andrew</i>	Date: 11/1	Received By: <i>Samara Alvarado</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 0800		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
	Date: Time:		REMARKS:  <i>24 hour Rush</i>	
Relinquished By:	Date: Time:	Received By:		
Delivered By: (Circle One)	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: (Initials) <i>TC.</i>	
Sampler - UPS - Bus - Other:		<i>4.0°C #472</i>		