R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

July 11, 2017

Amber Groves
Remediation Specialist
New Mexico State Land Office
2827 N. Dal Paso, Suite 117
Hobbs, New Mexico 88260
Via E-Mail

INFORMATION ONLY

RE: AMTEX Energy, Coop "6" State Lease Battery - OGRID # 000785, Unit A Section 6, T22S, R33E, Lea County, Assessment of Hydrocarbon Spill

Dear Ms. Groves:

On behalf of Amtex Energy Inc., R.T. Hicks Consultants submits this Assessment and Remediation Plan. We believe a review of the data will show that there is no threat to the groundwater quality caused by this release and the remedial objective should be limited to the restoration of the surface vegetation.

Release and Assessment – The failure of an oil transfer pump on the east site of the Coop "6" State battery, which is situated on the drilling location for the No. 1H well (API 30-025-41177), caused an apparent spray of oil that was first noticed by field personnel sometime in late summer of 2016. The pump was repaired and, based on an initial inspection of the affected soil near the release; it was determined that the release was too small to report to the NMOCD (less than 5 bbls) as shown on the adjacent photograph from March 2017. It was later determined that the oil travelled along a very narrow drainage pathway formed by a buried pipeline on the south side of the battery, through an area of deep sandy soil, to a termination point at the lease road approximately 300 feet to the west.

On March 27, 2017 an extensive investigation of the spill area was performed by RT Hicks Consultants to delineate the horizontal extent of the affected soil. A hand auger was used to recover soil samples from nineteen shallow (0.5-feet deep) borings within and surrounding the area of discoloration as shown on Plate 1. Generally, auger refusal was encountered at 0.5 feet on the east side of the spill area. Field screening was performed using a photoionic detector (PID) calibrated to benzene. The highest PID concentrations were identified in boring No. 6 and boring No. 16 (see Plate 1). These borings were advanced to the auger refusal depth and soil samples were recovered for laboratory analysis of hydrocarbons and chloride.

Laboratory results from the March 27, 2017 samples indicated that no elevated chloride concentrations are present in the affected soil and that the highest benzene, total BTEX, and GRO concentrations were present in the sample from boring No. 6 at the auger refusal depth of 1.5 feet in the lower (west) end of the spill area. The highest concentrations of DRO and DRO ext. hydrocarbons were found in boring No. 16 at the auger refusal depth of 1.0 foot in the upper (east) end of the spill.

On April 11, 2017, a backhoe was used to complete the vertical delineation of the soil at the boring No. 6 location. Soil samples were recovered at five and ten feet below the surface for laboratory analysis of hydrocarbons and chloride. The vertical delineation results indicated that the greatest volume of hydrocarbons exist in the sandy soil above the auger refusal depth, with total petroleum hydrocarbon (GRO + DRO + Extended DRO) concentrations decreasing from 12,210 mg/kg just above the auger refusal depth to 2, 614 mg/kg at 5.0 feet below the surface. The sample recovered from 10.0 feet below the surface contained no detectable hydrocarbons. A summary of the PID and laboratory results is provided on Plate 2 and the laboratory reports are attached.

In order to determine if an NMOCD reportable volume had been released, the total spill area was subdivided based on near-surface soil character, as follows:

- The upper spill area (east side) covers approximately 4,100 ft^2 and is characterized by a shallow (0.5-foot average) sandy surface layer overlying a harder clay soil. Spilled crude oil in this area tended to spread out over the soil rather than seep into it. Laboratory data from boring No. 16 was used to calculate the total hydrocarbon volume in this area (approximately 0.97%). With an assumed porosity of 40% we determined that approximately 2.1 bbls of oil were spilled into the upper area.

- The lower spill area (west side) covers approximately 1,100 ft^2 and is characterized by a deeper (1.5-foot average) sandy surface layer overlying the harder clay. Spilled crude oil in this area tended to stay within a narrow channel and accumulate at the base of the sand. Laboratory data from the top 1.5 feet of boring No. 6 was used to calculate the total hydrocarbon volume in this area (approximately 1.08%). Using the same assumed sand porosity we determined that approximately 1.9 bbls of oil were spilled into the lower area, for a total release volume of approximately 4.0 bbls.

It should be noted the while the laboratory data from borings No. 6 and 16 were used to represent the respective spill areas, the field screening results indicate that the actual average concentrations would likely be much lower, therefore the actual release volume should also be lower.

Environmental Sensitivity of the Spill Site – The siting criteria of the Coop "6" State Well No. 1H, adjacent to the battery, was evaluated in July of 2013 in association with a Temporary Pit (C-144) Application utilizing the requirements under 19.15.17.10 NMAC. The NMOCD approved the application on August 5, 2013 (Permit #P1-0600) and it can be viewed on the NMOCD web site.

The results of the siting criteria relevant to the environmental sensitivity of the spill area is summarized below:

- There is no shallow (Ogallala Aquifer) groundwater present at the site
- Depth to the Triassic groundwater is approximately 290 feet below the surface
- The nearest surface water is Dagger Lake, located approximately 0.5 miles to the southeast of the site
- There are no permanent residence or structures within 300 feet of the site
- There are no springs in the area and the nearest non-public water well is located 2.2 miles to the northeast
- The nearest municipality is located 31 miles to the east and the nearest public water field is located 32 miles to the north
- The nearest wetland is Dagger Lake (see above)
- The nearest subsurface mine (caliche pit) is located 2.5 miles to the northwest
- The nearest "high" or "critical" karst area is located 14 miles to the west
- The area surrounding the site has not been mapped relative to a 100-year floodplain

Based on this information the spill does not represent a threat to groundwater, human health, or the environment and any further corrective actions should be conducted solely to prevent the asphaltic aggregation of the near surface hydrocarbons in order to ensure the best opportunity of re-vegetation.

Remedial Actions – It should be noted that no evidence was found to indicate that the release caused the destruction or stress of any existing vegetation because the oil flowed adjacent to the disturbed soil associated with a recently buried pipeline. Additionally, because the release did not include brine water, the only potential impairment to re-vegetation is the formation of hydrocarbon asphalt.

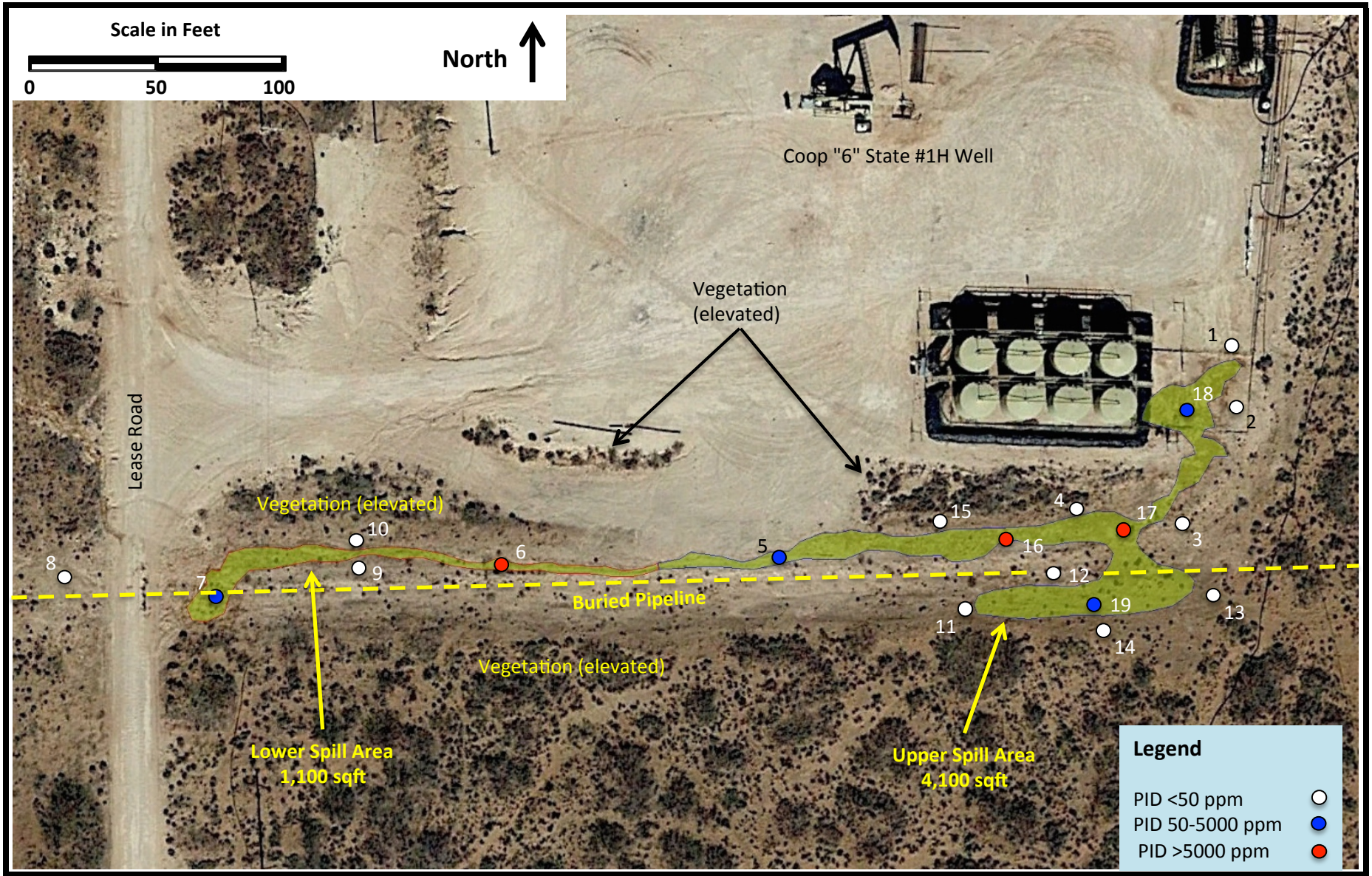
In light of this RT Hicks Consultants recommends that the additional corrective actions be limited to monitoring by field personnel to determine if patches of asphaltic soil are developing within the spill area, and utilizing a roustabout crew to break-up and turn the soil as they are identified. Heavy equipment should not be used due to the relative location of the buried pipeline. If vegetation does not return after two or three growing seasons the area should be re-sampled to determine if further soil stimulation is required to accelerate natural attenuation of the hydrocarbons.

Sincerely,
R.T. Hicks Consultants, Ltd.

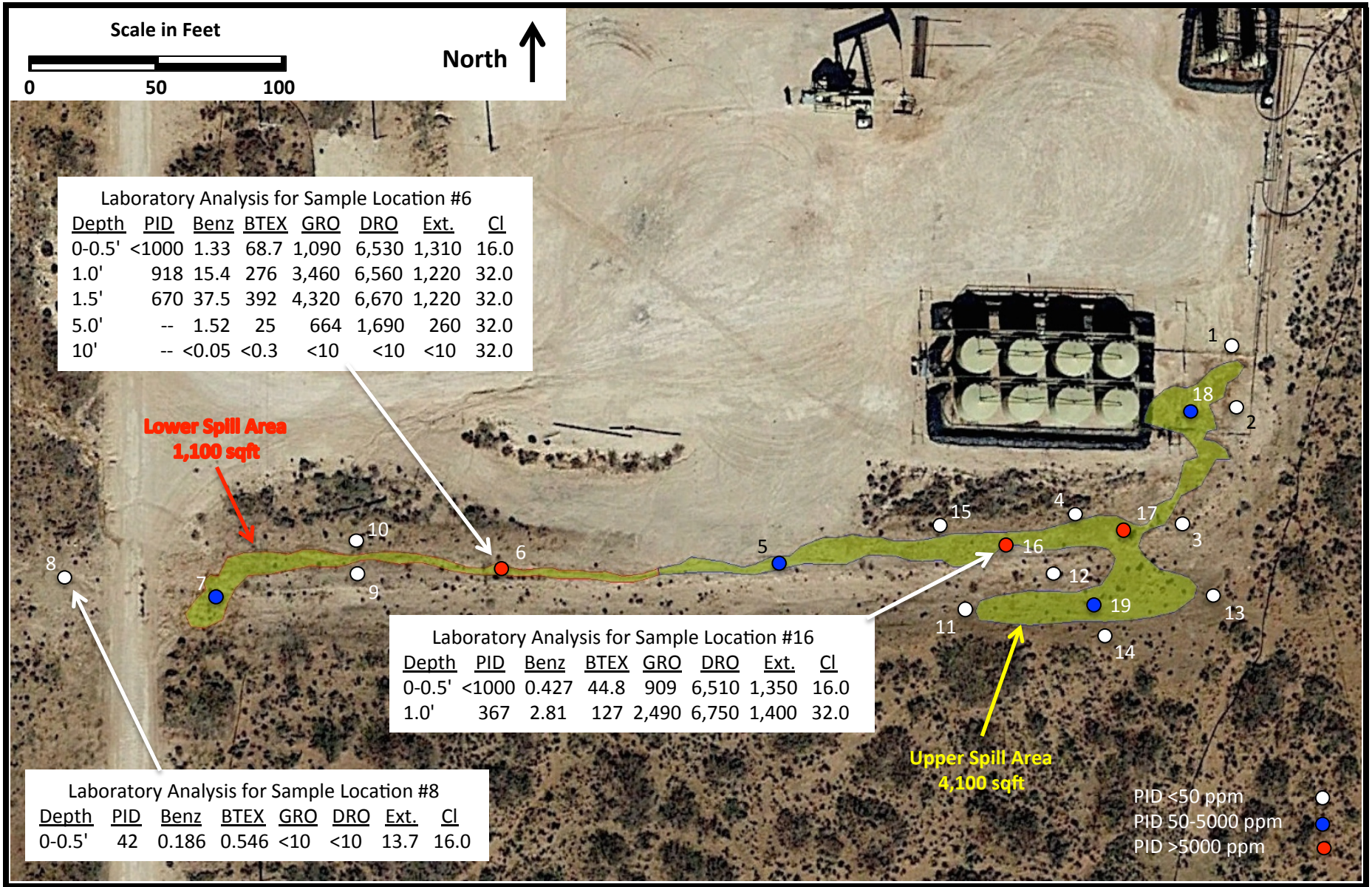
Dale T. Littlejohn

Dale Littlejohn
Geologist

Copy: Amtex Energy Inc.,
NMOCD District 1 Office, Olivia Yu



R.T Hicks Consultants, Ltd 901 Rio Grande Blvd. NW Ste F-142 Albuquerque, NM 87104 (432) 528-3878	Site Map Showing Location of Crude Oil Spill Area and Characterization Soil Samples	Plate 1
	AMTEX Energy, Inc. - Coop "6" State Battery (on well 1H location) Unit A, Section 6, T22S, R33E, Lea County, New Mexico	July 2017



R.T Hicks Consultants, Ltd 901 Rio Grande Blvd. NW Ste F-142 Albuquerque, NM 87104 (432) 528-3878	Site Map Showing Location of Crude Oil Spill Area and Characterization Soil Samples AMTEX Energy, Inc. - Coop "6" State Battery (on well 1H location) Unit A, Section 6, T22S, R33E, Lea County, New Mexico	Plate 2 July 2017

View to the West – Transfer Pump (upper area)

View to North – Affected Soil Near Source (upper area)

View to East – Spill Pathway (lower area)

View to West – Spill Pathway (lower area)

View to East: 4-11-17 Excavation at boring #6 location

June 19, 2017 Photographs
Following the initial turning of the soil to break-up
or prevent formation of asphalt

View to the South – Near Transfer Pump (upper area)

View to West – Lower (west) Spill Area

CARDINAL Laboratories

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

April 03, 2017

DALE LITTLEJOHN

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: AMTEX COOP "6" BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/27/17 16:43.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 6 (0 - 0.5 ') (H700798-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.33**	0.100	03/29/2017	ND	1.77	88.5	2.00	1.48	
Toluene*	**16.5**	0.100	03/29/2017	ND	1.72	85.8	2.00	1.02	
Ethylbenzene*	**11.7**	0.100	03/29/2017	ND	1.74	87.2	2.00	2.13	
Total Xylenes*	**39.3**	0.300	03/29/2017	ND	5.00	83.3	6.00	1.90	
Total BTEX	**68.7**	0.600	03/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/29/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**1090**	50.0	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	**6530**	50.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**1310**	50.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *198 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *92.4 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 6 (1.0 ') (H700798-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**15.4**	2.00	03/30/2017	ND	1.77	88.5	2.00	1.48	
Toluene*	**108**	2.00	03/30/2017	ND	1.72	85.8	2.00	1.02	
Ethylbenzene*	**24.4**	2.00	03/30/2017	ND	1.74	87.2	2.00	2.13	
Total Xylenes*	**128**	6.00	03/30/2017	ND	5.00	83.3	6.00	1.90	
Total BTEX	**276**	12.0	03/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/29/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**3460**	50.0	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	**6560**	50.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**1220**	50.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *178 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *88.6 %* *26.8-170*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 6 (1.5 ') (H700798-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**37.5**	2.00	03/30/2017	ND	1.77	88.5	2.00	1.48	
Toluene*	**171**	2.00	03/30/2017	ND	1.72	85.8	2.00	1.02	
Ethylbenzene*	**30.5**	2.00	03/30/2017	ND	1.74	87.2	2.00	2.13	
Total Xylenes*	**153**	6.00	03/30/2017	ND	5.00	83.3	6.00	1.90	
Total BTEX	**392**	12.0	03/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/29/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**4320**	50.0	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	**6670**	50.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**1220**	50.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *181 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *91.1 %* *26.8-170*

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Celey D. Keene, Lab Director/Quality Manager

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 8 (0 - 0.5 ') (H700798-04)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.186**	0.050	03/29/2017	ND	1.71	85.4	2.00	1.36	
Toluene*	**0.360**	0.050	03/29/2017	ND	1.66	82.9	2.00	1.39	
Ethylbenzene*	<0.050	0.050	03/29/2017	ND	1.71	85.6	2.00	1.83	
Total Xylenes*	<0.150	0.150	03/29/2017	ND	4.88	81.3	6.00	1.89	
Total BTEX	**0.546**	0.300	03/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/29/2017	ND	448	112	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	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	<10.0	10.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**13.7**	10.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *92.6 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *98.8 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 16 (0 - 0.5 ') (H700798-05)

BTEX 8021B mg/kg **Analyzed By: MS** **S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.427**	0.100	03/29/2017	ND	1.71	85.4	2.00	1.36	
Toluene*	**9.57**	0.100	03/29/2017	ND	1.66	82.9	2.00	1.39	
Ethylbenzene*	<0.100	0.100	03/29/2017	ND	1.71	85.6	2.00	1.83	
Total Xylenes*	**34.8**	0.300	03/29/2017	ND	4.88	81.3	6.00	1.89	
Total BTEX	**44.8**	0.600	03/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *162 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/29/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**909**	50.0	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	**6510**	50.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**1350**	50.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *174 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *89.3 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/27/2017	Sampling Date:	03/27/2017
Reported:	04/03/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	EAST & SOUTH OF BATTERY		

Sample ID: BH - 16 (1.0 ') (H700798-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.81**	0.200	03/29/2017	ND	1.71	85.4	2.00	1.36	
Toluene*	**35.0**	0.200	03/29/2017	ND	1.66	82.9	2.00	1.39	
Ethylbenzene*	<0.200	0.200	03/29/2017	ND	1.71	85.6	2.00	1.83	
Total Xylenes*	**89.1**	0.600	03/29/2017	ND	4.88	81.3	6.00	1.89	
Total BTEX	**127**	1.20	03/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *148 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/29/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**2490**	50.0	03/28/2017	ND	193	96.7	200	0.392	
DRO >C10-C28	**6750**	50.0	03/28/2017	ND	206	103	200	0.956	
EXT DRO >C28-C36	**1400**	50.0	03/28/2017	ND					

Surrogate: 1-Chlorooctane *162 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *81.3 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	R T Hicks Consultants Ltd
Project Manager:	Dale Littlejohn
Address:	901 Rio Grande BLVD, Suite F-142
City:	Albuquerque State: NM Zip: 87104
Phone #:	(432) 528-3878 Fax #: dale@rthicksconsult.com
Project #:	Project Owner: Amtex
Project Name:	Amtex Coop. "6" Battery
Project Location:	East & South of Battery
Sampler Name:	Dale Littlejohn

BILL TO

P.O. #:	
Company:	RT Hicks Consult.
Attn:	Krista
Address:	901 Rio G. F-142
City:	Albuquerque
State:	NM Zip: 87104
Phone #:	(505) 266-5004
Fax #:	k@rthicksconsult.com

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX (8021B or 8260B)	GRO (8015M)	DRO (8015M)	MRO (8015M)	TPH (418.1)	Chloride (300.0 or approved)
H100198																				
1	BH-6 (0-0.5 ft)	C	1			✓					✓		3/27/17	1215	✓	✓	✓	✓		✓
2	BH-6 (1.0 ft)	G	1			✓					✓		"	1450	✓	✓	✓	✓		✓
3	BH-6 (1.5 ft)	G	1			✓					✓		"	1455	✓	✓	✓	✓		✓
4	BH-8 (0-0.5 ft)	C	1			✓					✓		"	1220	✓	✓	✓	✓		✓
5	BH-16 (0-0.5 ft)	C	1			✓					✓		"	1245	✓	✓	✓	✓		✓
6	BH-16 (1.0 ft)	G	1			✓					✓		"	1445	✓	✓	✓	✓		✓

Relinquished By:	Date: 3/27	Received By:	
Dale T Littlejohn	Time: 4:43		
Relinquished By:	Date: 3/27/17	Received By:	
	Time: 4:43	Tamara Oldaker	

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 3.8°c

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) T.O. #75

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Turnaround time changes to (575) 393-2326

CARDINAL Laboratories

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

April 18, 2017

DALE LITTLEJOHN

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: AMTEX COOP "6" BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/12/17 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	04/12/2017	Sampling Date:	04/11/2017
Reported:	04/18/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: LOCATION #6 (5') (H700974-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.52**	0.500	04/18/2017	ND	2.24	112	2.00	1.94	
Toluene*	**8.23**	0.500	04/18/2017	ND	2.05	102	2.00	1.88	
Ethylbenzene*	**3.22**	0.500	04/18/2017	ND	2.04	102	2.00	1.61	
Total Xylenes*	**11.6**	1.50	04/18/2017	ND	5.84	97.3	6.00	1.49	
Total BTEX	**24.6**	3.00	04/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *72-148*

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	04/13/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**664**	10.0	04/13/2017	ND	200	100	200	2.34	
DRO >C10-C28	**1690**	10.0	04/13/2017	ND	213	106	200	3.55	
EXT DRO >C28-C36	**260**	10.0	04/13/2017	ND					

Surrogate: 1-Chlorooctane *110 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *102 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	04/12/2017	Sampling Date:	04/11/2017
Reported:	04/18/2017	Sampling Type:	Soil
Project Name:	AMTEX COOP "6" BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: LOCATION #6 (10') (H700974-02)

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	04/18/2017	ND	2.24	112	2.00	1.94	
Toluene*	**0.122**	0.050	04/18/2017	ND	2.05	102	2.00	1.88	
Ethylbenzene*	<0.050	0.050	04/18/2017	ND	2.04	102	2.00	1.61	
Total Xylenes*	<0.150	0.150	04/18/2017	ND	5.84	97.3	6.00	1.49	
Total BTEX	<0.300	0.300	04/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *72-148*

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	04/13/2017	ND	432	108	400	3.77	

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	04/17/2017	ND	193	96.5	200	0.951	
DRO >C10-C28	<10.0	10.0	04/17/2017	ND	199	99.3	200	0.178	
EXT DRO >C28-C36	<10.0	10.0	04/17/2017	ND					

Surrogate: 1-Chlorooctane *94.0 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *95.3 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	R T Hicks Consultants Ltd
Project Manager:	Dale Littlejohn
Address:	901 Rio Grande BLVD, Suite F-142
City:	Albuquerque State: NM Zip: 87104
Phone #:	(432) 528-3878 Fax #: dale@rthicksconsult.com
Project #:	Project Owner: Amtex
Project Name:	Coop "6" State Battery
Project Location:	Lea County, NM
Sampler Name:	Dale Littlejohn

BILL TO

P.O. #:	
Company:	RT Hicks Consult.
Attn:	Krista
Address:	901 Rio G. F-142
City:	Albuquerque
State:	NM Zip: 87104
Phone #:	(505) 266-5004
Fax #:	k@rthicksconsult.com

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX (8021B or 8260B)	GRO (8015M)	DRO (8015M)	MRO (8015M)	TPH (418.1)	Chloride (300.0 or approved)
H200974																				
1	Location #6 (5')	G	1			✓					✓		4/11	1450	✓	✓	✓	✓		✓
2	Location #6 (10')	G	1			✓					✓		4/11	1500	✓	✓	✓	✓		✓

Relinquished By:	Date: 4/12	Received By:	
Dale T. Littlejohn	Time: 1400		
Relinquished By:	Date: 4-12-17	Received By:	
	Time: 14:00	Tamara Oldaker	

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 2.9°

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) T.D. #75

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: