



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

October 14, 2016

MIKE STUBBLEFIELD

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: ASAU 149 TRUNK LINE RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 10/07/16 15:10.

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 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
MIKE STUBBLEFIELD
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/07/2016	Sampling Date:	10/06/2016
Reported:	10/14/2016	Sampling Type:	Soil
Project Name:	ASAU 149 TRUNK LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	30.015.00204	Sample Received By:	Jodi Henson
Project Location:	UTO SEC. 14-T18S-R26E		

Sample ID: S-1 BOTTOM 10' (H602267-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.36	1.00	10/11/2016	ND	2.18	109	2.00	1.38	
Toluene*	24.7	1.00	10/11/2016	ND	2.27	114	2.00	1.12	
Ethylbenzene*	38.5	1.00	10/11/2016	ND	2.21	110	2.00	1.03	
Total Xylenes*	107	3.00	10/11/2016	ND	6.66	111	6.00	0.694	
Total BTEX	174	6.00	10/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	10/12/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	1740	50.0	10/10/2016	ND	188	94.1	200	3.55		
DRO >C10-C28	6700	50.0	10/10/2016	ND	214	107	200	4.52		

Surrogate: 1-Chlorooctane 155 % 35-147

Surrogate: 1-Chlorooctadecane 177 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 10/07/2016
 Reported: 10/14/2016
 Project Name: ASAU 149 TRUNK LINE RELEASE
 Project Number: 30.015.00204
 Project Location: UTO SEC. 14-T18S-R26E

 Sampling Date: 10/06/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-2 BOTTOM 14' (H602267-02)

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2016	ND	2.18	109	2.00	1.38	
Toluene*	0.130	0.050	10/11/2016	ND	2.27	114	2.00	1.12	
Ethylbenzene*	0.067	0.050	10/11/2016	ND	2.21	110	2.00	1.03	
Total Xylenes*	0.229	0.150	10/11/2016	ND	6.66	111	6.00	0.694	
Total BTEX	0.426	0.300	10/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	10/12/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2016	ND	188	94.1	200	3.55	
DRO >C10-C28	422	10.0	10/10/2016	ND	214	107	200	4.52	

Surrogate: 1-Chlorooctane 94.5 % 35-147

Surrogate: 1-Chlorooctadecane 107 % 28-171

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MIKE STUBBLEFIELD
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received: 10/07/2016
Reported: 10/14/2016
Project Name: ASAU 149 TRUNK LINE RELEASE
Project Number: 30.015.00204
Project Location: UTO SEC. 14-T18S-R26E

Sampling Date: 10/06/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-3 EAST WALL (H602267-03)

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2016	ND	2.18	109	2.00	1.38	
Toluene*	<0.050	0.050	10/11/2016	ND	2.27	114	2.00	1.12	
Ethylbenzene*	<0.050	0.050	10/11/2016	ND	2.21	110	2.00	1.03	
Total Xylenes*	<0.150	0.150	10/11/2016	ND	6.66	111	6.00	0.694	
Total BTEx	<0.300	0.300	10/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.6-140

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	10/12/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2016	ND	188	94.1	200	3.55	
DRO >C10-C28	<10.0	10.0	10/10/2016	ND	214	107	200	4.52	

Surrogate: 1-Chlorooctane 82.7 % 35-147

Surrogate: 1-Chlorooctadecane 90.9 % 28-171

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MIKE STUBBLEFIELD
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received: 10/07/2016
Reported: 10/14/2016
Project Name: ASAU 149 TRUNK LINE RELEASE
Project Number: 30.015.00204
Project Location: UTO SEC. 14-T18S-R26E

Sampling Date: 10/06/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 NORTH WALL (H602267-04)

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/11/2016	ND	2.18	109	2.00	1.38	
Toluene*	<0.050	0.050	10/11/2016	ND	2.27	114	2.00	1.12	
Ethylbenzene*	<0.050	0.050	10/11/2016	ND	2.21	110	2.00	1.03	
Total Xylenes*	<0.150	0.150	10/11/2016	ND	6.66	111	6.00	0.694	
Total BTX	<0.300	0.300	10/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	10/12/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/11/2016	ND	188	94.1	200	3.55	
DRO >C10-C28	46.8	10.0	10/11/2016	ND	214	107	200	4.52	

Surrogate: 1-Chlorooctane 92.6 % 35-147

Surrogate: 1-Chlorooctadecane 96.2 % 28-171

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MIKE STUBBLEFIELD
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received: 10/07/2016
Reported: 10/14/2016
Project Name: ASAU 149 TRUNK LINE RELEASE
Project Number: 30.015.00204
Project Location: UTO SEC. 14-T18S-R26E

Sampling Date: 10/06/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-5 WEST WALL (H602267-05)

BTX 8021B		mg/kg		Analyzed By: CK				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/12/2016	ND	2.15	107	2.00	2.56		
Toluene*	0.532	0.050	10/12/2016	ND	2.21	111	2.00	2.87		
Ethylbenzene*	1.95	0.050	10/12/2016	ND	2.15	108	2.00	2.86		
Total Xylenes*	7.12	0.150	10/12/2016	ND	6.47	108	6.00	3.14		
Total BTX	9.61	0.300	10/12/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 144 % 73.6-140

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	10/12/2016	ND	400	100	400	3.92			

TPH 8015M			mg/kg					Analyzed By: CK			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	217	50.0	10/11/2016	ND	188	94.1	200	3.55			
DRO >C10-C28	4310	50.0	10/11/2016	ND	214	107	200	4.52			

Surrogate: 1-Chlorooctane 137 % 35-147

Surrogate: 1-Chlorooctadecane 139 % 28-171

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

 Received: 10/07/2016
 Reported: 10/14/2016
 Project Name: ASAU 149 TRUNK LINE RELEASE
 Project Number: 30.015.00204
 Project Location: UTO SEC. 14-T18S-R26E

 Sampling Date: 10/06/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-6 SOUTH WALL (H602267-06)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2016	ND	2.15	107	2.00	2.56	
Toluene*	0.110	0.050	10/12/2016	ND	2.21	111	2.00	2.87	
Ethylbenzene*	<0.050	0.050	10/12/2016	ND	2.15	108	2.00	2.86	
Total Xylenes*	0.297	0.150	10/12/2016	ND	6.47	108	6.00	3.14	
Total BTEX	0.407	0.300	10/12/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.6-140

Chloride, SM4500Cl-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	10/12/2016	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/11/2016	ND	188	94.1	200	3.55	
DRO >C10-C28	293	10.0	10/11/2016	ND	214	107	200	4.52	

Surrogate: 1-Chlorooctane 77.7 % 35-147

Surrogate: 1-Chlorooctadecane 87.1 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

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.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if 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

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Celey D. Keene, Lab Director/Quality Manager



(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Challenges