

May 06, 2019

GREG GREGSON

MARK L. SHIDLER

1313 CAMPBELL ROAD BLDG. D

HOUSTON, TX 77055

RE: STATE 23

Enclosed are the results of analyses for samples received by the laboratory on 05/02/19 14:25.

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.

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:

MARK L. SHIDLER
GREG GREGSON
1313 CAMPBELL ROAD BLDG. D
HOUSTON TX, 77055
Fax To:

Received: 05/02/2019
Reported: 05/06/2019
Project Name: STATE 23
Project Number: NONE GIVEN
Project Location: LEA

Sampling Date: 05/02/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: 1 A - TOP SURFACE (H901589-01)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.25	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33	
Toluene*	9.93	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04	
Ethylbenzene*	4.12	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87	
Total Xylenes*	12.7	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19	
Total BTEX	30.0	0.300	05/04/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 193 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2520	16.0	05/06/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	367	50.0	05/03/2019	ND	216	108	200	6.27	
DRO >C10-C28*	5010	50.0	05/03/2019	ND	203	101	200	5.49	
EXT DRO >C28-C36	992	50.0	05/03/2019	ND					

Surrogate: 1-Chlorooctane 146 % 41-142

Surrogate: 1-Chlorooctadecane 269 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

MARK L. SHIDLER
GREG GREGSON
1313 CAMPBELL ROAD BLDG. D
HOUSTON TX, 77055
Fax To:

Received: 05/02/2019
Reported: 05/06/2019
Project Name: STATE 23
Project Number: NONE GIVEN
Project Location: LEA

Sampling Date: 05/02/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: 2 A - TOP SURFACE (H901589-02)

BTX 8021B			mg/kg					Analyzed By: MS		A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33			
Toluene*	1.09	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04			
Ethylbenzene*	2.52	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87			
Total Xylenes*	11.5	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19			
Total BTX	15.1	0.300	05/04/2019	ND							

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 73.3-129

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	05/06/2019	ND	400	100	400	3.92			

TPH 8015M			mg/kg					Analyzed By: MS		S-06, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	306	50.0	05/03/2019	ND	216	108	200	6.27			
DRO >C10-C28*	6120	50.0	05/03/2019	ND	203	101	200	5.49			
EXT DRO >C28-C36	1130	50.0	05/03/2019	ND							

Surrogate: 1-Chlorooctane 192 % 41-142

Surrogate: 1-Chlorooctadecane 273 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MARK L. SHIDLER
 GREG GREGSON
 1313 CAMPBELL ROAD BLDG. D
 HOUSTON TX, 77055
 Fax To:

Received:	05/02/2019	Sampling Date:	05/02/2019
Reported:	05/06/2019	Sampling Type:	Soil
Project Name:	STATE 23	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA		

Sample ID: 3 A - TOP SURFACE (H901589-03)

BTX 8021B			mg/kg					Analyzed By: MS		A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33			
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04			
Ethylbenzene*	0.123	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87			
Total Xylenes*	0.511	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19			
Total BTX	0.634	0.300	05/04/2019	ND							

Surrogate: 4-Bromofluorobenzene (PID) 126 % 73.3-129

Chloride, SM4500CI-B			mg/kg					Analyzed By: AC			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	1260	16.0	05/06/2019	ND	400	100	400	3.92			

TPH 8015M			mg/kg					Analyzed By: MS		A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	25.4	10.0	05/03/2019	ND	216	108	200	6.27			
DRO >C10-C28*	1270	10.0	05/03/2019	ND	203	101	200	5.49			
EXT DRO >C28-C36	346	10.0	05/03/2019	ND							

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 121 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

MARK L. SHIDLER
GREG GREGSON
1313 CAMPBELL ROAD BLDG. D
HOUSTON TX, 77055
Fax To:

Received: 05/02/2019
Reported: 05/06/2019
Project Name: STATE 23
Project Number: NONE GIVEN
Project Location: LEA

Sampling Date: 05/02/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: 4 A - TOP SURFACE (H901589-04)

BTEx 8021B		mg/kg		Analyzed By: MS				S-04, A-01		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	0.240	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33		
Toluene*	2.52	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04		
Ethylbenzene*	2.22	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87		
Total Xylenes*	5.11	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19		
Total BTEX	10.1	0.300	05/04/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 170 % 73.3-129

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	05/06/2019	ND	400	100	400	3.92			

TPH 8015M		mg/kg		Analyzed By: MS				S-06, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	141	50.0	05/03/2019	ND	216	108	200	6.27	
DRO >C10-C28*	5300	50.0	05/03/2019	ND	203	101	200	5.49	
EXT DRO >C28-C36	1400	50.0	05/03/2019	ND					

Surrogate: 1-Chlorooctane 132 % 41-142

Surrogate: 1-Chlorooctadecane 252 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

MARK L. SHIDLER
GREG GREGSON
1313 CAMPBELL ROAD BLDG. D
HOUSTON TX, 77055
Fax To:

Received: 05/02/2019
Reported: 05/06/2019
Project Name: STATE 23
Project Number: NONE GIVEN
Project Location: LEA

Sampling Date: 05/02/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: 5 A - TOP SURFACE (H901589-05)

BTX 8021B			mg/kg					Analyzed By: MS		A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33			
Toluene*	<0.050	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04			
Ethylbenzene*	<0.050	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87			
Total Xylenes*	<0.150	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19			
Total BTX	<0.300	0.300	05/04/2019	ND							

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.3-129

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	05/06/2019	ND	400	100	400	3.92			

TPH 8015M			mg/kg					Analyzed By: MS		A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	05/03/2019	ND	197	98.5	200	1.04			
DRO >C10-C28*	15.0	10.0	05/03/2019	ND	224	112	200	2.44			
EXT DRO >C28-C36	<10.0	10.0	05/03/2019	ND							

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

MARK L. SHIDLER
GREG GREGSON
1313 CAMPBELL ROAD BLDG. D
HOUSTON TX, 77055
Fax To:

Received: 05/02/2019
Reported: 05/06/2019
Project Name: STATE 23
Project Number: NONE GIVEN
Project Location: LEA

Sampling Date: 05/02/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: 6 A - TOP SURFACE (H901589-06)

BTEx 8021B		mg/kg	Analyzed By: MS					S-04, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.601	0.050	05/04/2019	ND	2.00	99.8	2.00	2.33	
Toluene*	2.01	0.050	05/04/2019	ND	1.99	99.3	2.00	3.04	
Ethylbenzene*	2.78	0.050	05/04/2019	ND	2.00	99.9	2.00	2.87	
Total Xylenes*	9.15	0.150	05/04/2019	ND	5.56	92.7	6.00	3.19	
Total BTEX	14.5	0.300	05/04/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 203 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	05/06/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS					S-06, A-01	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	309	50.0	05/03/2019	ND	197	98.5	200	1.04	
DRO >C10-C28*	7870	50.0	05/03/2019	ND	224	112	200	2.44	
EXT DRO >C28-C36	1950	50.0	05/03/2019	ND					

Surrogate: 1-Chlorooctane 141 % 41-142

Surrogate: 1-Chlorooctadecane 342 % 37.6-147

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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.
A-01	Sample container contained headspace which could cause the results to be biased low.
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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*=Accredited Analyte

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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: Mark L. Shidler Inc		BILL TO		ANALYSIS REQUEST																	
Project Manager: Gregory Gregson		P.O. #:																			
Address: 1313 Campbell Rd Bldg D		Company: Mark L. Shidler Inc																			
City: Houston State: TX Zip: 77065		Attn:																			
Phone #: 713-705-0472 Fax #:		Address:																			
Project #:		City: Houston																			
Project Name: State 23		State: TX Zip: 77065																			
Project Location:		Phone #: (713) 481-6487																			
Sample Name:		Fax #: (713) 224-5523																			
FOR LAB USE ONLY		PRESERV.		SAMPLING																	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.		DATE		TIME															
		# CONTAINERS																			
		GROUNDWATER																			
		WASTEWATER																			
		SOIL																			
		OIL																			
		SLUDGE																			
		OTHER :																			
		ACID/BASE:																			
		ICE / COOL																			
		OTHER :																			
H901589		1A - Top Surface		5/2		11:40		✓		CL											
1		2A		5/2		11:45		✓		TPH Ex+											
2		3A		5/2		11:49		✓		BTEx											
3		4A		5/2		11:52		✓													
4		5A		5/2		11:58		✓													
5		6A		5/2		12:04		✓													
6																					

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Relinquished By:		Date: 5-2-19	Received By: Mariana Chaboye	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
Relinquished By:		Time: 14:25	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
Time:		REMARKS:			
Delivered By: (Circle One)		Sample Condition			
Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		CHECKED BY: (Initials)			
Sampler - UPS - Bus - Other: 1.9c #97		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
		Gregson@markshidler.com			
		Gregson@markshidler.com			