

# Additional Information

Water Analysis  
Received  
11/27/2019

November 26, 2019

NATE ALLEMAN

ALL CONSULTING, LLC

1718 S. CHEYENNE AVE.

TULSA, OK 74119

RE: GW-1 WATER SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 11/12/19 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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,



Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 ALL CONSULTING, LLC  
 NATE ALLEMAN  
 1718 S. CHEYENNE AVE.  
 TULSA OK, 74119  
 Fax To: NA

 Received: 11/12/2019  
 Reported: 11/26/2019  
 Project Name: GW-1 WATER SAMPLES  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/12/2019  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: C-02959 - GW-1 (H903838-02)**
**Bicarbonate 310.1** mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Alkalinity, Bicarbonate</b>	<b>156</b>	5.00	11/13/2019	5.00	318			4.02	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/13/2019	ND	0.020	99.3	0.0200	1.96	
Toluene*	<0.001	0.001	11/13/2019	ND	0.020	99.5	0.0200	3.37	
Ethylbenzene*	<0.001	0.001	11/13/2019	ND	0.021	103	0.0200	3.11	
Total Xylenes*	<0.003	0.003	11/13/2019	ND	0.060	101	0.0600	3.25	
Total BTEX	<0.006	0.006	11/13/2019	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 101 % 74-98*

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 Sample Received By: Tamara Oldaker

**Sample ID: C-02959 - GW-1 (H903838-02)**
**Calcium 200.2 by ICP** mg/L Analyzed By: AES

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Calcium*</b>	<b>545</b>	1.00	11/22/2019	ND	3.70	92.5	4.00	3.86	

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\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

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Carbonate 310.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Carbonate	<1.00	1.00	11/13/2019	ND	ND				
Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>96.0</b>	4.00	11/13/2019	ND	104	104	100	0.00	
Conductivity 120.1		uS/cm		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Conductivity*</b>	<b>3800</b>	1.00	11/13/2019		52100	104	50000		

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**Sample ID: C-02959 - GW-1 (H903838-02)**

Hardness, 200.2 Metals		mg/L		Analyzed By: AES						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Hardness as CaCO3</b>	<b>2000</b>	6.62	11/22/2019							
Iron 200.2 by ICP		mg/L		Analyzed By: AES						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Iron*</b>	<b>0.198</b>	0.500	11/22/2019	ND	3.78	94.6	4.00	2.21	J	
Magnesium 200.2 by ICP		mg/L		Analyzed By: AES						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Magnesium*</b>	<b>155</b>	1.00	11/22/2019	ND	19.4	96.9	20.0	3.17		

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**Sample ID: C-02959 - GW-1 (H903838-02)**

pH		pH Units		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>pH*</b>	<b>8.75</b>	0.100	11/13/2019		7.06	101	7.00			

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Potassium 200.2 by ICP		mg/L		Analyzed By: AES						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Potassium*</b>	<b>7.58</b>	10.0	11/22/2019	ND	7.94	99.3	8.00	1.18	J	

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Resistivity 120.1		Ohms/m		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Resistivity</b>	<b>2.63</b>		11/13/2019							

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Sodium 200.2 by ICP		mg/L		Analyzed By: AES					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Sodium*</b>	<b>253</b>	10.0	11/22/2019	ND	3.15	97.3	3.24	1.62	
Strontium 200.2 by ICP		mg/L		Analyzed By: AES					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Strontium*</b>	<b>7.93</b>	1.00	11/22/2019	ND	3.90	97.4	4.00	0.764	

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Sulfate 375.4		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Sulfate*</b>	<b>2160</b>	500	11/13/2019	ND	19.5	97.4	20.0	1.60	
TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TDS*</b>	<b>3480</b>	5.00	11/19/2019	ND	564	107	527		
Total Alkalinity 310.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Alkalinity, Total*</b>	<b>128</b>	4.00	11/13/2019	4.00	260	104	250	3.92	
TSS, 160.2		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TSS*</b>	<b>9.00</b>	2.00	11/18/2019	ND					

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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
J	Estimated concentration. Analyte concentration between MDL and RL.
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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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

