Additional

Information

Formation Water Analysis 12/14/20



75 Suttle Street Durango, CO 81303 970.247.4220 Phone 970.247.4227 Fax www.greenanalytical.com

03 November 2020

Dave Brown DJR Operating 1 Road 3263 Aztec, NM 87410 RE: API

Enclosed are the results of analyses for samples received by the laboratory on 10/30/20 11:07. If you need any further assistance, please feel free to contact me.

Sincerely,

Dellie Zufett

Debbie Zufelt Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at http://greenanalytical.com/certifications/

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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DJR Operating	Project: API	
1 Road 3263	Project Name / Number: North Alamito WDW #1	Reported:
Aztec NM, 87410	Project Manager: Dave Brown	11/03/20 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received Notes
North Alamito WDW #1	2010288-01	Water	10/29/20 15:30	10/30/20 11:07

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DJR Operating	Project: API	
1 Road 3263	Project Name / Number: North Alamito WDW #1	Reported:
Aztec NM, 87410	Project Manager: Dave Brown	11/03/20 15:47

North Alamito WDW #1

2010288-01 (Water)									
Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	290	10.0	7.16	mg/L	5	10/30/20 14:00	2320 B		JDA
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	10/30/20 14:00	2320 B		JDA
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	10/30/20 14:00	2320 B		JDA
Alkalinity, Total as CaCO3*	290	10.0	7.16	mg/L	5	10/30/20 14:00	2320 B		JDA
Chloride*	2350	200	17.7	mg/L	200	11/02/20 12:04	EPA300.0		JDA
Conductivity*	19300	1.00		umho/cm @ 25.0°C	1	10/30/20 13:35	2510 B		JDA
pH*	7.40			pH Units	1	10/30/20 11:15	EPA150.1		JDA
Resistivity	51.8			ohm/cm	1	10/30/20 13:35	2510 B		JDA
Total Dissolved Solids*	13200	20.0		mg/L	2	10/30/20 14:29	EPA160.1		JDA
Specific Gravity	1.011	0.8000		No Unit	1	10/30/20 14:00	ASTM D1429-03		JDA
Sulfate*	5300	200	30.5	mg/L	200	11/02/20 12:04	EPA300.0		JDA
Total Recoverable Metals by ICP (E200.7)									
Iron*	55.1	1.25	0.407	mg/L	25	11/03/20 11:33	EPA200.7		AES
Dissolved Metals by ICP									
Hardness	494	16.5	3.45	mg/L	25	11/03/20 14:30	2340 B		AES
Barium*	< 0.500	0.500	0.039	mg/L	25	11/03/20 14:30	EPA200.7		AES
Calcium*	178	2.50	0.415	mg/L	25	11/03/20 14:30	EPA200.7		AES
Iron*	<1.25	1.25	0.460	mg/L	25	11/03/20 14:30	EPA200.7		AES
Magnesium*	12.0	2.50	0.587	mg/L	25	11/03/20 14:30	EPA200.7		AES
Manganese*	0.514	0.500	0.039	mg/L	25	11/03/20 14:30	EPA200.7		AES
Potassium*	1280	25.0	3.25	mg/L	25	11/03/20 14:30	EPA200.7		AES
Sodium*	3110	25.0	2.51	mg/L	25	11/03/20 14:30	EPA200.7		AES
Strontium*	8.44	2.50	0.104	mg/L	25	11/03/20 14:30	EPA200.7		AES
Cation/Anion Balance	98								

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General Chemistry - Quality Control

	D	Reporting		Spike	Source	0/855	%REC	DES	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B202316 - General Prep - Wet Chem										
Blank (B202316-BLK1)			Prepa	ared & Anal	lyzed: 10/30	0/20				
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B202316-DUP1)	Sou	rce: 2010276-0	01 Prepa	ared & Anal	lyzed: 10/30	0/20				
Total Dissolved Solids	415	10.0	mg/L		395			4.94	20	
Reference (B202316-SRM1)			Prepa	ared & Ana	lyzed: 10/3	0/20				
Total Dissolved Solids	340	10.0	mg/L	380		89.5	85-115			
Batch B202317 - General Prep - Wet Chem										
Blank (B202317-BLK1)			Prepa	ared & Anal	lyzed: 10/30	0/20				
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B202317-BS1)			Prepa	ared & Anal	lyzed: 10/30	0/20				
Alkalinity, Total as CaCO3	105	10.0	mg/L	100		105	85-115			
LCS Dup (B202317-BSD1)			Prepa	ared & Ana	lyzed: 10/30	0/20				
Alkalinity, Total as CaCO3	96.0	10.0	mg/L	100		96.0	85-115	8.96	20	
Batch B202318 - General Prep - Wet Chem										
Duplicate (B202318-DUP1)	Sou	rce: 2010288-0	01 Prepa	ared & Anal	lyzed: 10/30	0/20				
Specific Gravity	1.011	0.8000	No Unit		1.011			0.00	20	
Batch B202324 - General Prep - Wet Chem										
Blank (B202324-BLK1)			Prepa	ared & Anal	lyzed: 11/02	2/20				
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B202324-BS1)			Prepa	ared & Anal	lyzed: 11/02	2/20				
Chloride	23.4	1.00	mg/L	25.0		93.4	90-110			
Sulfate	24.6	1.00	mg/L	25.0		98.3	90-110			
LCS Dup (B202324-BSD1)	24.4	1.00	· · ·		lyzed: 11/02		00.110	4.00	20	
Chloride Sulfate	24.4 25.1	1.00 1.00	mg/L mg/L	25.0 25.0		97.5 100	90-110 90-110	4.23 1.95	20 20	
Batch B202330 - General Prep - Wet Chem	23.1	1.00	ing/L	25.0		100	90-110	1.95	20	
Satch B202350 - General Frep - wet Chem										
Duplicate (B202330-DUP1)		rce: 2010288-0		ared & Anal	lyzed: 10/30	0/20		0.774	20	
Conductivity	19500	1.00 t	umho/cm @ 25.0°C		19300			0.774	20	
Reference (B202330-SRM1)				ared & Anal	lyzed: 10/30	0/20				
Conductivity	623	1.00 u	umho/cm @	599	<i>.</i>	104	90-110			
			25.0°C							
Batch B202331 - General Prep - Wet Chem										
Croop Analytical Laboratoria			The r	esults in this r	enort apply to	the samples	analyzed in ac	cordance with	the chain of	
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	Project: API	DJR Operating
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11/03/20 15:47	Project Manager: Dave Brown	Aztec NM, 87410

General Chemistry - Quality Control (Continued)

		(Contin	uea)						
	D. I.	Reporting	Spike	Source	ANDEC	%REC		RPD	N T
Analyte	Result	Limit Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B202331 - General Prep - We	t Chem (Continued)								
Duplicate (B202331-DUP1)	Sourc	ce: 2010288-01 Pro	epared & Ana	lyzed: 10/3	0/20				
pH	7.43	pH Units		7.40			0.405	20	
Reference (B202331-SRM1)		Pro	epared & Ana	lyzed: 10/3	0/20				
pH	6.99	pH Units	7.00		99.9	€ 98.57-101.42			
	Total Recovera	ble Metals by IC	P (E200.7)	- Quality	y Contro	d			
		Reporting	Spike	Source		%REC		RPD	
Analyte	Pecult	Limit Unite	Level	Pecult	% REC	Limite	PPD	Limit	Notes

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B202320 - Total Rec. 200.7/200.8/200.2										
Blank (B202320-BLK1)			Prep	ared: 11/02/	20 Analyze	ed: 11/03/2	0			
Iron	ND	0.050	mg/L							
LCS (B202320-BS1)			Prep	ared: 11/02/	20 Analyze	ed: 11/03/2	0			
Iron	4.06	0.050	mg/L	4.00		102	85-115			
LCS Dup (B202320-BSD1)			Prep	ared: 11/02/	20 Analyze	ed: 11/03/2	0			
Iron	4.20	0.050	mg/L	4.00		105	85-115	3.29	20	

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Dissolved Metals by ICP - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B202342 - Diss. 200.7/200.8										
Blank (B202342-BLK1)			Prep	ared & Anal	lyzed: 11/03	5/20				
Barium	ND	0.020	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Manganese	ND	0.020	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Strontium	ND	0.100	mg/L							
LCS (B202342-BS1)			Prep	ared & Anal	lyzed: 11/03	3/20				
Barium	2.31	0.020	mg/L	2.50		92.5	85-115			
Calcium	4.82	0.100	mg/L	5.00		96.4	85-115			
Iron	4.70	0.050	mg/L	5.00		94.0	85-115			
Magnesium	24.6	0.100	mg/L	25.0		98.6	85-115			
Manganese	2.36	0.020	mg/L	2.50		94.4	85-115			
Potassium	10.0	1.00	mg/L	10.0		100	85-115			
Sodium	3.95	1.00	mg/L	4.05		97.6	85-115			
Strontium	4.66	0.100	mg/L	5.00		93.3	85-115			
LCS Dup (B202342-BSD1)			Prep	ared & Anal	lyzed: 11/03	3/20				
Barium	2.27	0.020	mg/L	2.50		90.6	85-115	2.02	20	
Calcium	4.55	0.100	mg/L	5.00		91.1	85-115	5.72	20	
Iron	4.48	0.050	mg/L	5.00		89.7	85-115	4.73	20	
Magnesium	23.3	0.100	mg/L	25.0		93.4	85-115	5.45	20	
Manganese	2.24	0.020	mg/L	2.50		89.5	85-115	5.27	20	
Potassium	9.61	1.00	mg/L	10.0		96.1	85-115	4.02	20	
Sodium	3.77	1.00	mg/L	4.05		93.2	85-115	4.68	20	
Strontium	4.59	0.100	mg/L	5.00		91.9	85-115	1.55	20	

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Aztec NM, 87410	Project Manager: Dave Brown	11/03/20 15:47

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
	*Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

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Company or Client:	DJR Operating		Bill to (if different)	fferent):	ANALY	ANALYSIS REQUEST
Address: 1 Po.	+\$ 326'3 ()	0-0	P.O. #:			
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For Lab Use	Sample Name or Location	Date	GROUNDWATER SURFACEWATER WASTEWATER PRODUCEDWATER SOLL EXTRADA FOR MATTO DRINKING WATER OTHER :	Other:	APT Gene	
2010-28, 01	North Algn: to und w # 1	10-29-20 3:30pm				
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