

July 19, 2019

HAYDEN HOLUB

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: ALICE PADDOCK RE ENTRY

Enclosed are the results of analyses for samples received by the laboratory on 07/15/19 8:50.

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

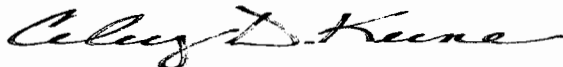
Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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:

Rice Operating Company
112 W. Taylor
Hobbs NM, 88240

Project: ALICE PADDOCK RE ENTRY
Project Number: SWM
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
19-Jul-19 16:37

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WATER SAMPLE	H902412-01	Water	14-Jul-19 12:00	15-Jul-19 08:50

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 Fax To: (575) 397-1471

 Reported:
 19-Jul-19 16:37

WATER SAMPLE
H902412-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Alkalinity, Bicarbonate	1090		5.00	mg/L	1	9071104	AC	15-Jul-19	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	9071104	AC	15-Jul-19	310.1	
Chloride*	29300		4.00	mg/L	1	9071201	AC	19-Jul-19	4500-Cl-B	
Conductivity*	64100		1.00	uS/cm	1	9071508	AC	15-Jul-19	120.1	
pH*	6.94		0.100	pH Units	1	9071508	AC	15-Jul-19	150.1	
Sulfate*	1100		250	mg/L	25	9071602	AC	16-Jul-19	375.4	
TDS*	48900		5.00	mg/L	1	9070908	AC	16-Jul-19	160.1	
Alkalinity, Total*	890		4.00	mg/L	1	9071104	AC	15-Jul-19	310.1	

Green Analytical Laboratories
Total Recoverable Metals by ICP (E200.7)

Calcium*	1610		20.0	mg/L	200	B907175	AES	18-Jul-19	EPA200.7	
Magnesium*	525		20.0	mg/L	200	B907175	AES	18-Jul-19	EPA200.7	
Potassium*	427		200	mg/L	200	B907175	AES	18-Jul-19	EPA200.7	
Sodium*	13900		200	mg/L	200	B907175	AES	18-Jul-19	EPA200.7	

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Hobbs NM, 88240

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Project Number: SWM
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
19-Jul-19 16:37

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9070908 - Filtration

Blank (9070908-BLK1)

Prepared: 09-Jul-19 Analyzed: 10-Jul-19

TDS ND 5.00 mg/L

LCS (9070908-BS1)

Prepared: 09-Jul-19 Analyzed: 10-Jul-19

TDS 499 527 94.7 80-120 mg/L

Duplicate (9070908-DUP1)

Source: H902316-01

Prepared: 09-Jul-19 Analyzed: 10-Jul-19

TDS 2080 5.00 mg/L 2150 3.41 20

Batch 9071104 - General Prep - Wet Chem

Blank (9071104-BLK1)

Prepared & Analyzed: 15-Jul-19

Alkalinity, Carbonate ND 1.00 mg/L

Alkalinity, Bicarbonate 5.00 5.00 mg/L

Alkalinity, Total 4.00 4.00 mg/L

LCS (9071104-BS1)

Prepared & Analyzed: 15-Jul-19

Alkalinity, Carbonate ND 2.50 mg/L 80-120

Alkalinity, Bicarbonate 330 12.5 mg/L 80-120

Alkalinity, Total 270 10.0 mg/L 250 108 80-120

LCS Dup (9071104-BS1)

Prepared & Analyzed: 15-Jul-19

Alkalinity, Carbonate ND 2.50 mg/L 80-120 20

Alkalinity, Bicarbonate 330 12.5 mg/L 80-120 0.00 20

Alkalinity, Total 270 10.0 mg/L 250 108 80-120 0.00 20

Batch 9071201 - General Prep - Wet Chem

Blank (9071201-BLK1)


Prepared & Analyzed: 12-Jul-19

Chloride ND 4.00 mg/L

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Celey D. Keene, Lab Director/Quality Manager

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 112 W. Taylor
 Hobbs NM, 88240

 Project: ALICE PADDOCK RE ENTRY
 Project Number: SWM
 Project Manager: HAYDEN HOLUB
 Fax To: (575) 397-1471

 Reported:
 19-Jul-19 16:37

Inorganic Compounds - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9071201 - General Prep - Wet Chem
LCS (9071201-BS1)

Prepared & Analyzed: 12-Jul-19

Chloride	104	4.00	mg/L	100	104	80-120
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LCS Dup (9071201-BSD1)

Prepared & Analyzed: 12-Jul-19

Chloride	100	4.00	mg/L	100	100	80-120	3.92	20
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Batch 9071508 - General Prep - Wet Chem
LCS (9071508-BS1)

Prepared & Analyzed: 15-Jul-19

Conductivity	45000		uS/cm	50000	90.0	80-120
pH	7.14		pH Units	7.00	102	90-110

Duplicate (9071508-DUP1)

Source: H902406-01

Prepared & Analyzed: 15-Jul-19

pH	6.77	0.100	pH Units	6.75		0.296	20
Conductivity	91400	1.00	uS/cm	91200		0.219	20

Batch 9071602 - General Prep - Wet Chem
Blank (9071602-BLK1)

Prepared & Analyzed: 16-Jul-19

Sulfate	ND	10.0	mg/L
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LCS (9071602-BS1)

Prepared & Analyzed: 16-Jul-19

Sulfate	21.6	10.0	mg/L	20.0	108	80-120
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LCS Dup (9071602-BSD1)

Prepared & Analyzed: 16-Jul-19

Sulfate	23.1	10.0	mg/L	20.0	116	80-120	6.94	20
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112 W. Taylor
Hobbs NM, 88240

Project: ALICE PADDOCK RE ENTRY
Project Number: SWM
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
19-Jul-19 16:37

Total Recoverable Metals by ICP (E200.7) - Quality Control
Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B907175 - Total Rec. 200.7/200.8/200.2
Blank (B907175-BLK1)

Prepared: 17-Jul-19 Analyzed: 18-Jul-19

Calcium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							

LCS (B907175-BS1)

Prepared: 17-Jul-19 Analyzed: 18-Jul-19

Sodium	3.42	1.00	mg/L	3.24		105	85-115			
Potassium	8.07	1.00	mg/L	8.00		101	85-115			
Magnesium	19.3	0.100	mg/L	20.0		96.3	85-115			
Calcium	3.97	0.100	mg/L	4.00		99.3	85-115			

LCS Dup (B907175-BSD1)

Prepared: 17-Jul-19 Analyzed: 18-Jul-19

Potassium	8.04	1.00	mg/L	8.00		101	85-115	0.312	20	
Sodium	3.34	1.00	mg/L	3.24		103	85-115	2.40	20	
Calcium	3.95	0.100	mg/L	4.00		98.9	85-115	0.465	20	
Magnesium	19.3	0.100	mg/L	20.0		96.3	85-115	0.0458	20	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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

[illegible]



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

July 24, 2019

HAYDEN HOLUB

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: ALICE PADDOCK RE ENTRY

Enclosed are the results of analyses for samples received by the laboratory on 07/15/19 14:05.

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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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:

Rice Operating Company
HAYDEN HOLUB
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received: 07/15/2019
Reported: 07/24/2019
Project Name: ALICE PADDOCK RE ENTRY
Project Number: SWM
Project Location: SWM - SE EUNICE

Sampling Date: 07/15/2019
Sampling Type: Water
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: WATER SAMPLE (H902417-01)

TPH 8015M	mg/L	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	29.4	1.00	07/24/2019	ND	48.3	96.7	50.0	1.41	QM-07
DRO >C10-C28*	62.2	1.00	07/24/2019	ND	51.8	104	50.0	3.30	QM-07
EXT DRO >C28-C36	8.10	1.00	07/24/2019	ND					

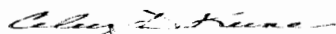
Surrogate: 1-Chlorooctane 93.3 % 37.1-138

Surrogate: 1-Chlorooctadecane 91.4 % 44.6-151

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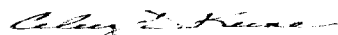
Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

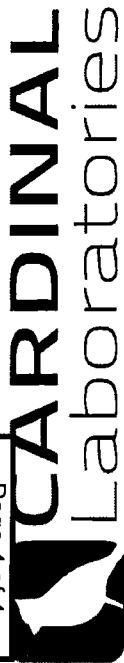
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting 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**

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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

BILL TO		ANALYSIS REQUEST											
Company Name: <u>Rice Operating Co.</u>		P.O. #:											
Project Manager: <u>Hayden Hobbs</u>		Company:											
Address: <u>112 W Taylor</u>		Attn:											
City: <u>Hobbs</u>		Address:											
Phone #: <u>393-9174</u>		City:											
Project #: <u>SWM</u>		State:											
Project Name: <u>SWM</u>		Phone #:											
Project Location: <u>SE Eunice Alice Padlock</u>		Fax #:											
Sampler Name:													
FOR LAB USE ONLY		MATRIX	PRESERV	SAMPLING	DATE	TIME							
Lab I.D.	Sample I.D.	GROUNDWATER	OTHER: <u>Produced</u>	ACID/BASE:	7-15-19	12:00							
H902417	Water Sample	WASTEWATER	OTHER: <u>Produced</u>	ICE / COOL									
		SLUDGE	OTHER:										
		OIL											
		SOIL											
		CONTAINERS											
		(G) RAB OR (C) OMP											
		G3											

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Relinquished By: <u>Hayden Hobbs</u>	Received By: <u>Jamara Padlock</u>	Date: <u>7-15-19</u>	Time: <u>4:05</u>
Relinquished By: <u>Hayden Hobbs</u>	Received By: <u>Jamara Padlock</u>	Date: <u>7-15-19</u>	Time: <u>4:05</u>
Delivered By: (Circle One)	Sample Condition	Checked By: (Initials)	
Sampler - UPS - Bus - Other:	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	29.4' #47		

Phone Result: ☐ Yes ☐ No Add'l Phone #: khobbs@riceisd.com
Fax Result: ☐ Yes ☐ No Add'l Fax #: 575-441-0161

REMARKS: