

WELL RECORD FORM

PWTS No. or PWS No. <u>8482701</u>		PWTS Permit No. <u>20230340</u>	GEOSAM Well No. (IGS use only) _____																																																																																											
Site Identification Property owner <u>Rock Valley Rural Water</u> Other ID _____ Address <u>18-96-47; SE NW E OF RD N PTPT</u> City <u>Rock Valley</u> Tenant _____ Well depth <u>204</u> ft Date completed <u>12 / 27 / 2023</u>		Drill Method ☒ Rotary ☐ Auger ☐ Cable ☐ Other _____ Hole size <u>22</u> inch from <u>0</u> ft to <u>304</u> ft <u>14</u> inch from <u>304</u> ft to <u>504</u> ft hole size continued _____ inch from _____ ft to _____ ft																																																																																												
Location County <u>Sioux</u> GPS coordinates (NAD83 datum) <u>43.1364170</u> Latitude <u>96.4435830</u> Longitude ☒ Decimal Degrees ☐ Degrees, Decimal Minutes ☐ Degrees, Minutes, Seconds <u>SW</u> 1/4 of the <u>SW</u> 1/4 of the <u>NW</u> 1/4 of Sec <u>18</u> TWP <u>96</u> RNG <u>47</u> E W Show exact location of well in section grid with a dot (+). Sketch map of well location on property. N +-----+-----+-----+ +-----+-----+-----+ W E +-----+-----+-----+ +-----+-----+-----+ S 1 mile 200 ft		Casing or Loop Pipe Record all depth measurements from ground level (GL). Use + for above GL measurements. <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Size (in)</th><th>Material</th><th>Depth Top</th><th>Depth Bottom</th><th>Perforated</th><th>Slotted</th><th>Screen</th></tr></thead><tbody><tr><td>16</td><td>STEEL</td><td>0</td><td>304</td><td>☐</td><td>☐</td><td>☐ slot size _____</td></tr><tr><td>8</td><td>STAINLESS ST</td><td>304</td><td>504</td><td>☐</td><td>☐</td><td>☒ slot size <u>.020</u></td></tr><tr><td>8</td><td>SS LEADER</td><td>264</td><td>304</td><td>☐</td><td>☐</td><td>☐ slot size _____</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td>☐</td><td>☐</td><td>☐ slot size _____</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td>☐</td><td>☐</td><td>☐ slot size _____</td></tr></tbody></table>		Size (in)	Material	Depth Top	Depth Bottom	Perforated	Slotted	Screen	16	STEEL	0	304	☐	☐	☐ slot size _____	8	STAINLESS ST	304	504	☐	☐	☒ slot size <u>.020</u>	8	SS LEADER	264	304	☐	☐	☐ slot size _____					☐	☐	☐ slot size _____					☐	☐	☐ slot size _____																																																	
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		Pump Installation Date <u>12 / 27 / 2023</u> Type of pump <u>GRUNDFOS</u> Depth to intake <u>240</u> ft Pump diameter <u>8</u> in Rated capacity <u>1100</u> GPM																																																																																												
		Water Information Date <u>11 / 13 / 2023</u> Use + for above GL measurements. <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Static Water Level</th><th>Pumping Water Level</th><th>Yield</th><th>Duration</th></tr></thead><tbody><tr><td><u>78</u> ft</td><td><u>121</u> ft</td><td><u>550</u> GPM</td><td><u>9.00</u> hrs</td></tr></tbody></table> Water level measurement: ☐ Sonic ☒ Tape ☐ Airline ☐ E-line ☐ Estimate Water yield measurement: ☒ Orifice ☐ Volumetric ☐ Estimate Main water-supply zone from <u>304</u> ft to <u>504</u> ft below GL		Static Water Level	Pumping Water Level	Yield	Duration	<u>78</u> ft	<u>121</u> ft	<u>550</u> GPM	<u>9.00</u> hrs																																																																																			
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		Well Development ☒ Physical explain: <u>JET AND AIRLIFT</u> ☒ Chemical explain: <u>AQUA CLEAR</u>																																																																																												
Remarks (including depth of lost drilling fluids, materials, or tools) 		Contractor Company <u>THEIN WELL COMPANY, INC</u> Address <u>PO BOX 778 SPICER MN 56288</u> Driller <u>Brian Pinkelman</u> Certification no. <u>11010</u>																																																																																												
Well Use ☐ Domestic ☒ Public supply ☐ Livestock ☐ Heat pump ☐ Commercial ☐ Irrigation # of borehole(s) _____ ☐ Monitoring ☐ Other _____																																																																																														

Rock Valley Rural Water 16" 504' Well Dec 2023

<i>Formation</i>	<i>From</i>	<i>To</i>
Top soil	0	1
Clay brown	1	11
Gravel	11	37
Clay blue	37	76
Greenhorn limestone	76	98
Shale black	98	118
Shale black w/ a few thin sandstone layers	118	147
Greenhorn limestone	147	152
Shale	152	166
Sandstone and sand	166	177
Shale	177	179
Sandstone very fine	179	191
Shale w/ thin sandstone layers	191	193
Sandstone w/ thin shale layers	193	217
Shale white / gray	217	222
Shale gray w / layering	222	226
Shale gray	226	234
Sandstone w/ shale layers	234	241
Shale w/ sandstone layering	241	264
Shale	264	278
Shale w/ sandstone layers	278	283
Sandstone hard w/ shale layers	283	297
Sand and sandstone	297	489
Sandstone hard	489	505
Granite	505	

Rock Valley Rural Water 16 " Well

Legend
Feature 1

Big Sioux River

n 43° 08' 11.1" w 96° 26' 36.9" Rock Valley Rural Water 16" 504' depth Dec 2023

Cherry Ave

360th St

B30

1000 ft





Foundation
Analytical Laboratory

723 Sleezer Road
Cherokee, IA 51012
Phone: 712-225-6989
www.foundationanalytical.com

Certificate of Analysis

Report Date: 1-3-2024
Report Number: 24-003-0177
Lab ID Number: 24000050 PWS ID: 8482701

Rock Valley Rural Water
719 Main Street
Rock Valley, IA 51247

Date Submitted: 1-2-2024
Date Received: 1-2-2024
Contact: Adam Buyert

Sample Description: Special WL19 / NEW Well #19
Sampled: 1-2-2024 @ 10:30 by Lonni Westphal
Received: 1-2-2024 @ 13:26 by AO (14.4°C)

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Test Requested	Result	Analysis Date / Time	Analyst	Method
Total Coliform (P/A)	Absent	1-2-2024 14:22	JS	SM 9223 B - 2011
E. coli	Absent	1-2-2024 14:22	JS	SM 9223 B - 2011

Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #1A01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis.

The Sample was not at correct temperature at receipt but was acceptable because it was received within specified threshold with cooling (E. coli @ 6 hrs, Total Coliform (P/A) @ 6 hrs).

Respectfully submitted by

Molly Lundsgaard
Laboratory Administrator

**** End Certificate of Analysis ****

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are $\pm 1^\circ\text{C}$. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



Certificate of Analysis

Report Date: 1-8-2024
Report Number: 24-008-0073
Lab ID Number: 24000051 PWS ID: 8482701

Rock Valley Rural Water
719 Main Street
Rock Valley, IA 51247

Date Submitted: 1-2-2024
Date Received: 1-2-2024
Contact: Adam Buyert

Sample Description: Special WL19 / NEW Well #19
Sampled: 1-2-2024 @ 11:00 by Lonni Westphal
Received: 1-2-2024 @ 13:26 by AO (14.4°C)

Test Requested		Result	Analysis Date / Time	Analyst	Method
Alkalinity (mg/L as CaCO ₃)		150	1-8-2024 9:10	JRS	SM 2320B - 2011
Ammonia Low Range (mg/L)		3.08	1-4-2024 1:09	JS	EPA 350.1
Chloride (ppm)		14.5	1-2-2024 17:18	AH	EPA 300.0
Conductivity (µmhos/cm)		1803	1-2-2024 15:23	EB	SM 2510B - 2011
Cyanide (mg/L)		< 0.0050	1-4-2024 9:15	SW	SM 4500CN C,E - 2011
Copper (ppm)		Absent	1-2-2024 14:22	JS	SM 9223 B - 2011
Fluoride (ppm)		0.767	1-2-2024 17:18	AH	EPA 300.0
Hardness (mg/L)		890	1-4-2024 11:38	SK	SM 2340 C - 2011
Antimony (ppm)		< 0.0001	1-4-2024 3:45	MM	EPA 200.8
Arsenic (ppm)		< 0.0005	1-4-2024 3:45	MM	EPA 200.8
Barium (ppm)		0.0154	1-4-2024 3:45	MM	EPA 200.8
Beryllium (ppm)		< 0.0001	1-4-2024 3:45	MM	EPA 200.8
Cadmium (ppm)		< 0.0001	1-4-2024 3:45	MM	EPA 200.8
Calcium (ppm)		226	1-4-2024 3:45	MM	EPA 200.8
Chromium (ppm)		< 0.0005	1-4-2024 10:27	MM	EPA 200.7
Copper (ppm)		0.0042	1-4-2024 3:45	MM	EPA 200.8
Soluble Iron (ppm)		1.3	1-4-2024 3:45	MM	EPA 200.8
Iron (ppm)		1.22	1-3-2024 13:48	MM	SM 3120B - 2011
Lead (ppm)		0.0015	1-4-2024 10:27	MM	EPA 200.7
Manganese (ppm)		0.0571	1-4-2024 3:45	MM	EPA 200.8
Magnesium (ppm)		77.1	1-4-2024 3:45	MM	EPA 200.8
Potassium (ppm)		16.4	1-4-2024 10:27	MM	EPA 200.7
Selenium (ppm)		0.0016	1-4-2024 10:27	MM	EPA 200.7
Sodium (ppm)		94.4	1-4-2024 3:45	MM	EPA 200.8
Silica as SiO ₂ (ppm)		14	1-4-2024 10:27	MM	EPA 200.7
Thallium (ppm)		< 0.00025	1-5-2024 1:53	MM	EPA 200.7
Zinc (ppm)		0.203	1-4-2024 3:45	MM	EPA 200.8
			1-4-2024 3:45	MM	EPA 200.8

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Certificate of Analysis

Report Number: 24-008-0073

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Test Requested	Result	Analysis Date / Time	Analyst	Method
Nitrate as N (ppm)	0.1	1-2-2024 17:18	AH	EPA 300.0
Nitrite as N (ppm)	< 0.1	1-2-2024 17:18	AH	EPA 300.0
pH	7.26	1-2-2024 15:30	EB	SM 4500-H B - 2011
Sulfate (ppm)	724	1-2-2024 17:18	AH	EPA 300.0
Total Coliform (P/A)	Absent	1-2-2024 14:22	JS	SM 9223 B - 2011
Total Dissolved Solids (mg/L)	1401	1-4-2024 11:37	JRS	SM 2540C - 2011
Total Suspended Solids (mg/L)	2.4	1-4-2024 8:04	JRS	SM 2540 D - 2011
Turbidity (NTU)	9.82	1-2-2024 3:33	EB	SM 2130 B - 2011

Comments

Foundation Analytical Lab (IDNR Lab #396, USEPA Lab #IA01138) is certified by the Iowa Department of Natural Resources for the testing of wastewater and drinking water.

Upon receipt sample met requirements for analysis EXCEPT maximum hold time exceeded (pH).

Respectfully submitted by

Brittany Erickson
Quality Manager

**** End Certificate of Analysis ****

Samples were received in acceptable condition unless denoted in the comments section of this report. Any temperature(s) recorded at receipt are $\pm 1^{\circ}\text{C}$. All data for this report has been approved by Foundation Analytical Laboratory Management. The results depicted in this report apply to samples as submitted. It is not possible for Foundation Analytical Laboratory to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by Foundation Analytical Laboratory. As a mutual protection to clients, the public, and ourselves, all reports are submitted as the confidential property of clients.